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# Target2: The Silent Bailout System That Keeps the Euro Afloat

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**Abstract:** Target2 is the Eurozone’s cross-border payment system, which is mandatory for the settlement of euro transactions involving Eurozone central banks. It is being used to save the Eurozone from imploding. A key underlying problem is that the Eurozone does not satisfy the economic conditions for being an Optimal Currency Area, i.e., a geographical area over which a single currency and monetary policy can operate on a sustainable, long-term basis. The different business cycles in the Eurozone, combined with poor labour and capital market flexibility, mean that systematic trade surpluses and deficits will build up because inter-regional exchange rates can no longer be changed. Surplus regions need to recycle the surpluses back into deficit regions via transfers to keep the Eurozone economies in balance. But the largest surplus country—Germany—refuses to formally accept that the European Union is a ‘transfer union’. However, deficit countries, including the largest of these—Italy—are using Target2 for this purpose. Target2 has become a giant credit card for Eurozone members that import more than they export to other members, but with two differences compared with normal credit card debt: neither the debt nor the interest that accrues on the debt ever needs to be repaid. Furthermore, the size of the deficits being built up is causing citizens in deficit countries to lose confidence in their banking systems, leading them to transfer their funds to banks in surplus countries. Target2 is also being used to facilitate this capital flight. However, these are not viable long-term solutions to systemic Eurozone trade imbalances and weakening national banking systems. There are only two realistic outcomes. The first is a full fiscal and political union, with Brussels determining the levels of tax and public expenditure in each member state—which has long been the objective of Europe’s political establishment. The second outcome is that the Eurozone breaks up.

**Keywords:** Target2; payment system; Optimal Currency Area; Eurozone; euro

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## Table of Contents

1. Introduction.....	2
2. What is an Optimal Currency Area?.....	3
3. Some historical examples of unsuccessful and successful OCAs.....	4
4. Examining the Eurozone as a possible OCA.....	5
5. How has the Eurozone fared since its introduction in 1999?.....	12
6. Is the Eurozone an OCA?.....	24
7. What is Target2 and how does it work?.....	25
7.1. What is Target 2?.....	25
7.2. How does Target2 work?.....	25
7.3. How has Target2 operated.....	27
7.3.1. First phase: 1999–2007.....	27
7.3.2. Second phase: 2007–2014.....	27
7.3.3. Third phase: 2015–2019.....	29
7.3.4. Fourth phase: 2020–.....	31

8. How Target2 bails out the euro.....	31
9. The costs of bailing out the euro.....	35
9.1. Private debts are nationalised and monetised.....	35
9.2. Target2 debts are being mutualised across the Eurozone.....	36
9.3. Target2 facilitates capital flight and this distorts interest rates in the Eurozone .....	37
9.4. Target2 treats sovereign debt as risk-free—the implications for central counterparties	38
9.5. The euro is a structurally incomplete sub-sovereign currency which operates with vast amounts of unmanaged financial risk.....	39
9.6. Target2 liabilities are not counted as part of a member state’s national debt and the risks associated with them are unmanaged.....	42
9.7. Spillover effects between Eurozone banks and sovereigns—the ‘doom loop’	43
9.7.1. Two examples of a doom loop.....	43
9.7.2. Breaking the doom loop.....	46
9.8. Cross-border spillover effects.....	48
9.9. Spillover effects between Eurozone banks and shadow banks.....	52
9.10. Cross-border transmission of EZ monetary policy.....	54
9.11. Target2 is helping to bail out uncompetitive economies and delay the necessary equilibrating adjustments to the real economies of underperforming EZ members	55
10. The Eurozone’s quantitative easing programme and Target2.....	57
10.1. The ECB’s own capital keys prevented the full implementation of the first phase of QE.....	58
10.2. The second phase of QE in response to the COVID-19 pandemic is perpetuating a real estate bubble.....	60
10.3. The third phase of QE—winding down, except in the case of Italy	62
10.4. The fourth phase of QE—quantitative tightening.....	71
10.5. Is the QE programme legal under EU law?.....	78
11. Can a country leave the Eurozone?.....	79
12. Is there a political solution to the Eurozone problem?.....	81
13. Why is the problem with Target2 so Scarcely Known?.....	86
14. Implications for the UK.....	88
15. Conclusions.....	90
Appendix A. The role of banknotes in Target2.....	93
Appendix B. Capital subscription to the European Central Bank, 1 January 2023	96
Appendix C. List of acronyms.....	97
References.....	119

**1. Introduction**

The European Union (EU)<sup>1</sup> began the process of Economic and Monetary Union (EMU) by introducing the European Exchange Rate Mechanism (ERM) in 1979. Its purpose was to reduce exchange rate variability and achieve monetary stability in the EU in preparation for the introduction of a single currency, the euro, which took place on 1 January 1999.

To support its introduction, a Eurozone-wide payments system was needed. Target2<sup>2</sup> is a real-time gross settlement system that settles euro-denominated cross-border transactions within the Eurozone (EZ).<sup>3</sup> It is operated by the central banks of France, Germany, and Italy.<sup>4</sup> Its use is mandatory for the settlement of any euro transaction involving the Eurosystem, which comprises the European Central Bank (ECB) and the national central banks (NCBs) of the EZ member states.<sup>5</sup> Target2’s objectives are as follows:

- Support the implementation of the Eurosystem’s monetary policy and the functioning of the euro money market.
- Minimise systemic risk<sup>6</sup> in the payments market.
- Increase the efficiency of cross-border payments in euros.
- Maintain the integration and stability of the EZ money market.<sup>7</sup>

We will show that Target2 is critical to the survival of the EZ as a currency union, i.e., a geographical area that uses the same single currency. We will also show that a currency

union will only survive in the long term if it satisfies the conditions for being an Optimal Currency Area (OCA). Until (or unless) it does so, the more efficient economies in the EZ will build up systematic trade surpluses against the weaker economies, and residents in the weaker economies will move their capital to banks in the stronger economies whenever confidence in their banking systems collapses.

There are four specific questions we seek to answer:

- Is the Eurozone an Optimal Currency Area?
- How long can the euro survive if it is not?
- What role does Target2 play in prolonging the euro's survival?
- Can a political solution save the euro?

The outline of this paper is as follows: Section 2 explains the concept of an OCA. Section 3 examines some historical examples of unsuccessful and successful OCAs. Section 4 considers the EZ as a possible OCA. Section 5 examines how the EZ has fared since its introduction in 1999. Section 6 considers whether the EZ is actually an OCA. Section 7 explains Target2 and how it works. Section 8 shows how Target2 bails out the euro, while Section 9 examines the costs of bailing out the euro. Section 10 discusses another key issue that has affected the euro, namely, the EZ quantitative easing programme introduced in response to the Global Financial Crisis (GFC), the EZ banking and sovereign debt crises, the COVID-19 pandemic, and the Russian invasion of Ukraine. Section 11 asks whether a country can leave the Eurozone, while Section 12 asks whether there is a political solution to the Eurozone problem. Section 13 questions why the problem with Target2 is so little known to the general public. Section 14 examines the implications for the United Kingdom, and Section 15 concludes the study.<sup>8</sup>

## 2. What Is an Optimal Currency Area?

A single currency (or currency union) will only survive over a long term in a specific geographical area if that area satisfies the four conditions laid down by Nobel prize winning economist Robert Mundell in his Theory of the Optimal Currency Area (OCA).<sup>9</sup> These conditions are as follows: (1) The different parts of the area are not subject to asymmetric macroeconomic and financial shocks, which, in practice, means that the different areas have similar business cycles, thus allowing a single monetary policy in the form of a single interest rate to be effective across an entire area, with the interest rate raised in a boom to lower inflation and reduced in a slump to prevent recession;<sup>10</sup> (2) sufficient wage flexibility and labour mobility to eliminate unemployment quickly; (3) sufficient price flexibility and capital mobility to remove trade imbalances quickly; and (4) a counter-cyclical stabilisation mechanism, e.g., a system of officially agreed regional redistributions, whereby regions with balance of payments surpluses redistribute them via fiscal transfers to regions with balance-of-payment deficits.<sup>11</sup> The normal way in which regional trade imbalances are removed, i.e., changes in inter-regional exchange rates, is no longer possible when there is a single currency that effectively fixes the nominal exchange rates permanently at the levels at which the countries joined the single currency.

Collectively, these conditions assess the degree of economic and monetary integration of the geographical area in question through either the operation of market forces or the effectiveness of policy tools. An increase in trade between the members of the currency union—as measured by an increase in the ratio of traded to non-traded goods and services—would be a direct test of whether the currency union had increased the degree of economic integration and hence moved its members closer to being in an OCA.<sup>12</sup>

It is possible that intra-EU trade could be harmed by exchange rate fluctuations and a currency union eliminates this volatility as well as providing other potential benefits: 'Removing "borders" broadly intended as impediments to trade, but also financial flows, as well as sharing a single currency, are a powerful magnet for deeper economic and financial integration. Such endogeneity [of the OCA criteria] could also result from deeper financial integration and risk-sharing, increased symmetry of shocks and similarly output

synchronisation, and an increased pace of product and labour market reforms to enhance flexibility'.<sup>13</sup> Supporters of a single European currency point out that by disregarding the endogenous effect of a currency union,<sup>14</sup> Mundell's criteria were likely to downwardly bias the expected net benefits from monetary integration.<sup>15</sup>

### 3. Some Historical Examples of Unsuccessful and Successful OCAs

John Maynard Keynes argued that the Sterling Area—which he defined as the system under which members of the British Commonwealth conduct their international banking through London—would not make a successful OCA: '[I]f the Sterling Area is turned into a Currency Union, the members in credit would have to make a forced and non-liquid loan of their favourable balances to the members in debit. ...It is improbable that South Africa or India would accept such arrangements'.<sup>16</sup>

By contrast, the US is considered to be a successful OCA, although it took around 150 years from the declaration of independence in 1776 for a full currency and monetary union to be realised.<sup>17</sup> The process of monetary union began with the introduction of the Constitution in 1789. The dollar was introduced in 1792. The 1863 National Bank Act established a national banking system, although, at the time, three currencies were in circulation: a greenback dollar issued by the Federal government, a Confederate dollar (backed by cotton) issued by the Confederacy, and a Pacific states dollar (backed by gold). With the defeat of the Confederacy in the Civil War in 1865, the southern states switched to the greenback. In 1879, a single currency emerged when the US moved to the Gold Standard at the pre-Civil War parity level. However, the Gold Standard turned out not to be flexible enough to provide liquidity during the frequent banking and stock market crises that occurred in the US during the remainder of the 19th Century and the beginning of the 20th Century. In 1913, the Federal Reserve Act was passed, and this introduced a US central bank, namely, the Federal Reserve Bank or Fed. Initially, the Fed's powers were limited to the control of the banking system and the issuance of dollars.

Over the years, the powers of the Fed have changed, especially following the stock market crash of 1929, which led to the worst banking crisis in US history. The Fed's policy response was to tighten monetary conditions rather than provide liquidity to the banking system. As a result, one third of US banks became insolvent, and this contributed to the Great Depression, which lasted throughout the 1930s. The Fed now has responsibility for a monetary policy that takes into account the level of unemployment and the growth of real gross domestic product as well as the rate of inflation.<sup>18</sup> Nevertheless, a single (Federal Funds) interest rate operates across the whole US, regardless of regional unemployment differences.

The Great Depression led the Roosevelt government to introduce a system of federally funded transfer programmes—such as social security and unemployment insurance—in the New Deal. Federal government fiscal policy as a stabilisation tool has continued in existence since then. One of its aims is to help the different regions of the US adjust to differential business cycles and macroeconomic shocks. When some parts of the US are enjoying a boom, others can be experiencing a recession; when there is a shock to the oil price, Texas will be more affected than the other states. The revenues of the US Federal government amount to 21% of GDP, and 12% of Federal government expenditure comprises transfers to state and local governments. States can set budgets without Federal government interference. They are restricted by their own constitutions from running current account deficits, although deficits are, in practice, tolerated during recessions. However, there are no restrictions on states' abilities to finance capital expenditures on, say, roads and schools by borrowing.<sup>19</sup>

The Constitution also allowed free trade, travel, migration, and capital flows between the states from the very beginning. Labour mobility in the US has always been fairly high since its foundation, beginning with the westward migration in the 19th Century in search of agricultural land. Furthermore, labour mobility is an effective mechanism for adjusting to longer-term structural changes and to regional shocks in the US.<sup>20</sup> In addition, wages

tend to fall in regions experiencing unemployment.<sup>21</sup> Labour and indeed capital mobility are, of course, aided by the US having: a common language; common or similar laws for contracts, property, insurance, and insolvency; common or similar professional practices and standards; universities with common academic standards; and nation-wide federally run programmes of social security and elderly health care.

Therefore, it is clear that the US, at least since the 1930s, satisfies three of the four conditions for an OCA, and this is sufficient to classify the US as an OCA.

#### 4. Examining the Eurozone as a Possible OCA

The EZ is so geographically large and economically heterogeneous that the various regions are subject to different business cycles and to asymmetric macroeconomic and financial shocks, even more so than in the US.<sup>22</sup> More precisely, in the case of the EZ, it is the peripheral members that appear to experience the most extreme outcomes.

One study found that:

*Joining a single European currency dominated by and centred around a strong economic core (focused on Germany) may be beneficial to peripheral member regions in good economic times (such as the boom years of 2000–2007 when capital flowed from the core to the more peripheral parts of Euroland<sup>23</sup>), but it may prove highly disadvantageous once a major shock like the [Global] Financial Crisis of 2007–2008<sup>24</sup> occurs, since the scope for independent monetary intervention no longer exists. At the same time, the Eurozone lacks a centralised fiscal stabilisation mechanism by which to provide counter-cyclical intervention.<sup>25</sup>*

Another study found that:

*Some of [the OCA] conditions were satisfied at the inception of the EMU, others were missing at the beginning, but improved over time as expected by the endogenous approach to the OCA theory. The common fiscal capacity was the main missing element of the initial construction of the Eurozone, and still is. The common budget is so exiguous that its effectiveness as a shock absorption mechanism is negligible. . . . Some of the concerns raised on the eve of the euro did actually materialise, even if not immediately. First, in its first decade, the Eurozone did not experience major turbulences, because growing financial integration was compensating the need for fiscal transfers, channelling the excess of saving from the 'core' to the 'periphery'. Second, the mechanism generated record-high private indebtedness in the 'periphery' and exposure of the banks in the 'core', making the whole system more fragile as it relied upon financial market stability. Third, once the long-feared shock [i.e., the GFC] hit, the mechanism proved weak and non-resilient. The inherent weaknesses of the EMU became evident. Fourth, as it had been foreseen, the cost of the adjustment after the shock fell mainly on labour, with much higher and longer unemployment in the Eurozone than both non-Eurozone EU and the US. Fifth, as the [OCA] theory suggested, the lack of common mechanisms of adjustment dramatically increased the socio-economic divergences within the EMU.<sup>26</sup>*

The ECB's sole formal monetary policy objective is price stability, which is much more restrictive than that of the Fed. Further, the ECB is not able to apply a different monetary policy in different member states—like the Fed.

Fiscal policy is also more restrictive in the European Union (EU) than in the US. The central revenues available to Brussels are limited to 1.7% of GDP. EZ rules—as formulated in the 1993 Maastricht Treaty and introduced as part of the 1997 Stability and Growth Pact (SGP)—restrict member states from running budget deficits exceeding 3% of their GDP<sup>27</sup> or having national debts exceeding 60% of their GDP.<sup>28</sup> These rules apply (or at least are supposed to) whether their breach is due to an economic recession beyond the control of the member state or due to government-spending profligacy. Furthermore, no distinction is made between current and capital expenditures.

The underlying philosophy within the EU justifying these restrictive monetary and fiscal policies is that the required adjustments to any adverse economic fluctuation will

operate principally through market forces. The hope is that prices and wages will adjust to counter shocks in production and employment. Similarly, labour and capital will move between regions and industries in response to wage and price signals. In the process, the rest of the EU would be pulled up to German levels of productivity, living standards will converge throughout the EZ, and this will encourage EU members not in the EZ<sup>29</sup> to adopt the euro.

The EU does have a number of structural and investment funds whose purpose is 'to invest in job creation and a sustainable and healthy European economy and environment' as part of the SGP. There are five funds in total:<sup>30</sup>

- The European Regional Development Fund (ERDF), which 'promotes balanced development in the different regions of the EU'.
- The European Social Fund (ESF), which 'supports employment-related projects throughout Europe and invests in Europe's human capital—its workers, its young people and all those seeking a job'.
- The Cohesion Fund (CF), which 'funds transport and environment projects in countries where the gross national income (GNI) per inhabitant is less than 90% of the EU average. In 2014–2020, these [were] Bulgaria, Croatia, Cyprus, the Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Malta, Poland, Portugal, Romania, Slovakia and Slovenia'.
- The European Agricultural Fund for Rural Development (EAFRD), which 'focuses on resolving the particular challenges facing EU's rural areas'.
- The European Maritime and Fisheries Fund (EMFF), which 'helps fishermen to adopt sustainable fishing practices and coastal communities to diversify their economies, improving quality of life along European coasts'.

All these funds deal with the long-term sustainability of different regions of the EU and aim to reduce long-term regional income inequalities. While they involve a redistribution of resources from richer to poorer regions, none of them is intended to address the shorter-term economic problems that arise because of differential regional business cycles or asymmetric macroeconomic and financial economic shocks.<sup>31</sup>

So, the EU does not have the monetary or fiscal policy tools—either automatic or discretionary—nor the formal system of regional redistributions needed to deal with the possibility that some regions will be booming, while others will be in a slump. It is reliant on wage and price flexibility and on labour and capital mobility for this purpose. Its principal vehicle for delivering this flexibility and mobility is the European Single Market.<sup>32</sup>

Yet despite the EU claiming to operate the European Single Market with its 'four freedoms', i.e., the freedom of movement of goods, services, workers, and capital, there is no effective 'single market' in services, workers, or capital. EU workers are, of course, free to look for work in any member state, and both unskilled and very highly skilled workers are able to find work if they are willing to accept the working conditions involved. However, a whole range of professional workers in between these two groups find it difficult to get jobs in their own profession because there is frequently no mutual recognition of qualifications. There are, in addition, other barriers, such as language differences, the non-portability of pension rights, etc. Labour mobility within the EU is estimated to be one-third of the level found in the US,<sup>33</sup> and there are significant wage rigidities in European labour markets.<sup>34</sup> Similarly, despite numerous attempts to create a Capital Markets Union, the European capital markets are far from integrated, and, furthermore, it is arguable that financial regulations introduced at the EU level are impeding rather than promoting the process of integration, reflecting the widespread hostility to the Anglo-Saxon capital markets model on the continent,<sup>35</sup> preferring instead the bancassurance model, whereby funding and financial services are mostly provided by banks and insurance companies.

In 2010, in response to both the GFC and the European banking crisis (2008 (October)–2009), the EU set up the European System of Financial Supervision (ESFS).<sup>36</sup> This comprises:

- The European Systemic Risk Board (ESRB), which was established to oversee the EU financial system and mitigate systemic risk.
- The three European Supervisory Authorities (ESAs), which were established to provide incentives to avoid excessive risk taking in the financial services industry and to promote a level playing field in support of beneficial financial integration within the EU, namely:
  - The European Banking Authority (EBA);
  - The European Securities and Markets Authority (ESMA);
  - The European Insurance and Occupational Pensions Authority (EIOPA).
- The European Stability Mechanism (ESM),<sup>37</sup> which was organised by member states of the EZ to preserve financial stability in Europe by providing financial assistance to EZ states experiencing financial difficulty. The ESM can borrow via bond issuance up to EUR 500 bn, and EUR 190 bn of this was used to bail out the Irish and Portuguese banks in 2010–2011. In September 2012, the ECB introduced a programme of Outright Monetary Transactions (OMT), under which it makes purchases ('outright transactions') in the secondary market for bonds issued by EZ members, with the aim of 'safeguarding an appropriate monetary policy transmission and the singleness of the monetary policy'.<sup>38</sup> The total cost of rescuing EU banks between October 2008 and December 2012 amounted to EUR 592 bn in state aid.<sup>39</sup>
- The Securities Markets Programme (SMP), which was established to ensure depth and liquidity in the malfunctioning segments of bond markets (where transactions were having a significant effect on bond price volatility) and to restore the appropriate functioning of the monetary policy transmission mechanism. To avoid the SMP altering the EZ's declared monetary policy, the bond purchases conducted through the SMP are sterilised and do not change central bank liquidity.<sup>40</sup>

Stanislas Yassukovich<sup>41</sup> confirms that 'there is effectively no "single market" in services in the EU, and certainly not in financial services. For example, a qualified German hairdresser must requalify to practice in France (and there are two different qualifications, domicile and shop), and an English solicitor cannot provide conveyance for a residential property sale in most EU countries. [T]here is . . . no unified capital market and no European stock exchange; the regulation of financial services, focused largely on investor protection, is at national not EU level'.<sup>42</sup>

Where there are financial regulations at the EU level, such regulations tend to be protectionist, excessive, or ineffective. Here are some examples:

- The EBA plans to implement the Basel III banking regulation in a consistent manner across the EU despite Basel III being a voluntary code and estimates made by the OECD that its implementation will reduce global economic growth by between 0.05 and 0.15% p.a.<sup>43</sup>
- The implementation of the Total Loss Absorbing Capacity (TLAC) rules. The European Commission has plans to increase EU oversight of foreign banks. Foreign banks with significant activities in the EU would be required to operate via 'intermediate holding companies'. These would have to meet: additional capital requirements; the internationally agreed TLAC rules; and other minimum internationally agreed standards in order to ensure that they could be wound down safely if they fail. The banks would have to issue equity and junior debt (such as contingent convertible (CoCo) bonds), that would be written off in the event of a crisis. Philip Hammond, the UK finance minister at the time, described the proposals as anti-competitive and claimed that they could also 'constrain prudential authorities in a way that could have an impact on financial stability'.<sup>44</sup>
- The Markets in Financial Instruments Directive (MiFID) II which deals with the trade and provision of services by investment intermediaries relating to financial instruments (e.g., shares, bonds, units in collective investment schemes, and derivatives). Jeff Sprecher, CEO of Intercontinental Exchange, has described MiFID II—which came

into effect in January 2018—as ‘a terrible piece of legislation that imposes tremendous costs on the industry’. MiFID II grew out of the G20 financial regulation principles established in November 2009<sup>45</sup> to reduce systemic risk following the GFC, but it has been criticised as being excessively complex and its implementation was delayed by a year. One particular issue is the unbundling of investment research and transaction costs.<sup>46</sup> MiFID II, in order to achieve full cost transparency for customers, ended the standard industry practice of brokerage firms providing investment research free of charge in return for trade execution business. McKinsey estimated that the profits of European asset managers that pay for research in full could be reduced by 15–20%. Larry Fink, CEO of BlackRock, the world’s biggest fund manager, expressed concern that MiFID II could lead to a dearth of research coverage focused on smaller listed companies.<sup>47</sup> Another unintended consequence is the inadequate assessment of environmental, social, and governance (ESG) risks in ESG specialist funds—since ESG assessment requires inputs, like databases and proxy advisors,<sup>48</sup> which cannot be valued by MiFID II research valuation approaches—leading to the potential overstatement of ESG integration.<sup>49</sup> Brokers and asset managers predicted correctly that MiFID II would lead to fewer trades, reduced price discovery, and less efficient markets.<sup>50</sup> Another issue is the reporting of trades to regulators within a specified time, the cost of which has encouraged some hedge funds, such as Brevan Howard and Tudor, to register under the Alternative Investment Fund Managers Directive (AIFMD) rather than under MiFID II.<sup>51</sup> The total cost to the finance industry of implementing MiFID II was estimated at more than EUR 2.5 bn.<sup>52</sup> Within months of its introduction, trading in a number of futures and options contracts was being shifted from London to the US, and European investment banks were losing business to their US rivals.<sup>53</sup> The EU ultimately accepted that the directive was flawed and introduced the MiFID II ‘Quick Fix’ Directive<sup>54</sup> in February 2021 with the aim of removing unnecessary administrative burdens on firms before February 2022; these related to product governance, payment for research (enabling the joint payment of execution services and research on small and midcap issuers), client information requirements (such as reporting when a portfolio had decreased by 10% in value), and best execution requirements.

- The Capital Requirements Directive IV (CRD IV). This is damaging for EU financial markets in terms of restrictions on cross-border lending and a bankers’ bonus cap, for example.
- Solvency II. The UK House of Commons Treasury Select Committee launched an inquiry into the ‘manifest shortcomings’ of the Solvency II Directive dealing with the regulation of insurance companies.<sup>55</sup> The inquiry’s report was published in October 2017. While the evidence submitted to the committee highlighted problems with the legislation as drafted (e.g., with respect to the risk of procyclicality and market distortion, the calibration of the risk margin, the approval of internal models and subsequent model change, and the volume and complexity of data required from firms), the report was concerned with the way Solvency II has been implemented in the UK by the Prudential Regulation Authority (PRA): ‘An excessively strict interpretation of the requirements of Solvency II, and of its own obligations, has limited the PRA’s thinking in a way which could be detrimental to UK plc’.<sup>56</sup> The UK government replaced Solvency II with Solvency UK in November 2022.<sup>57</sup> This lowered the ‘risk margin’<sup>58</sup> for long-term life insurance business by 65% and for general insurance business by 30%. It also modified the ‘matching adjustment’<sup>59</sup> to allow for the inclusion of assets with highly predictable (and not just fixed) cash flows. These changes will enable UK insurers to invest in a broader range of assets, notably those that are more illiquid and have a lower credit rating, but are longer-term and geared towards infrastructure projects.

Furthermore, Brexit is being used by EU financial regulators as an opportunity to increase their influence and authority, including over the UK itself. We consider some examples below.

The first example relates to ‘delegation’. In July 2017, the ESMA issued guidance to EU national regulators on how to deal with fund manager relocations from the UK after Brexit. It said that national regulators dealing with ‘authorisation’ requests should reassure themselves that firms do not ‘perform substantially more portfolio management and/or risk management functions for the relevant funds in their original member states or third country on a delegation basis’. Under the 1985 UCITS (Undertakings for the Collective Investment in Transferable Securities) Directive and the 2011 AIFMD, fund managers are allowed to delegate certain functions for their EU funds—such as portfolio management and risk management—to organisations outside the EU. Peter Astleford from the law firm Dechert stated ‘US managers, in particular, will have a wary eye on this new manifestation of “Fortress Europe”. The implied and overt requirements for local substance, taken literally, show a new and potentially worrying sign for . . . managers’. Dan Waters, managing director of ICI Global—the trade body representing fund managers globally—said ‘any restrictions on delegation could impact fund managers globally. . . The language about delegation of portfolio management—and to third countries—is of huge concern. UCITS would not exist in South America or Asia if portfolio management could not be delegated. Where is the evidence it is not working?’.<sup>60</sup> The then UK minister for financial services, Stephen Barclay, said the government ‘strongly supports the global delegation model for portfolio management, in partnership with other countries that share our views on this issue. [It has allowed UK asset managers] to sit at the heart of global investment allocation [and also benefited Europe]. A restricted delegation model would cause fragmentation and prompt funds located in Europe [to] leave the Continent for other financial centres, such as New York or Hong Kong’.<sup>61</sup> The ESMA is seeking greater powers when it comes to monitoring and reporting on delegation practices, particularly a requirement to be notified when a fund manager is delegating more activity outside the EU than within. Chris Cummings, the chief executive of the UK’s Investment Association, the trade body representing UK fund managers, was concerned that this will lead to a ‘limit by stealth for activity delegated to global financial centres, such as the UK, the US and in Asia. . . .[T]he EU risks undermining one of the key features that has made its fund industry so successful’.<sup>62</sup>

The second example relates to EU attempts to influence organisations that are currently located in London. The European Commission has proposed granting the ESMA regulatory powers over both central counterparties or CCPs (i.e., clearing houses) and credit-rating agencies (CRAs) based outside of the EU, which would include London-based organisations.<sup>63</sup> In the case of euro clearing, it wants this activity re-located to the EU on the grounds of ‘financial stability risks’. However, there have been no examples of systemically important CCPs defaulting, and, in the implausible event of one doing so, contractual recovery mechanisms mean that a CCP can allocate losses to surviving clearing members with no residual unallocated losses remaining with the CCP. Daniel Maguire, CEO of the London Clearing House (LCH), told a UK House of Commons Treasury Select Committee meeting that he did not believe that the forced relocation of the LCH to the EU ‘is a desirable element of the Commission’s proposal. . . .[Indeed, the] answer may be relocation going the other way, to the States’.<sup>64</sup> Any large-scale transfer of business from the UK to the EU would be ‘disruptive, potentially risk financial instability, and is unlikely to be welcomed by market participants’, according to Pardeep Cassells of AccessFintech. This is because EU CCPs do not have the liquidity and depth of UK CCPs and market participants would lose netting and collateral benefits.<sup>65</sup>

In December 2022, the European Commission responded to these criticisms by announcing it would amend the European Market Infrastructure Regulation (EMIR) to make the central clearing of derivatives in the EU ‘more attractive’ by enabling CCPs ‘to expand their products quicker and easier, and by further incentivising EU market participants to

clear and build liquidity at EU CCPs'. The Commission wanted to build a 'safe and resilient' clearing system by strengthening the EU's supervisory framework for CCPs and 'reduc[ing] excessive exposures of EU market participants to CCPs in third countries, particularly for derivatives identified as substantially systemic by the European Securities and Markets Authority'. The proposal requires all relevant market participants to hold active accounts at EU CCPs for clearing at least a portion of certain systemic derivative contracts. The Commission believed that 'This will improve the management of financial stability risks in the EU'.<sup>66</sup>

Despite this, the Dutch Pensioenfederatie warned that the proposed amendments to EMIR concerning the central clearing of derivatives could lower investment returns for European pension funds and wanted Dutch pension funds to have access to best execution—which would mean continuing to access the market with the greatest liquidity, namely the UK market. It was, therefore, opposed to the EU imposing a minimum share of transactions that would have to be cleared in EU CCPs where the market spread is wider, thus lowering returns—although it supported pension funds spreading the risk by clearing trades through multiple CCPs.<sup>67</sup>

The third case is another example relating to EU rules on 'authorisation'. It had been suggested that trillions of pounds worth of derivative contracts between UK and EU counterparties could become illegal after Brexit. However, this was dismissed as failing to recognise the operation of public international law, the European Convention on Human Rights (ECHR), and the EU Charter of Fundamental Rights. A report by the law firm [Shearman and Sterling \(2017\)](#) concluded that by combining human rights law and taking maximum advantage of reverse solicitation<sup>68</sup> regimes, there should be no material 'cliff edge' for the performance of existing financial contracts or the servicing of existing customers resulting from Brexit. Reverse solicitation allows wholesale market customers to opt out of EU financial regulation entirely when buying services from outside the EU.<sup>69</sup> Furthermore, many pre-existing financial contracts will not be affected by local EU member state's licensing requirements post-Brexit. The regulated activity will have taken place when the contract was entered into, so any future performance after Brexit will not need a licence. In addition, many other financial contracts do not involve cross-border dealings in law; the performance of these contract will remain solely within the jurisdiction of UK regulators. For a relatively small subset of financial contracts that could involve local authorisation requirements in some EU member states, appeals can be made to property rights and international law protections. The right to property protects rights under contracts between UK and EU27 businesses that existed prior to Brexit. This right arises both in the ECHR, to which the UK and every EU27 state will remain a party, and in the EU's own Charter of Fundamental Rights. These property rights protect contracts which have an economic value on Brexit. Derivative contracts and any unexercised options contained within them will have a calculable economic value at any given point and will, therefore, be protected. Similar protections are provided by the international law doctrine of acquired rights.<sup>70</sup>

As a final example, in September 2017, the European Commission recommended that the ESMA become an 'investigatory hub' for market abuse cases across the EU. Valdis Dombrovskis, the commissioner responsible for financial stability, financial services, and the Capital Markets Union, said: 'The EU needs to act as one player so that we can stay ahead of the curve. More integrated financial supervision will make the Economic and Monetary Union more resilient'.<sup>71</sup> Organisations based in London would inevitably become caught up in this.

In addition to the burdens imposed by EU financial regulations, there is another important factor that is limiting the growth of Europe's capital markets, and that, according to Larry Fink, is Europe's 'excessive reliance' (around 70%) on borrowing from banks and insurers to fund growth.<sup>72</sup> He claims that the problems European companies face when accessing bond and equity markets have 'stifled economic recovery' on the Continent: 'In the years since the [GFC], much of Europe's economic potential has been locked up. Strengthening capital markets and retirement systems can help unlock that potential, and

doing so will be vital to Europe's economic future'. He also argues that European bond markets are complicated by different insolvency laws across member states: 'The lack of a unified European corporate bond market raises costs for companies, deters investors and holds down liquidity'. While praising the European Commission's efforts to unify European capital markets—under the Capital Markets Union project—he warns that the EU is 'pulling itself in two directions', claiming that other initiatives, such as the capital rules for insurers under Solvency II, could 'severely restrict a key source of funding for European companies. While a long-term objective is greater funding from capital markets, limiting insurance companies' capacity for investment before capital markets are fully developed could significantly damage growth'.<sup>73</sup>

A 2017 study by New Financial found that Europe's share of global capital market and banking business had fallen over the previous 10 years in 20 out of 21 sectors. By 2022, the market value of the top 20 European banks was 43% less than that of the top 20 US banks, whereas in 2007, it was 58% greater.<sup>74</sup>

According to a report by Oliver Wyman, the structure of the financial services industry has also changed significantly in recent years. In 2012, traditional banks and insurers accounted for 90% of the total value of the industry. By 2022, their share had fallen to 65%, with new financial infrastructure and technology companies (FITs) accounting for the remaining 35%. Oliver Wyman said: 'The vast majority of the FIT growth is taking place in the US and China, where the biggest technology firms there are piling into financial services. Europe lacks true "tech giants" and hence has seen more limited value creation thus far. As online wallets, digital tokens and the metaverse will eventually gain further ground, Europe is again at risk of standing on the sidelines'. Christian Edelmann, managing partner for Europe at Oliver Wyman, made the following recommendations for European banks given that the Banking Union has not delivered the 'hoped-for panacea'.<sup>75</sup>

*First, banks should not wait for the perfectly conducive environment for M&A, but rather should work actively with all involved regulators to achieve better synergies in cross-border M&A. They should challenge domestic ring-fencing practices in the Eurozone—in particular, by pushing for cross-border liquidity waivers, which national regulators can grant. Along those lines, banks should push domestic resolution authorities not to add MREL (minimum requirement for own funds and eligible liabilities) requirements to local subsidiaries of banking groups on top of the MREL requirements made by the Single Resolution Board.*

*Longer-term, European banks need to challenge their core business models. Yes, we have seen various rounds of restructuring and digitisation at all European banks since the Global Financial Crisis. But at their heart, they are set up across traditional client-oriented silos (such as retail or wholesale banks or wealth management divisions), with the majority of their revenue streams reliant on risk intermediation. While rising rates now help these businesses, this is not enough to change the fortune of European banks.*

*These incremental revenues can create additional ammunition to finance a transition into the future—that is, to venture more deeply into technology, particularly data. Value technology services—such as payment, banking/insurance-as-a-service models or digital assets—are getting earnings multiples of 20 to 30, while connected data services (such as wallet services, connected ecosystem services for mobility, employment, education, commerce, or climate risk data) enjoy multiples of 30 to 40. Traditional risk intermediation businesses, by contrast, have multiples of just 10 to 20.*

*Transitioning to the future will require more than an innovation lab—companies must undergo sweeping organisational change, turning these platforms into primary or at least equal reporting lines, with future leaders being groomed in these leadership positions.*

*In the end, it will be up to European banks themselves to reverse the widening gap with US firms. Those that show they can change are likely to find eager support among investors, regulators and prudential authorities across Europe.*

In November 2022, nine trade associations, including the European Banking Federation (EBF), the Association for Financial Markets in Europe, the Dutch Securitisation Association, and Paris Europlace, wrote to the European Commission arguing that a lack of action around securitisation<sup>76</sup> reform was damaging the competitiveness of the EU's financial markets: 'The absence of a well-functioning securitisation market represents a strategic loss to the European financial system. It is undermining the competitiveness of European financial institutions and limiting their ability to recycle capital to support new financing. It has encouraged institutional investors to shift towards other products that do not offer the same advantages in terms of protection, transparency and liquidity. . . . Securitisation is vital to achieving the objectives of the Capital Markets Union and addressing the very significant financing needs today and in the coming years, including those arising from the green and digital transformations'. Securitisation volumes have been on a downward trend in the EU, while the US experienced its highest ever issuance volumes in 2020 and 2021. Despite this, the Commission has ruled out a review of the EU's securitisation regulation.<sup>77</sup>

So, the European Single Market—promoted as the jewel in the crown of the European Union—has not thus far delivered the wage and price flexibility nor the degree of labour and capital mobility and, particularly, the capital market integration that would help to compensate for the lack of monetary and fiscal tools needed for the EZ to operate as an OCA. In addition, the European Commission has developed a limitless appetite for reacting to the problems that arise from this with even more bureaucratic solutions accompanied by even more complex regulations—and it seems to be unable or unwilling to respond effectively and promptly to new developments and industry concerns.<sup>78</sup>

### 5. How Has the Eurozone Fared since Its Introduction in 1999?

The EZ's average annual GDP real growth rate between 1999 and 2019<sup>79</sup> was just 1.45%—see Figure 1. By contrast, the average annual GDP growth rates in the UK and US were 1.87% and 2.23%, respectively, despite both countries experiencing more prolonged recessions in 2008–2009—see Figures 2 and 3.



**Figure 1.** Eurozone GDP real growth rate (% quarterly), 1999–2019.



**Figure 2.** UK GDP real growth rate (% quarterly), 1999–2019.



**Figure 3.** US GDP real growth rate (% quarterly), 1999–2019.

Even more striking is the unemployment rate. The EZ unemployment rate averaged 9.4% between 1999 and 2019 (Figure 4), while the UK and US unemployment rates averaged 5.8% and 5.9%, respectively (Figures 5 and 6). From the start of the Great Recession (in December 2007), EZ unemployment rose from a base of just over 7% to a peak of 12% in 2013 and has only fallen slowly since then to reach 7.5% in 2019. By contrast, US unemployment rose sharply from 5% to 10% between 2008 and 2010 but then immediately began declining rapidly to reach a low of 3.7% in 2019 (Figure 6). This reflects the much greater flexibility of the US labour market: US workers are rapidly fired in a recession, but are also promptly rehired when better times come along if they are flexible in terms of wages and job location. The improved flexibility of the UK labour market (following the reforms of the Thatcher government) is also apparent: Figure 5 shows that UK unemployment rose sharply from 5% to 8% and stayed at that level for three years before falling steadily to reach 3.8% in 2019. The EZ labour market is sclerotic in comparison.

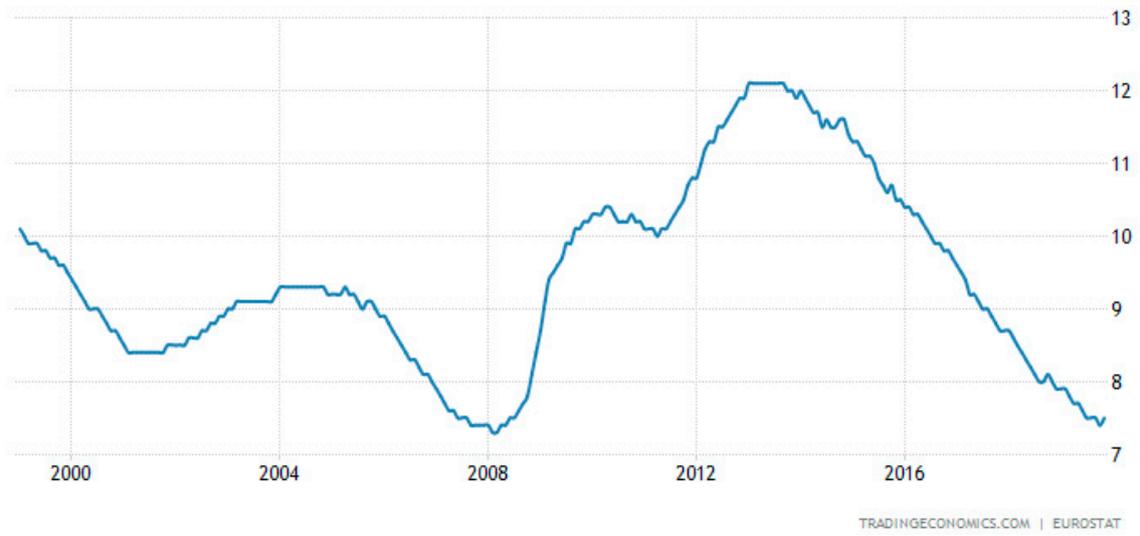


Figure 4. Eurozone unemployment rate (%), 1999–2019.



Figure 5. UK unemployment rate (%), 1999–2019.



Figure 6. US unemployment rate (%), 1999–2019.

Even more striking still is youth unemployment. The EZ youth unemployment rate averaged 19.5% between 1999 and 2019 and reached 25% at the worst point of the Great Recession in 2013;<sup>80</sup> it was still 16% in 2019 (Figure 7). The greater flexibilities of the UK and US labour markets are also apparent from Figures 8 and 9; in both countries, youth unemployment levels in 2019 were at historical lows of 11% and 8%, respectively.



Figure 7. Eurozone youth unemployment rate (%), 1999–2019.

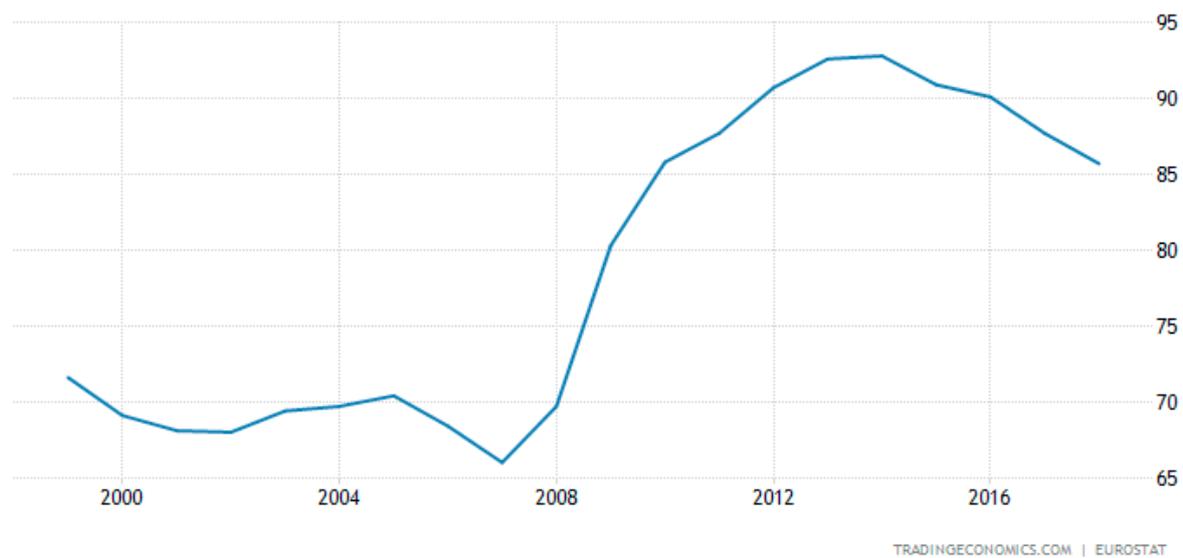


Figure 8. UK youth unemployment rate (%), 1999–2019.



**Figure 9.** US youth unemployment rate (%), 1999–2019.

Next, we examine government debt-to-GDP ratios. Figure 10 shows that the EZ countries in aggregate have never been below the Maastricht 60% limit during the entire existence of the euro. The average ratio was 79%, while the ratio was 86% in 2019. Figure 11 shows that the worst offenders in 2019 were largely the southern states of Cyprus, Spain, France, Portugal, Italy, and Greece. Greece had a national debt equal to 180% of its GDP.<sup>81</sup> As Whittaker and Connolly (2003) point out: ‘the euro has enabled fiscally-lax governments to gain from Germany’s reputation for fiscal and monetary prudence. All governments face continual pressure to tax less and spend more. Membership of the EMU “club” dilutes the financial discipline that would be faced by an independent government and makes it more likely that some governments will succumb to this pressure. . . .It is now clear that the Stability [and Growth] Pact is not being observed’.<sup>82</sup> Figures 12 and 13 show that the UK and US, despite having independent governments, also perform badly against this metric.



**Figure 10.** Eurozone government debt-to-GDP ratio (%), 1999–2019.

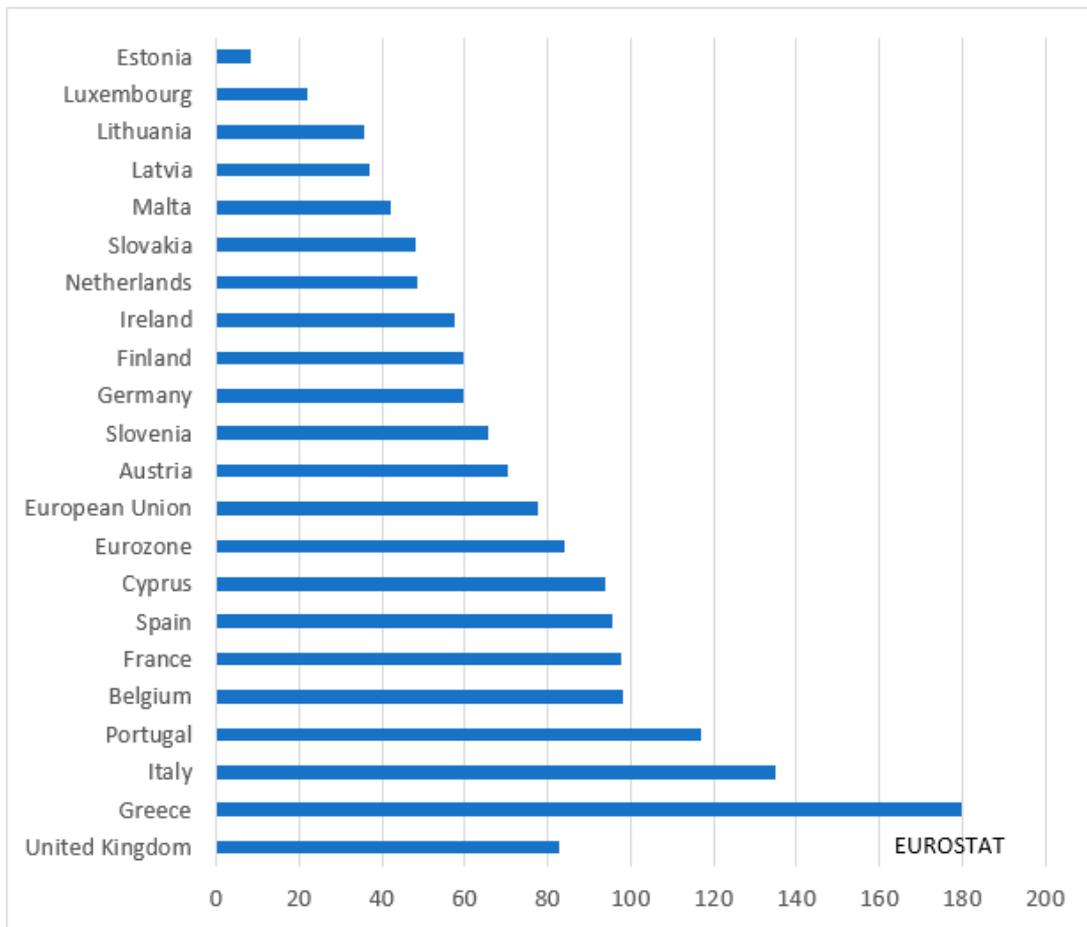


Figure 11. Individual Eurozone and UK government debt-to-GDP ratios (%) in 2019.

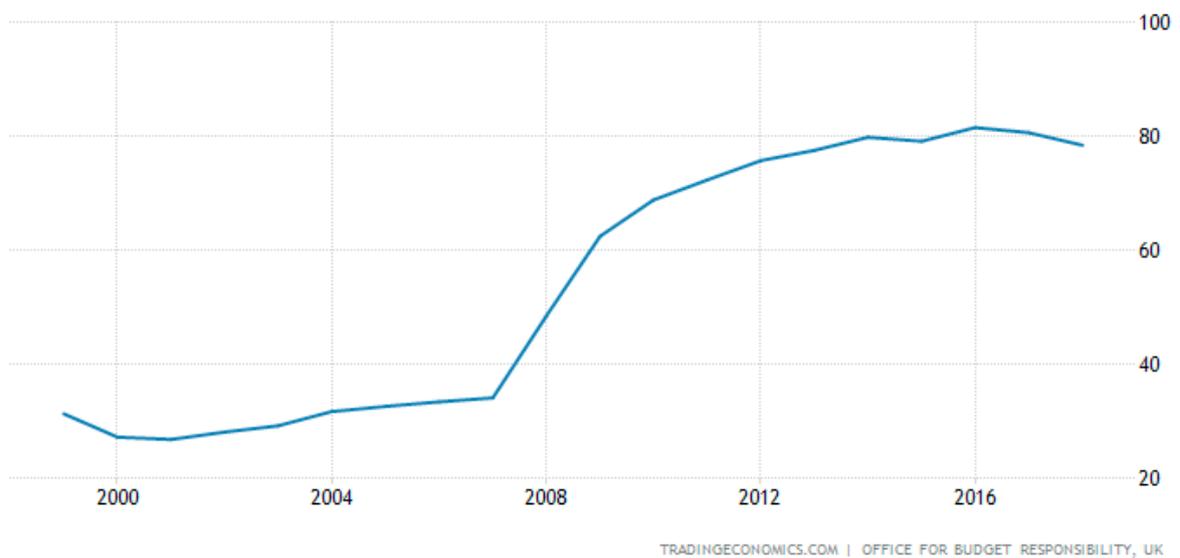
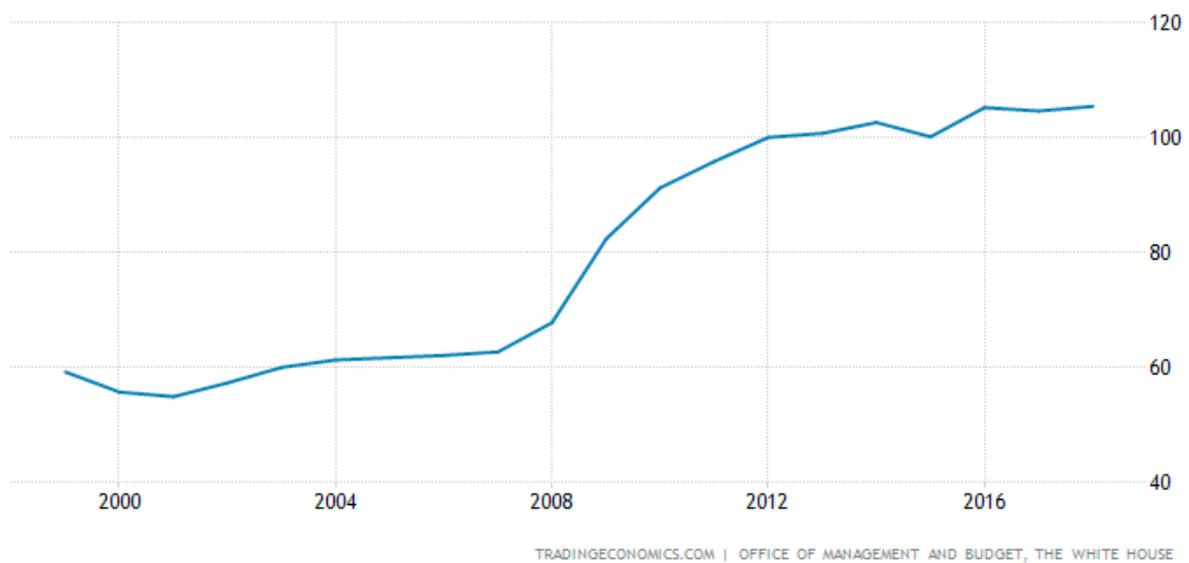


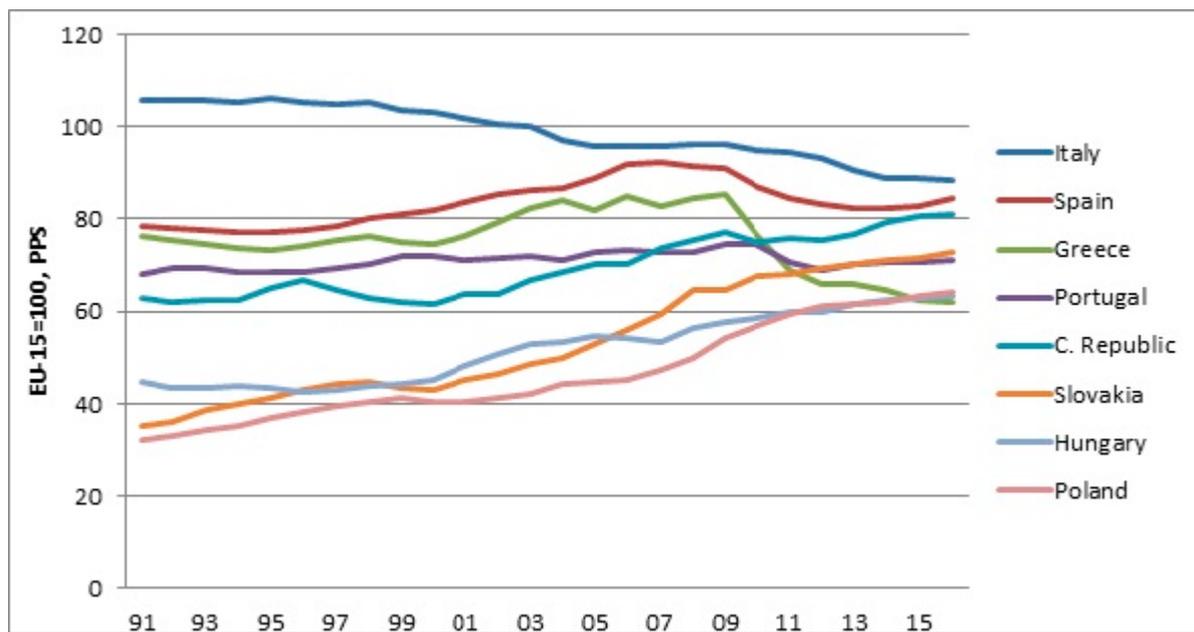
Figure 12. UK government debt-to-GDP ratio (%), 1999–2019.



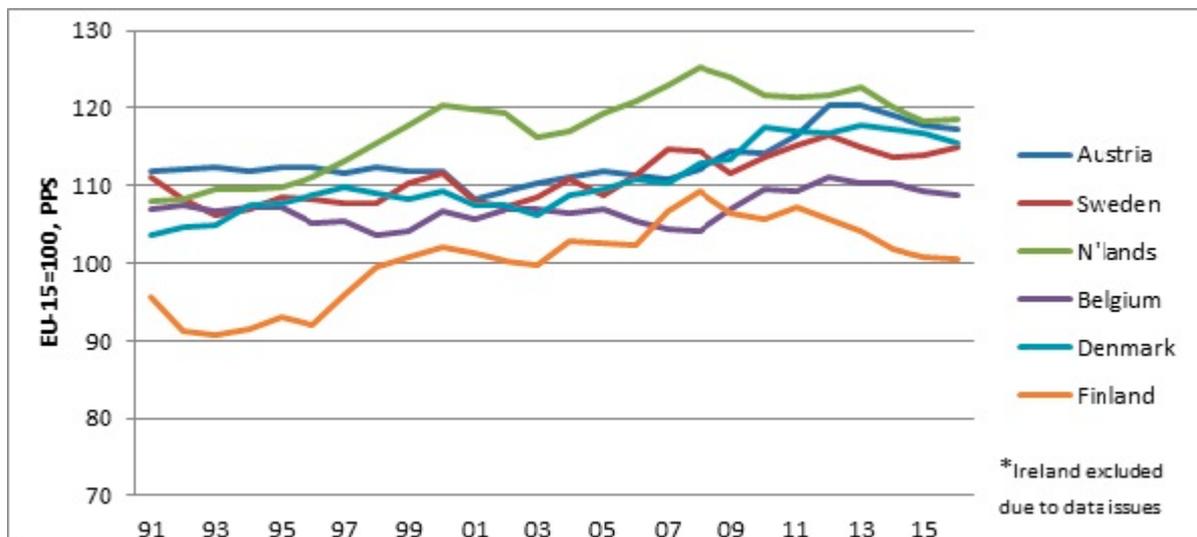
**Figure 13.** US government debt-to-GDP ratio (%), 1999–2019.

Another piece of evidence comes from an examination of the trend changes in the rates of per capita real GDP amongst the EZ member states. As previously mentioned, the EU is relying on a combination of market forces (in particular, labour and capital mobility) and structural and investment funds to achieve the long-run convergence of per capita GDP. If this policy is successful, there will be a ‘catch-up’ effect that becomes dominant, with the poorer regions catching up over time with the richer regions. This could lead to more highly correlated business cycles in the different regions of the EU, resulting in Mundell’s first condition being satisfied endogenously *after* the introduction of a currency union. On the other hand, the same policy could just as well lead to the domination of an ‘agglomeration’ effect, i.e., the tendency of capital and skills to concentrate in wealthier areas, which then become even wealthier. An example of this is the German car industry, which has used its dominant position in the German market to create a dominant position in the EZ. This could lead to an increase in specialisation, which would reduce the correlation in business cycles between members and increase the vulnerability to differential macroeconomic shocks within the currency union.<sup>83</sup>

Figure 14 shows the member states, mainly in central and eastern Europe, where the ‘catch-up’ effect dominates, while Figure 15 shows some of the countries where the ‘agglomeration’ effect dominates, namely, Germany, Benelux, the Nordic nations, and Austria. There is still a wide divergence between living standards within the EZ, and a number of studies have shown the overall dominance of the ‘agglomeration’ effect.<sup>84</sup> The implication of this is that the core countries will continue to grow by attracting capital and the highest-quality labour, while the peripheral countries will lag behind, despite the Stability and Growth Pact.



**Figure 14.** Per capita GDP relative to the EU average in member states where the catch-up effect dominates. Sources: 1. European Commission. 2. Tilford (2017). Note: PPS—purchasing power standards.



**Figure 15.** Per capita GDP relative to the EU average in member states where the agglomeration effect dominates. Sources: 1. European Commission. 2. Tilford (2017). Note: PPS—purchasing power standards.

Two countries stand out with regard to being in deep trouble in the EZ: Greece and Italy. Greece’s GDP fell by 45% between 2008 and 2015.<sup>85</sup> Greece’s problems are well known. What is less well known is the plight of Italy, which is one of the founding members of the EU. The International Monetary Fund’s (IMF’s) *World Economic Outlook* predicted that Italy’s per capita GDP as a percentage of the EU average would fall from 119% in 1999 to 88% in 2021. This contrasts with Poland, whose relative income over the same period was predicted to rise from 43% to 77%.<sup>86</sup> The main reason for Italy’s predicament appears to be that aggregate labour productivity abruptly stopped growing after 1995 on account of the failure of a non-meritocratic loyalty-based managerial system to capitalise on the information and communications technology revolution. This resulted in the low adoption

of IT as well as what has been described as the ‘Italian disease’ of entrepreneurs preferring to keep small businesses in the family rather than grow them with the help of outside investors.<sup>87</sup> A further key reason is the drag on economic growth caused by Italy’s huge expenditure on state pension provision, amounting to 16% of its GDP,<sup>88</sup> which is the second highest level in the EU after Greece. In 2011, in an attempt to curtail the growth in pension spending, the government announced that the state pension age would increase to 67 in 2019—but this has had little effect on reducing the share of state pensions in national income, which has remained at 16% for many years.<sup>89</sup> There is also an ‘inefficient public sector, . . . [a] business environment [that] is extremely difficult and [a] legal system [that] is very, very sluggish’.<sup>90</sup> An additional significant problem is that Italy is experiencing its lowest fertility rate since unification in 1861 at just 1.24 babies per woman, which is well below the replacement rate of 2.1. Italy’s national statistical agency projects that the population will fall by almost 20% by 2070 and depicts this as a ‘crisis scenario’.<sup>91</sup>

A further piece of evidence comes from the volume of intra-EU trade. Various studies have shown that this did increase after 1999 when the euro was introduced, but there are widely differing estimates of the size of this increase. Using different models and measures, these studies showed that intra-EU trade increased from an average of 15% of the EU GDP between 1988 and 1998 to 20% between 1999 and 2009,<sup>92</sup> or, depending on the assumptions made, by between 3% and 40% compared with bilateral trade between countries that had not adopted the euro.<sup>93</sup> So, the degree of economic integration did increase after 1999, but the extent could well be lower than previously hoped.

But how much of this increase is due to the euro itself, and how much is due to the introduction of the European Single Market? As previously discussed, there is little evidence that the European Single Market has so far helped to develop an integrated EU-wide market in services. In 2015, intra-EU and extra-EU service exports to the EU were 6.9% and 5.9% of the EU GDP, respectively, amounting to a difference of just 1 percentage point. Furthermore, exports of services to the EU by countries outside the EU have grown at a faster rate (0.5% p.a.) than service exports between EU members.<sup>94</sup> So, the increase in intra-EU trade must have been almost entirely in the form of goods. It also seems to be almost entirely the result of the euro since the European Single Market itself is ‘not visible in the macro statistics. . . . the data are telling us a different story—that the Single Market is a giant economic non-event, for both the EU and the UK’.<sup>95,96</sup>

This is confirmed by the absence of aggregate productivity growth in the EU. The idea that the EZ and the European Single Market ‘would transform EU economic performance has proved to be wide of the mark: there is no indication in the growth of output or productivity. . . . that would support this contention’.<sup>97</sup> Furthermore, the IMF has pointed out that ‘stagnant productivity growth has impeded the adjustment process in the euro area and contributed to stalling income convergence among countries. [It] urged countries to press ahead with structural reforms to improve productivity. Such reforms can have a larger impact in countries with lower productivity levels, thereby promoting income convergence and reducing competitiveness gaps’.<sup>98</sup>

Professor Nicholas Crafts, an economic historian from Warwick University, argues that the EZ aimed to improve trade and growth, but it is not equipped to handle a depressed economy. He suggests that a policy is needed to escape the liquidity trap—either in the form of unconventional monetary policy (such as quantitative easing (QE)) or a strong fiscal stimulus. But the EZ cannot deliver either one, and the ECB is the wrong central bank for a depression, as evidenced by its slow move to QE.<sup>99,100</sup> He concludes that ‘survival entails serious reform: a fully federal solution and deep economic integration, but this is hard to achieve’.<sup>101</sup>

Even strong supporters of the euro project concede that ‘Some important expected benefits have not yet fully materialised. With the euro, we would expect greater price transparency to reduce price discrimination and decrease market segmentation, therefore fostering competition across the euro area. This effect is still missing in several markets for

goods and services (for example, we still do not have a full convergence of car prices). The impact of internet-based providers that can sell and ship their merchandise across countries is also still modest. To put this differently, the service industry has not yet reaped the full possible benefits from EMU'.<sup>102</sup>

Although intra-EU trade increased following the introduction of the euro, the euro also had the effect of distorting trade both between EZ member states and between the EZ and the rest of the world. This is because the euro is an artificially 'constructed' currency. This is a consequence of the fixed rates used when the euro was introduced in 1999 to convert the domestic currencies of EZ members into euros. This affected not only the internal exchange rates between the EZ members, but also the international value of the euro.

Table 1 shows the weights of the 11 original constituent currencies of the euro. Table 2 shows the average annual growth rate in productivity of the 11 members around the time of the introduction of the euro between 1995–2005.<sup>103</sup> Germany had the second highest productivity growth rate at 1.9%, while Italy and Spain had the lowest at 0.5% and 0.0%, respectively.

**Table 1.** Weights of the original 11 constituent currencies of the euro.

Currency	FRF	ITL	ESP	NLG	BEF	IE£	FIM	ATS	PTE	DEM
Weight (%)	17.47	12.94	5.40	10.53	7.66	4.72	3.22	2.38	1.30	34.38

Source: <http://fx.sauder.ubc.ca/euro/> (accessed on 20 May 2017). Note: The Belgian and Luxembourg Franc are aggregated.

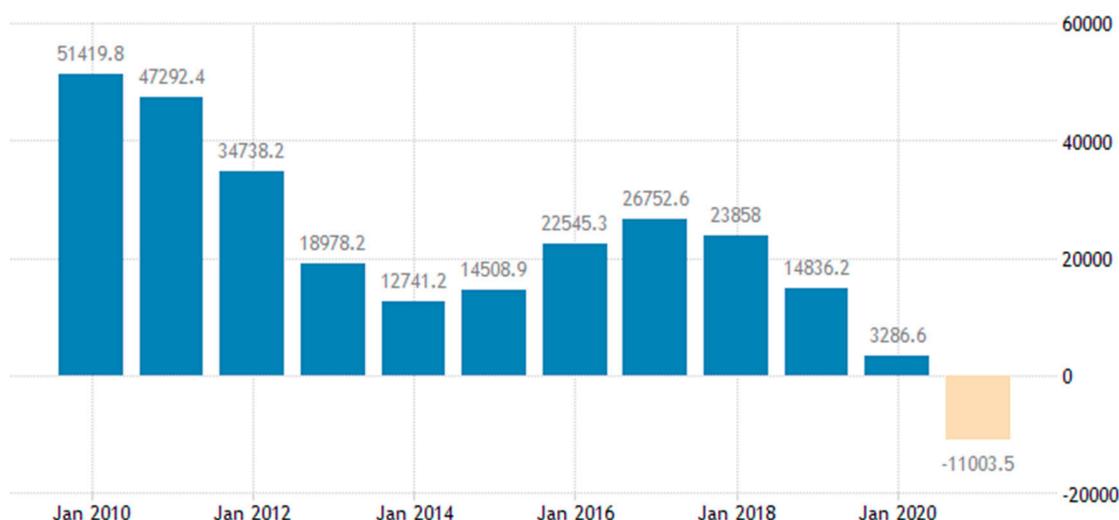
**Table 2.** Average annual growth rate in productivity of the original 11 Eurozone members, 1995–2005.

Country	FRA	ITA	ESP	NLD	BEL	IRL	FIN	AUT	PT	DEU
Productivity growth (% p.a.)	1.8	0.5	0.0	1.7	NA	NA	2.6	1.8	NA	1.9

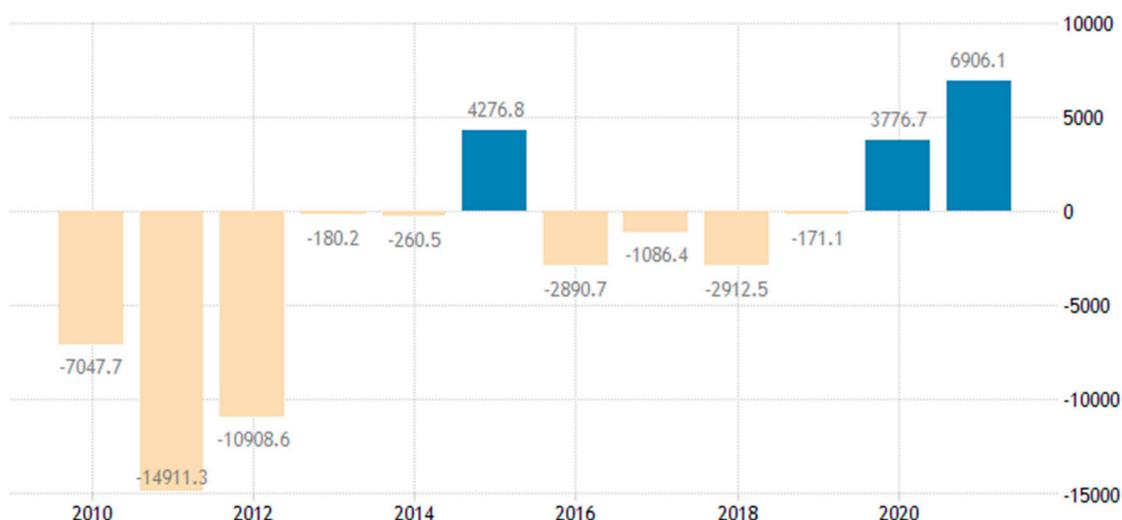
Source: [Elstner et al. \(2018, Table 1\)](#). Note: NA—not available.

Over a third (34.38%) of the value of the euro is represented by the Deutschemark (DEM). If all 11 members were equally productive, the particular weights would not matter; however, some member states, e.g., Italy and Spain, joined the euro at a conversion rate that turned out to be 'too high' given the subsequent performance of their economies. The original supporters of the euro project believed that competition would lead to a productivity catch-up; but, as we saw in Figures 14 and 15, the catch-up has not been uniform across all EZ member states. By contrast, other member states, e.g., Germany and the Netherlands, joined the euro at a conversion rate that turned out to be 'too low' given the subsequent performance of their economies.

There are two important implications from this discussion. The first is that with fixed nominal exchange rates, EZ member states with lower relative productivity levels will find themselves at a competitive disadvantage when it comes to intra-EZ trade, while states with higher relative productivity levels will find themselves at a competitive advantage. Figure 16 shows that for the 2010–2021 period, Germany had a trade surplus with other EU (including EZ) member states (except for 2021, the year of the COVID-19 pandemic). By contrast, Figure 17 shows that Italy has mostly had a trade deficit: the trade surplus in 2020–2021 is actually a sign of a very weak economy suppressing the demand for imports. Normally, countries with a trade surplus (deficit) would allow their nominal exchange rate to appreciate (depreciate), but this option is not available to EZ members.<sup>104</sup>



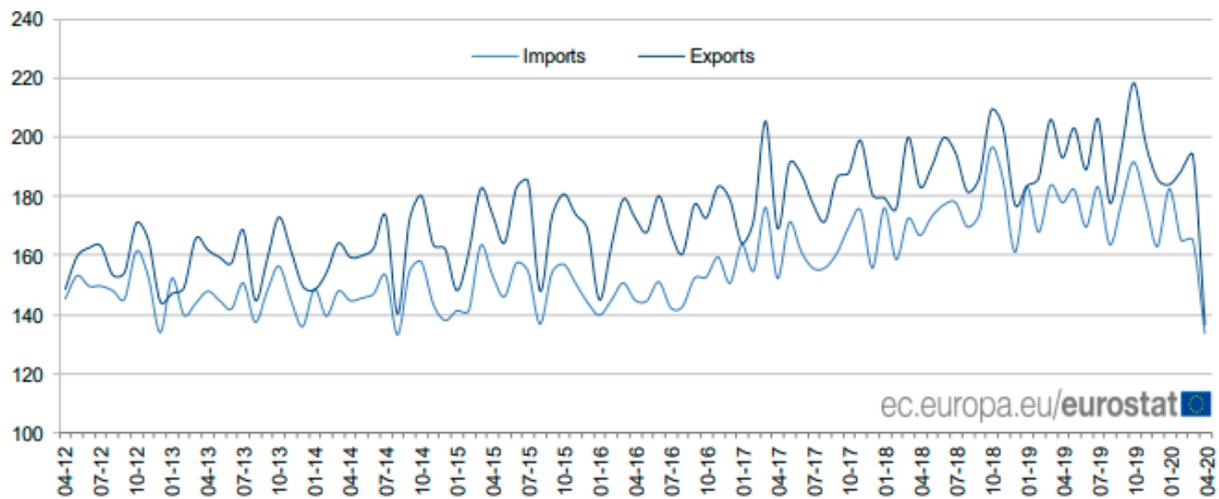
**Figure 16.** Germany’s intra-EU trade balance (EUR mn), 2010–2021. Source: Tradingeconomics.com; <https://tradingeconomics.com/germany/intra-eu-trade-trade-balance-eurostat-data.html> (accessed on 9 November 2022).



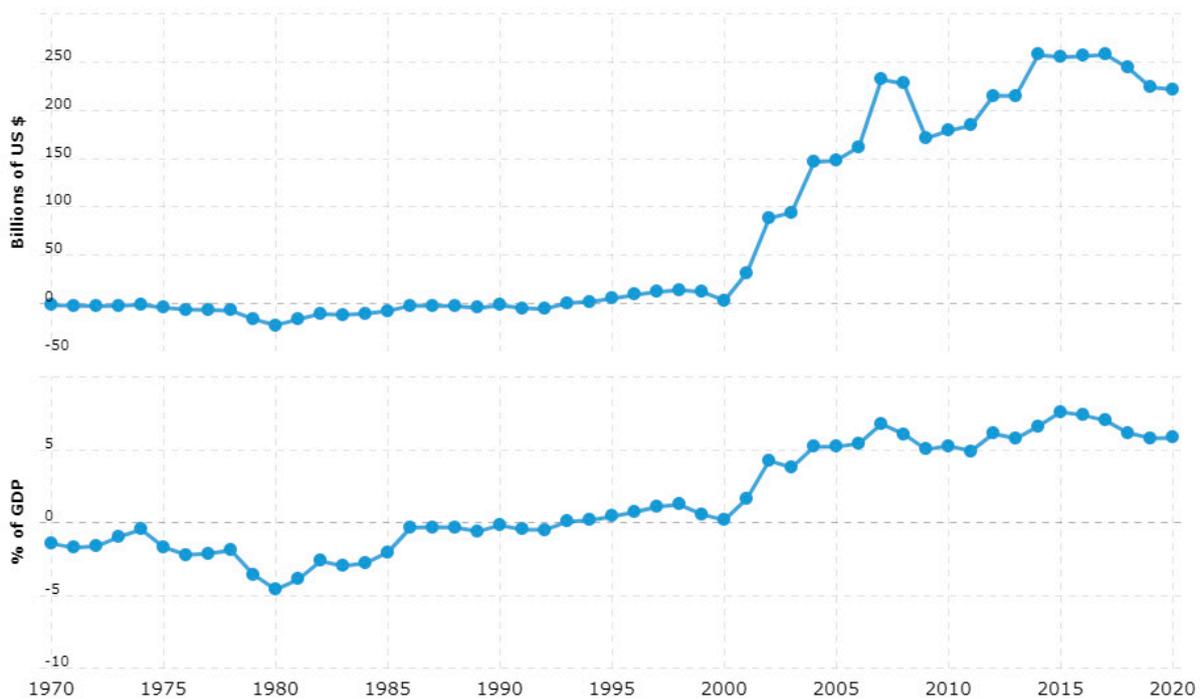
**Figure 17.** Italy’s intra-EU trade balance (EUR mn), 2010–2021. Source: Tradingeconomics.com; <https://tradingeconomics.com/italy/intra-eu-trade-trade-balance-eurostat-data.html> (accessed on 9 November 2022).

The second implication is that the EZ member states with low average productivity have helped to pull down the international trading value of the euro compared with the DEM, with the inefficient southern member states dragging down its value relative to what it would be if all member states were as efficient as Germany or the Netherlands.

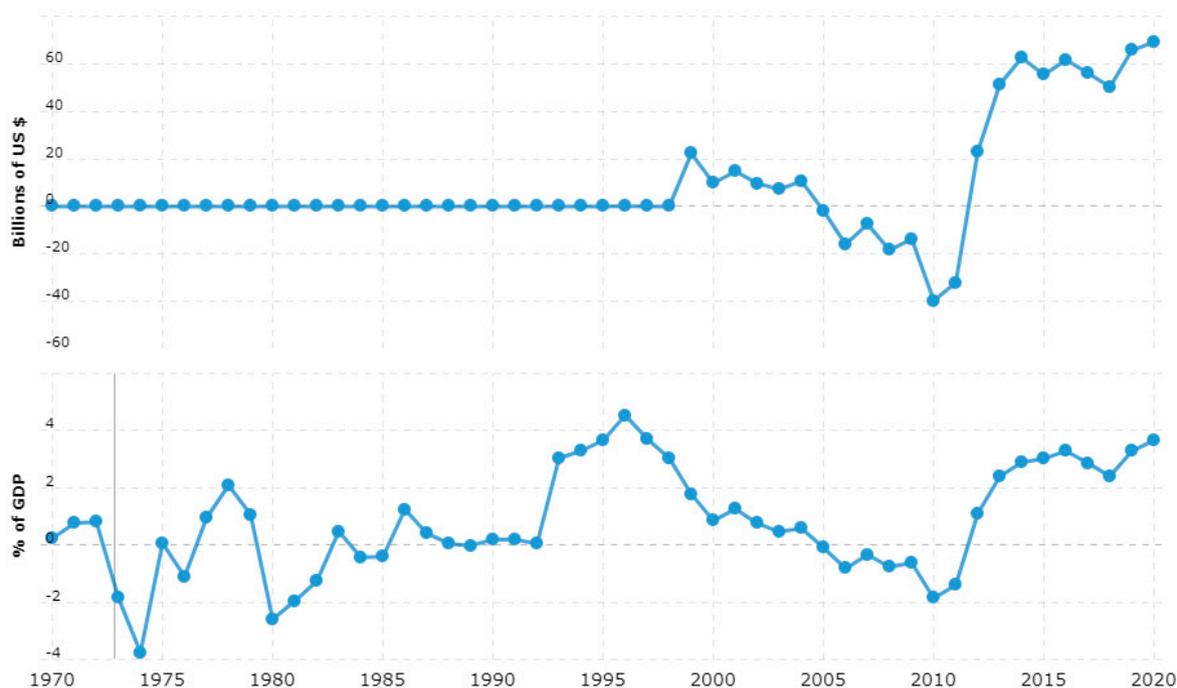
This persistent systematic undervaluation has helped to increase the exports of all the EZ members. Figure 18 shows that the EZ runs a persistent trade surplus with respect to the rest of the world as a result of this.<sup>105</sup> Figure 19 shows how much Germany has benefited from the euro relative to the DEM. Prior to the introduction of the euro in 1999, Germany’s international trade was broadly in balance, with exports matching imports, but since 1999, there has been a significant trade surplus, which has reached 5% of Germany’s GDP. In other words, the euro’s undervaluation is worth 5% of German GDP (compared with the DEM). Figure 20 shows that Italy’s international trade has also benefited from the use of the euro, especially after 2012, but not to the same extent as Germany.<sup>106</sup>



**Figure 18.** The Eurozone’s international trade in goods (EUR bn), 2012–2020. Source: Eurostat Newsrelease Euroindicators 93/2020–15 June 2020; <https://ec.europa.eu/eurostat/documents/2995521/10294876/6-15062020-AP-EN.pdf/5a036ad2-8a36-faaf-4fd9-fb1a285d5ee4> (accessed on 9 November 2022).



**Figure 19.** Germany’s international trade balance (EUR bn and percentage of GDP), 1970–2020. Source: <https://www.macrotrends.net/countries/DEU/germany/trade-balance-deficit> (accessed on 9 November 2022).



**Figure 20.** Italy's international trade balance (EUR bn and percentage of GDP), 1970–2020. Source: <https://www.macrotrends.net/countries/ITA/italy/trade-balance-deficit> (accessed on 9 November 2022).

In summary, since the introduction of the euro, the EZ has experienced lower average GDP and productivity growth and higher unemployment (especially youth unemployment) than the US or UK. A strong agglomeration effect has left wide differences in living standards across the EZ, with Greece and Italy performing particularly poorly. Intra-EU trade has increased following the introduction of the euro, but there are widely differing estimates of the size of the increase, ranging from as little as 3% to a high of 40%. EZ member states with higher productivity growth (e.g., Germany) have generally had trade surpluses with other EZ member states, while states with lower productivity growth (e.g., Italy) have generally had trade deficits. However, the low-productivity states have helped to pull down the international trading value of the euro in relative terms, and this has helped the EZ run a persistent trade surplus with the rest of the world, with Germany being a particular beneficiary.

## 6. Is the Eurozone an OCA?

It soon became clear that most of Mundell's conditions would fail to be satisfied in the EZ.

Its different regions do not have similar business cycles, so when the ECB, which is located in Frankfurt, initially set a low European-wide interest rate to suit the economic conditions in the core EZ countries, particularly Germany, this led to an unsustainable boom—especially a property boom—in peripheral countries, such as Ireland and Spain.<sup>107</sup> Higher interest rates were needed in these two countries to curtail the boom. This did not happen; instead, both countries experienced a construction-led economic collapse that gravely damaged their banking systems when the Great Recession followed the GFC.<sup>108</sup> This contributed to the EZ banking crisis (2008–2009) and the sovereign debt crisis (2009–2012).<sup>109</sup> These issues have not yet been fully resolved.<sup>110</sup>

Most significantly, the original EMU agreement had a 'no bailout clause'.<sup>111</sup> In other words, there would be *no* system at the EU level for dealing with the consequences of the distortions to the peripheral economies caused by the operation of a single European-wide monetary policy—just as there would be no formal system for redistributing trade surpluses and deficits within the EZ. Instead, each member state was expected to rely on market forces alone to deal with any economic or banking crisis that EZ membership might throw

up. Following the GFC, Irish and Spanish GDP contracted by 15.6% and 5.3%, respectively, between 2008 and 2010, and the Irish banking industry collapsed and was almost completely nationalised in 2009. While the short-term impact of the crisis was less severe in Spain—it did not have to enter a full IMF financial stability programme—the longer-term impact was worse, and Spain’s unemployment rate remains well above that of Ireland.<sup>112</sup>

The GFC, the banking and sovereign debt crises, and more recently the COVID-19 pandemic have demonstrated that the EZ is a long way from satisfying the OCA criteria endogenously—it does not have the market flexibilities or the stabilising policy mechanisms required to deal with economic shocks.<sup>113</sup> The consequences are flat-lining GDP growth and persistently high unemployment in the peripheral states and the constant threat of a banking crisis across the whole EZ.

The fact that the EZ is not an OCA was recognised as far back as the 1990s by economists Milton Friedman and Martin Feldstein. Friedman wrote: ‘Europe exemplifies a situation unfavourable to a common currency. It is composed of separate nations, speaking different languages, with different customs, and having citizens feeling far greater loyalty and attachment to their own country than to a common market or to the idea of Europe’.<sup>114</sup> Feldstein argued that the economic costs were so high that a decision to adopt a single currency would be a political decision.<sup>115</sup> We will return to this point after we examine how Target2 works.

## 7. What Is Target2 and How Does It Work?

### 7.1. What Is Target2?

Target2 is the second generation of Target, the Trans-European Automated Real-time Gross Settlement Express Transfer System for the euro. Target came into operation on 4 January 1999<sup>116</sup> and it was replaced by Target2 in November 2007. When the euro was introduced on 1 January 1999 as the common currency for the 11 founding member states of the EZ,<sup>117</sup> Target was introduced as the accompanying cross-border payments system.

The original idea for Target came from a proposal made by Keynes during the Bretton Woods negotiations for an International Clearing Union (ICU), which would act as a bank for the settlement of all payments related to international trade and would finance temporary imbalances simply by crediting the account of the exporting country and debiting the account of the importing country,<sup>118</sup> that is, by the use of trade credit or vendor financing. Keynes’ proposal—which was part of what became known as the Keynes Plan—was not included in the final Bretton Woods agreement, but did provide a model for the European Payments Union—which, starting in 1950, executed 75% of commercial transactions between participating countries.

### 7.2. How Does Target2 Work?

Let us illustrate how Target2 works. Consider a German manufacturer (A) who banks with Deutsche Bank and an Italian consumer (B) who banks with Banca Monte dei Paschi di Siena (MPS).<sup>119</sup> Also involved are the German central bank (Bundesbank), the Italian central bank (Banca d’Italia), and the ECB.

A sells EUR 100 worth of goods to B, but B does not have the money to pay for these goods. So, B borrows EUR 100 from MPS. MPS, in turn, increases its refinancing with Banca d’Italia by EUR 100 (i.e., it borrows EUR 100 from the Italian central bank). The EUR 100 is transferred via Target2 to the Bundesbank. The Bundesbank receives a credit of EUR 100 from the ECB, and Banca d’Italia receives a debit. The Bundesbank transfers EUR 100 to Deutsche Bank, which, in turn, reduces its refinancing with the Bundesbank (i.e., it receives a claim for EUR 100 against the German central bank). Deutsche Bank credits A’s account with EUR 100.

To reiterate, the importation of goods to Italy from Germany—which leads to or increases both a current account surplus in Germany and a current account deficit in Italy—has been financed by MPS creating liquidity in the form of a loan of funds which are

deposited in B's bank account. This liquidity creation results in a Target2 debit for Banca d'Italia and a Target2 credit for the Bundesbank.

In this example, Target2 turns the private debt of an Italian consumer into the national debt of the Italian government owed to the other national governments in the EZ (via their ownership of their NCBs, which, in turn, own the ECB):<sup>120</sup>

$$\begin{aligned} \text{Italy's national debt to Eurozone governments} = & \\ & \text{Italian government bonds held by other Eurozone national central banks} \\ & \text{and the ECB} \\ & + \text{Target2 liability of Banca d'Italia (owed to the ECB).} \end{aligned} \quad (1)$$

The *only* way of extinguishing a Target2 liability is through private financial inflows. This is because an increase in a Target2 liability is equal to the overall balance of the payments deficit:<sup>121</sup>

$$\begin{aligned} \text{Increase in Target2 liability of Banca d'Italia} = & \\ & \text{Net redemptions of Italian government bonds held by other Eurozone} \\ & \text{national central banks and the ECB} \\ & + \text{Interest on Italian government bonds held by other Eurozone national} \\ & \text{central banks and the ECB} \\ & + \text{Net private financial outflows,} \end{aligned} \quad (2)$$

where net private financial outflows equals the private sector balance of the payments deficit, which, in turn, equals the sum of the private current account deficit and net private capital outflows (unrelated to trade) in both the capital and financial accounts (including private transactions in financial assets).<sup>122,123</sup> Alternatively, as [Cecioni and Ferrero \(2012, p. 8\)](#) put it: 'The increase in the Target2 balances has been closely linked to BoP [balance of payments] imbalances'.<sup>124</sup> Or, as [Amato et al. \(2016, p. 11\)](#) put it: 'Target2 imbalances . . . measure the cumulative effect of both current and capital account imbalances [i.e., the cumulative balance of payments surplus or deficit] between each member state and the rest of the Union'.<sup>125,126</sup>

Equations (1) and (2) imply the following:<sup>127</sup>

$$\begin{aligned} \text{Increase in Italian national debt to other Eurozone governments} = & \\ & \text{Interest on national debt to other Eurozone governments} \\ & - \text{Net private financial inflows.} \end{aligned} \quad (3)$$

This shows that private financial inflows (e.g., a current account surplus, net investment inflows, or lending by other (including EZ) banks to Italian banks) are the *only* way to reduce Italy's national indebtedness to other EZ governments. Alternatively, as [Schollmeyer \(2019, p. 17\)](#) puts it: 'Only a payment in any other asset than the central bank money itself' can reduce Target2 liabilities.<sup>128,129,130</sup>

Suppose B never repays its loan of EUR 100 to MPS;<sup>131</sup> then, all that happens is that Target2 records a permanent debit against Banca d'Italia of EUR 100 and records a permanent credit for the Bundesbank of EUR 100. 'Since central bank reserves are perceived as the ultimate safe assets',<sup>132</sup> everyone is happy. The Italian consumer is happy because he now has the use of goods that are never ultimately paid for. MPS is happy because it has been bailed out by Banca d'Italia for another non-performing loan (NPL).<sup>133</sup> Banca d'Italia has a liability against the ECB that will never be extinguished. The Bundesbank holds an asset from the Italian government that is recognised by the Eurosystem as being 'risk-free'. And Deutsche Bank has paid the German exporter for their splendid efforts in increasing Germany's trade surplus yet again.

[Cecioni and Ferrero \(2012, p. 8\)](#) explain how and why Target2 imbalances changed during the GFC: 'During the crisis, trade balance deficits were neither necessary nor suffi-

cient conditions for the increase in Target2 imbalances; BoP financial account imbalances were a necessary condition'. They then added (pp. 8–9):

- *Before the crisis, both the BoP current account and the trade balance of the countries currently under stress were in deficit, with the exception of Italy where they were approximately balanced;<sup>134</sup> these deficits were funded mostly by foreign investments in domestic securities and in the interbank market. The capital flowing in and out of the countries were almost completely netted out, leaving small average net balances in the individual items of the BoP financial account.*
- *During the crisis, the absolute size of individual items in the BoP increased and its composition changed significantly. The main changes were in the financial account. The reversal of foreign investments in domestic securities and of liabilities issued by domestic MFIs [monetary financial institutions] was not matched by a similar increase in disinvestments of domestic capital previously invested abroad. Net outflows in the financial accounts of the BoP [due to capital flight] were compensated by a considerable increase in the respective NCB's Target2 liabilities with the ECB.*

It is also important to note that Equation (1) defines Banca d'Italia's Eurosystem liabilities as being part of Italy's national debt.<sup>135</sup> However, the Eurosystem does not recognise Eurosystem liabilities as being part of a member's national debt, as Whittaker (2016)<sup>136</sup> points out: 'Eurosystem debts are a peculiar form of debt with no contract or understanding about the terms of repayment. This implies that an NCB cannot default on its Eurosystem liability because it has no obligation to repay. A country's intra-Eurosystem liabilities are nonetheless loans from other countries. For a country that has received official loans, its intra-Eurosystem liabilities should therefore be added to its official loans'. This contrasts with 'the US where there is annual settlement of the inter-district balances of the Feds [Federal Reserve Banks], using Federal government debt or agency debt. The US system also differs from the Eurosystem in that the Feds are not associated with states: each Fed deals with banks in several states and Fed profits go to the US government. Intra-Eurosystem settlement would be infeasible because debtor NCBs do not have sufficient suitable assets'.

### 7.3. How Has Target2 Operated?

Figure 21 shows the Target2 balances of Germany and Italy since 2001.<sup>137</sup> Four phases are clearly discernible.

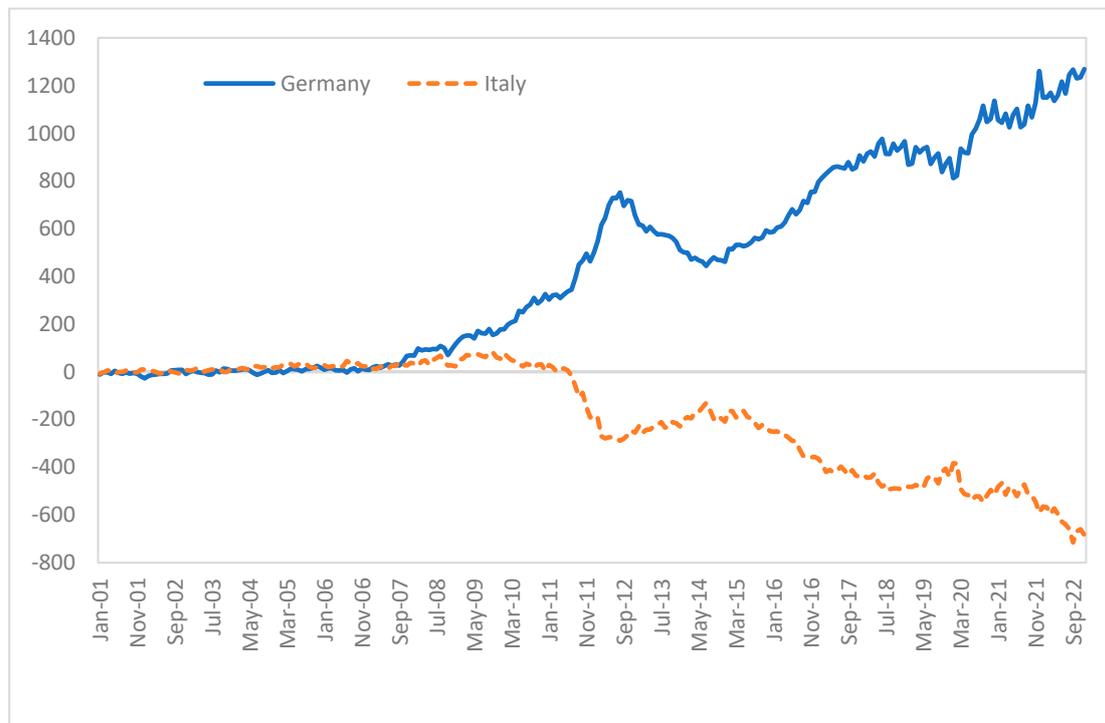
#### 7.3.1. First Phase, 1999–2007

Prior to 2007, there was very little net Target2 activity. The reason for this is that during the early years of the euro's existence, commercial banks in core countries, such as Germany, were happy to lend to commercial banks in peripheral countries, such as Italy, Ireland, and Spain, through the international interbank market on an unsecured basis, and this did not involve Target2.

#### 7.3.2. Second Phase, 2007–2014

The interbank market (and the wholesale money markets more generally) dried up in August 2007 at the beginning of the GFC.<sup>138</sup> This was the first significant asymmetric shock to the EZ since the euro's introduction and provided striking evidence that the EZ failed to satisfy Mundell's first condition for an OCA. The second phase—shown in Figure 21—covers the period of the GFC and its aftermath between 2007 and 2014. The GFC led to massive capital flight by the residents of peripheral EZ countries whose banks were perceived to be mired in difficulties, and Target2 facilitated this. Italian residents moved significant amounts of money from their accounts in Italian banks to accounts opened in German banks.<sup>139</sup> As a result, there was a fall in the reserves held by the Italian banks. To pay their depositors, Italian banks increased their refinancing with and received liquidity from Banca d'Italia. The German banks increased their reserves and reduced

their refinancing with the Bundesbank. Banca d'Italia received a Target2 debit, while the Bundesbank received a corresponding credit.<sup>140</sup>

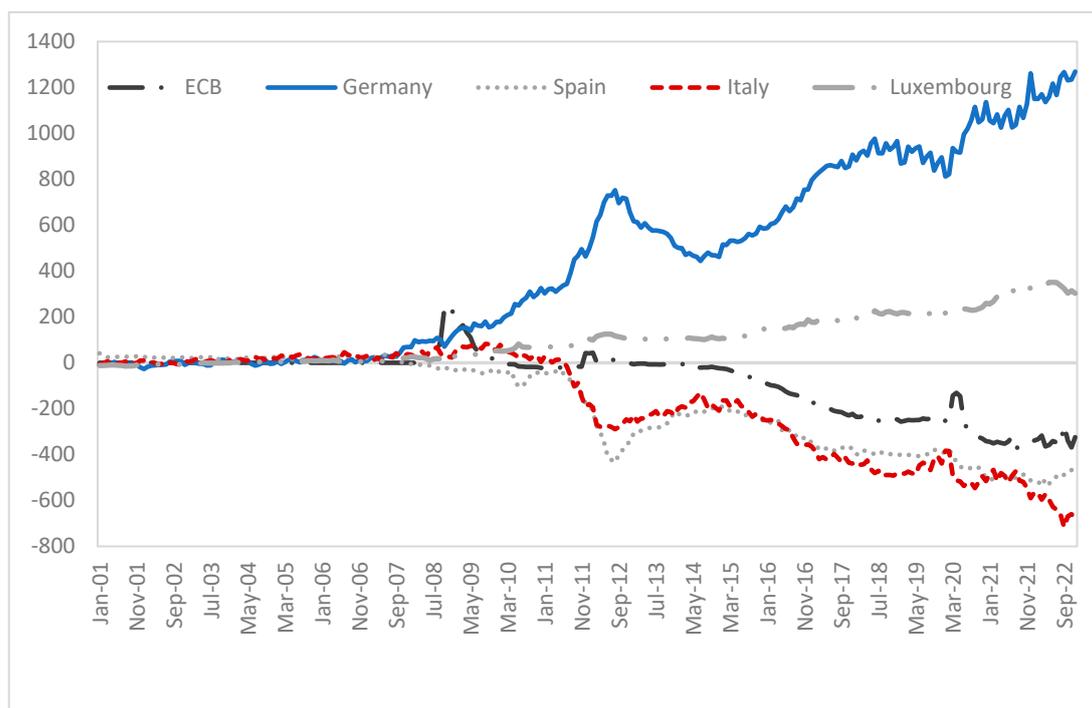


**Figure 21.** Target2 balances of Germany and Italy (EUR bn), January 2001–December 2022. Source: Euro Crisis Monitor, Institute of Empirical Economic Research, Osnabrück University; <http://www.eurocrisismonitor.com> (accessed on 10 March 2023).

A number of official banking studies have recognised that during the period between the GFC and mid-2012 (at the height of the EZ sovereign debt crisis), Target2 balances were affected by capital flight:<sup>141</sup>

- The Bank for International Settlements (BIS), the global central bank to the world's national central banks: 'Target2 balances grew strongly due to intra-euro area capital flight. At the time, sovereign market strains spiked and redenomination risk<sup>142</sup> came to the fore in parts of the euro area. Private capital fled from Ireland, Italy, Greece, Portugal and Spain into markets perceived to be safer, such as Germany, Luxembourg and the Netherlands' (Auer and Bogdanova 2017, Box A).
- Another BIS study found that 'Italy is identified as a case of "capital flight" in late 2011' and that in 2012 'Target2 balances reflected something more akin to a currency attack than current account financing or credit reversal' (Cecchetti et al. 2012, p. 1).
- Banca d'Italia: 'For all countries, the large increase in Target2 liabilities appears to be mostly related to capital flight, concerning both portfolio investments and cross-border interbank activity' (Cecioni and Ferrero 2012, p. 22).

Figure 22 illustrates the consequences of capital flight for Spain and Luxembourg—in addition to Germany and Italy. Note that the Target2 imbalances fell between 2012 and the end of 2014 for Germany, Italy, and Spain, as the EZ sovereign debt crisis subsided.



**Figure 22.** Target2 balances of selected countries in the Eurozone (EUR bn), January 2001–December 2022. Source: Euro Crisis Monitor, Institute of Empirical Economic Research, Osnabrück University; <http://www.eurocrisismonitor.com> (accessed on 10 March 2023).<sup>143</sup>

### 7.3.3. Third Phase, 2015–2019

The third phase—again visible in Figure 21—covers the period of EZ quantitative easing (QE) after March 2015.<sup>144</sup> The Great Recession persisted much longer in the EZ than in other countries, and, in March 2015, the ECB began a policy of QE to boost the EZ economies. QE in the EZ was principally implemented through the ECB’s EUR 2.6 trn Public Sector Purchase Programme (PSPP)—the largest component of the EUR 3.26 trn Asset Purchase Programme (APP)<sup>145,146</sup>—in which the NCBs bought their own government bonds in proportion to their capital key, i.e., in proportion to the NCB’s share in the capital of the ECB.<sup>147,148</sup>

Target2 imbalances began to increase again after 2015, and a number of official banking studies offer explanations for this. They all argue that this time, it had nothing to do with capital flight:

- The first BIS study cited earlier argues that: ‘record Target2 balances [in 2017] should be viewed as a benign by-product of the decentralised implementation of the asset purchase programme rather than as a sign of renewed capital flight’ (Auer and Bogdanova (2017, Box A)).
- The European Central Bank (2016) argues that ‘mechanical’ effects in the accounting of asset purchases by EZ central banks fully explain the rise in Target2 balances.<sup>149</sup> Accordingly, divergence could not be attributable to a ‘capital flight’ from peripheral countries towards northern Europe.
- The ECB’s *Financial Stability Review* of May 2017 (p. 60) ‘analyses the factors underlying the renewed increases in Target2 balances and concludes that they do not reflect capital flight from certain euro area countries in a context of generalised mistrust of the respective banking sectors’.<sup>150</sup>
- A Banco de España study asserts that ‘the recent developments do not reflect financial stress or general funding problems in euro area economies, as during the sovereign debt crisis, but are instead mainly linked to the execution of the Eurosystem’s asset purchase programme’ (Alves et al. 2018).

- A study by Banca d'Italia argues that a share of the Target2 movements for Italy occurred because of portfolio rebalancing: 'Households are turning to insurance companies and professional advisors to invest their savings in mostly foreign assets. This shift does not appear attributable to a preference for financial assets deemed safer (residents actually made net sales of German public sector securities in the period considered), but instead to the pursuit of more balanced portfolios and higher yields than those normally offered on public sector securities. This reflects the difficulty investors face in achieving greater diversification in a domestic financial market characterised by relatively few alternatives to bank bonds and public sector securities' (Banca d'Italia (c2017) Target2 balances and capital flows).

Despite these benign interpretations, it is important to recognise that the ECB sets collateral standards for refinancing—including for QE purchases—but has progressively weakened these to enable peripheral NCBs to continue providing liquidity by, for example, reducing the minimum credit ratings for government debt and other securities and accepting banks' self-issued bonds with a government guarantee. When the quality of available collateral became so poor that further easing could no longer be justified, the ECB allowed NCBs to extend Emergency Liquidity Assistance (ELA)<sup>151</sup>, where the NCB itself approves the collateral, although the credit risk is supposed to be borne by the NCB itself rather than pooled via the ECB, and there is a lot of room for judgement and interpretation.<sup>152</sup>

To illustrate, consider again the Italian bank that made the EUR 100 loan to the Italian consumer to import goods from Germany. The bank can use that loan—which is an asset of the bank—as collateral for a new loan (less a haircut) to another Italian consumer wishing to import goods from Germany. But the bank has considerable flexibility in choosing the size of the haircut. The smaller the haircut, the larger Banca d'Italia's resulting Eurosystem debit becomes. Therefore, Target2 debits are an unambiguous sign that liquidity (i.e., money) is being created in one part of the EZ to finance the acquisition of goods imported from another part. Despite official denials, this is *de facto* a transfer from a surplus member of the EZ to a deficit member since the credit status of many of these loans is so weak that they are extremely unlikely to be repaid.

Furthermore, there is evidence that private sector investors who sold their bonds in deficit countries as part of the PSPP immediately transferred the proceeds to surplus countries via Target2, which was largely because of concerns about the credit worthiness of their banking systems. For example, [Minenna et al. \(2018, p. 147\)](#) deconstructed the Target2 balances using the financial accounts of the balance of payments and found that 'the deterioration in the balances of Italy and Spain is mainly due to a shift of private-sector financial wealth from government securities to foreign assets (bonds, shares, and mutual funds). In the case of Germany, the abnormal growth of Target2 balances is mainly attributed to the persistent influence of current-account surpluses reaching 6–8 percent of GDP and increasingly due to the indirect effects of quantitative easing policies on the exchange rate between the euro and the other major international currencies'.<sup>153</sup> Similarly, [Febrero et al. \(2018, p. 92\)](#) reported that: 'In the Spanish case, as in Italy, the central bank has purchased a large volume of Spanish public debt from residents, whose sale proceeds have then been transferred abroad, either to purchase international assets or to repay pending debt'.<sup>154</sup> So, capital flight does appear to be an important contributor to Target2 transmissions during this phase despite the claims of the official banking studies cited above.<sup>155</sup>

Equally as striking, according to [Febrero et al. \(2018, p. 92\)](#), the ECB has used the QE Asset Purchase Programme to clean up banks' balance sheets by buying up the bonds they hold and indirectly funding government spending, which runs contrary to EU rules. In the process, 'Italy and Spain mutualise the risk of their debt with Germany'. German banks were also able to transform risky assets into ECB reserves (as they did during the EZ sovereign debt crisis), thereby avoiding significant losses that would have had to have been borne by German taxpayers. The authors argue that little has been spoken about this publicly—in contrast to the previous period of rising Target2 imbalances in 2011–2012—

because of ‘anti-euro sentiments in the Eurozone’ (p. 73), with Germany in particular not wishing to draw out a conflict with the ECB.<sup>156</sup>

It is also apparent from Figures 21 and 22 that the disequilibrium in the Target2 balances was again reducing from the middle of 2018 to the end of 2019—albeit from a much higher level than in 2012.

#### 7.3.4. Fourth Phase, 2020–

Something very similar happened in the fourth phase, which includes the period from the start of the COVID-19 pandemic<sup>157</sup> in January 2020 and the Russian invasion of Ukraine on 24 February 2022.

The EU responded to the pandemic in two ways, both of which were in effect a continuation of the QE programme. The first was the ECB’s EUR 1.85 trn Pandemic Emergency Purchase Programme (PEPP), which began in March 2020 and was implemented using the existing APP.<sup>158</sup> The second was the EU’s Pandemic Recovery Programme, NextGenerationEU, which began in June 2021 and injected a further EUR 800 bn into the economy.<sup>159</sup>

A significant amount of the funding that was allocated to deficit countries ended up being transferred through Target2 to surplus countries, particularly Germany. By December 2022, the Bundesbank and the Luxembourg central bank had Target2 credits of EUR 1269 bn (30% of GDP) and EUR 302 bn (348% of GDP), respectively, while the ECB, the Bank of Spain, and Banca d’Italia had debits of EUR 325 bn, EUR 502 bn (35% of GDP), and EUR 684 bn (33% of GDP), respectively.<sup>160</sup> No net interest is received or paid on these credits and debits.<sup>161</sup>

## 8. How Target2 Bails out the Euro

Given that there is no limit to the size of Target2 balances and that there is also no requirement for central bank accounts with Target2 to be settled, it is clear that Target2 has—since 2007—been helping to bail out the euro. Target2 also facilitates private transactions in financial assets, i.e., capital flight, whenever asymmetric shocks result in a loss of confidence in a particular EZ member’s banking system. It is the facility through which Mundell’s fourth criterion—the system of regional redistributions whereby regions with trade deficits acquire funding from regions with trade surpluses—operates in the EZ.

Initially, the ECB refused to accept that Target2 had become a bailout system, insisting that it was simply a payments system for the EZ. But it did not originally publish the Target2 balances of the individual EZ members’ NCBs. This information was hidden away in the NCBs’ balance sheets.

It was the German academic Hans-Werner Sinn<sup>162</sup> who first discovered the nature of the situation in early 2011 by examining the NCB’s balance sheets. He found that Target2 was far more than a simple payments system. It had become intimately involved with the emergence of systematic balance of payments surpluses and deficits amongst the EZ member states, involving the shifting of the refinancing of commercial bank credit from the NCBs of states with weak economies to the NCBs of states with strong economies, and the facilitation of cross-border private sector capital movements away from states with financially weak banks, such as those in Greece, Ireland, Portugal, Spain and Italy, to the stronger core member state banks.

The evidence for this was that the increase in Target2 liabilities of a member state equalled the sum of the current account deficit and net capital outflows (as Equation (2) above shows). Sinn was the first observer to conclude that Target2 was a *de facto* bailout system for the euro.<sup>163</sup> This claim was strongly denied by the ECB. Jürgen Stark, a member of its Executive Board, even went as far as saying that some commentators could lose their reputation as serious academics by claiming that Target2 functions as a bailout system.<sup>164</sup> Nevertheless, the ECB refused to publish the Target2 balances of the individual EZ NCBs until September 2015.

A number of studies have supported the ECB's view by putting forward the argument that Target2 is working 'as intended'. There are two aspects to this argument.

The first set of studies addresses the issue of whether Target2 is working operationally 'as intended'. For example, [Clemens et al. \(2012, p. 90\)](#) conclude: 'With Target2, the Eurosystem has got an efficient cross-border settlement system for large value transactions in euros in place. Thus, Target2 is a key infrastructure component of European monetary union. Intra-Eurosystem balances, which have recently become a subject of debate, are an integral part of the implementation of the single monetary policy under the principle of decentralisation. The resulting claims and liabilities may be significant, and the reasons for their build-up can be many and varied. Target2 balances cannot be restricted when monetary policy operations are implemented under the principle of decentralisation. Contrary to some opinions raised, Target2 balances do not increase the exposure of central banks. ... In monetary policy terms, no separate importance should be attached to the amount of Target2 balances'.

Similarly, a BIS study by [Cecchetti et al. \(2012\)](#) argues that 'Target2 is a balance of payments equilibrating mechanism inside the common currency area' (p. 4), recognising that 'in a typical, textbook balance of payments crisis, [w]hen a country starts to experience a capital flow reversal arising from some combination of a loss of investor confidence and an attack on its currency, the outflows are limited by the size of the country's foreign exchange reserves. Once its reserves are exhausted, the country is forced to adjust. In the case of the Eurosystem, Target2 does a job similar to creating foreign exchange reserves for the country that is suffering the balance of payments crisis. The only limit on capital outflows, and the only limit on the liability that the country's central bank can amass with respect to the remainder of the Eurosystem, is the collateral that the country's banks have available to bring to the refinancing operation. But since the system operates automatically, there is no natural break' (p. 5).

[Auer \(2014, p. 139\)](#) recognised that since the GFC, the strong relationship between the changes in national Target2 balances on the one hand and cross-border private capital flows and current account (CA) balances on the other 'reflects the "sudden stop" in private sector capital that had hitherto funded CA imbalances'. Auer found evidence of 'some deposit flight by private customers, a substantial retrenchment of cross-border interbank lending, and also an increase in banks' holdings of high-quality sovereign debt'. He concluded from this evidence that 'since Target2 imbalances were caused by a sudden stop and are unlikely to grow without bounds as Eurozone CA imbalances are currently [i.e., in 2014] diminishing at a rapid pace, there is no evidence that the institutional set-up of the European monetary union needs to be reformed fundamentally. ... [Nevertheless], limiting or settling Target2 balances are not viable options. Rather, policies must be geared to limiting the implicit risk transfer from the private to the public sector within Target2 creditor nations, which is facilitated by the current system as it may change the incidence of euro break-up risk'.<sup>165</sup>

[Whelan \(2014, pp. 115–16\)](#) concluded that: 'A close examination of the Target2 payments system generally reveals it to be innocent of most of its accused crimes. The large balances that have built up on the balance sheets of the Eurozone's central banks have largely been a by-product of an agreed Eurosystem approach to monetary policy and have not reflected discretionary actions by peripheral central banks or governments. Characterisation of the Target2 balances as representing a bailout of these countries or being driven by current account deficits are also largely inaccurate'.

[Eichengreen et al. \(2015, p. 655\)](#) argue that the experience of the US Federal Reserve System provides encouraging lessons for Target2. They point out that mutual assistance between Reserve Banks was an important 'aspect of the early history of the Federal Reserve System. It was common in response to liquidity crises and bank runs, when Reserve Banks regularly pooled their gold reserves. ... [suggesting] that cooperation between regional Reserve Banks was essential to the cohesion and stability of the US monetary union'. Turning to Target2, they argue that '[The fact that] mutual assistance between Reserve Banks was common during liquidity crises and bank runs suggests that the increase in

Target2 balances since the outbreak of the global economic and financial crisis, far from being abnormal, is in fact a standard feature of currency areas and an intrinsic feature of the adjustment mechanism in a working monetary union. . . . The fact that imbalances tended to narrow once shocks subsided is at variance with concerns that Target2 imbalances might grow without bound. And that cooperation between regional Reserve Banks was essential to the cohesion of US monetary union and its stability indicates that maintaining such cooperative spirit will be important for the smooth operation of the euro area'.<sup>166</sup>

The second set of studies addresses the issue of whether Target2 is working 'as intended' in the spirit of the original Keynes Plan. Amato et al. (2016) argue that since Target2 is based on Keynes' plan for an International Clearing Union, the underlying motivation for his plan should also be taken into account.

Keynes was particularly concerned with avoiding the 'the evils of the old automatic gold standard'<sup>167</sup> with its deflationary implications for deficit countries forced to raise interest rates and increase unemployment in order to remove their deficits. Consequently, according to Keynes, 'creditors should not be allowed to remain passive'; instead, surplus countries should be encouraged to provide trade credits or vendor financing to deficit countries to help them avoid a recession, which would eventually harm the creditor countries as well.

Keynes even supported implementing a 'tax' on these credit balances in order to provide an incentive for the stronger countries to buy from the weaker countries, thereby reducing the latter's deficits. As noted earlier, this provision was included in the European Payments Union (EPU) and, as Amato and Fantacci (2012) argue, was the main reason why Germany and Italy were able to recover so quickly from their war debts in the years that the EPU was operating. However, the provision was not incorporated in Target2.<sup>168</sup> Nevertheless, Bindseil et al. (2012, p. 92) argue that Target2 could be fixed relatively easily, with excess funds in surplus countries such as Germany (as a result of, say, capital flight) being shipped back to the crisis-hit countries via lending to their banks. This 'should be seen as a positive development as it would revert the excess liquidity flows and would contribute to boosting confidence in the euro area's crisis-hit countries'.<sup>169</sup>

Another component of the Keynes Plan was the introduction of a new reserve currency, the 'bancor', for settling international accounts, with members of the ICU in surplus receiving bancor credit, while those in deficit would have a negative account. It is clear that one of the motivations for introducing the euro was to provide a unit of account equivalent to the bancor and to increase trade between EZ members, which was another aim of the ICU. Keynes had also wanted the ICU to be an international lender of last resort.<sup>170</sup> It is arguable that this is what Target2 has inadvertently become, although it was not part of its original design.

However, critics, such as Amato et al. (2016, p. 10), point out that Target2 has become more than a payments system since it is used to 'finance not only trade deficits, but also, and primarily, capital flight. Moreover, it fails to reabsorb disequilibria given that Target2 balances. . . are not subject to quotas or to symmetrical charges on surplus and deficit countries'. Indeed, the EU permits significant trade deficits and surpluses to emerge before corrective measures are required. Under the 2011 Macroeconomic Imbalance Procedure (MIP),<sup>171</sup> corrective measures only need to be taken when deficits and surpluses exceed 4% and 6% of a nation's GDP, respectively.<sup>172</sup>

Even those who argue that Target2 is working 'as intended' accept that Target2 is doing a lot more than being a simple payments system. For example, Cecchetti et al. (2012) recognise that 'Eurosystem credit was and is doing more than simply financing ongoing deficits. It was also redistributing existing stocks of claims from the private sector to the public sector' (p. 8). Such redistributions have taken two forms: 'First, banks in core Europe, including German banks, can reduce their outstanding claims on borrowers including banks in the European periphery. And, second, international banks can seek to protect themselves from redenomination risk by rearranging their books within euro area countries, increasing liabilities in some countries and assets in others, in a way that

leads to further growth in Target2 balances. In the first case, banks in the periphery have financed the repayment by refinancing with their national central banks, creating excess reserves in the Eurosystem. Banks receiving repayments end up holding these reserves in their national central banks. In effect, core banks have redistributed a portion of the stock of their claims on the periphery onto the public sector, namely, the Eurosystem' (p. 7).

Therefore, Target2 not only benefits core and international banks but also peripheral banks: 'The ability of banks in the periphery to draw on refinancing credit [from the ECB] has had profound implications for the pace of current account adjustment in the periphery: without it, reduced credit amid high interest rates would have crushed economic activity in the periphery. In that sense, the broad association of Eurosystem credit and the more gradual rebalancing of current accounts is fair' (p. 8).

Cecchetti et al. (op. cit.) conclude that 'The essence of the Sinn and similar critiques is that Eurosystem collateral and refinancing policies have provided too much financing and required too little adjustment. Target2 is no more than a manifestation of the weight of finance over adjustment. It is certainly true that the workings of the euro area monetary system have relieved the European periphery from much of the pressure that countries with floating exchange rates have felt in crises. . . . Thus, contrary to what would have happened had there been a sudden reversal of capital flows to an economy with an independent currency, the availability of Eurosystem credit to peripheral Europe has allowed for a more gradual adjustment of current accounts' (pp. 12–13)—as, presumably, Keynes would have welcomed.<sup>173</sup>

To deal with the Target2 imbalances, Sinn and Wollmershäuser (2012) made a number of proposals: cut off peripheral Europe from easy central bank credit to force the adjustment of current account imbalances, cap further Target2 balances, and demand the settlement of the balances with government bonds collateralised by real estate assets. In addition, Bindseil and König (2012)<sup>174</sup> proposed charges for the extended use of Eurosystem credit or the tightening of collateral requirements.<sup>175</sup>

Febrero and Uxó (2013, pp. 22–23)<sup>176</sup> criticise Sinn and Wollmershäuser's proposals as follows:

*In a monetary union which is characterised by a single monetary authority, the central bank has to provide deficit countries with the required liquidity to fund the massive capital outflows towards surplus countries. In a system of decentralised central banks, this provision of funds transforms debts between private banks into debts between private banks and their respective central banks, and between central banks of different countries and the ECB. The latter imbalances take place through the Target2 system.*

*Central banks in the periphery lend to banks within their jurisdiction against eligible collateral (usually sovereign public debt) to comply with the reserve requirement, and next this central bank money flows to the core, leading to an excess reserve there, which has been used to cancel bank debt within their central banks, and to purchase [the] sovereign public debt of their national treasuries.*

*The Eurosystem had no choice but to lend to private banks in the periphery. Otherwise:*

- *The payment system would have collapsed, because deposits in the periphery could not have been used as means of payments to cancel debts.*
- *Private banks in the core EZ would have suffered amazing losses given their expos[ure] to banks in the periphery.*
- *The transmission of monetary policy would have ceased to work: the lack of access to funding would have led banks in the periphery to pay skyrocketing rates for reserves in money and capital markets. All of the whole peripheral economies would have collapsed, dragged by the fall of their banking system. This would have meant the end of the euro. . . . Sinn and Wollmershäuser have mistakenly pressed several alarm buttons, because they have confused a pegged exchange rate system with a monetary union. In essence, they claim that T2 imbalances are loans granted by the Eurosystem (in the last instance, funded with German savings) which allow peripheral countries to avoid adopting hard measures to restore external equilibrium,*

and to continue ‘living beyond their means’. Moreover, in the last instance, these loans are a risky asset for Germany. Therefore, their economic policy recommendation is to set a cap on T2 imbalances, and to cancel them by handing over marketable assets. This should force peripheral countries to restore their external balance through a competitive devaluation (falling nominal wages) and fiscal austerity. Accordingly, some countries would find it easier to return to equilibrium leaving the euro.

[There are two mistakes with this view, according to Febrero and Uxó]:

- Actually, T2 imbalances are not new loans, but the defensive outcome of a central bank aiming at steering a payment system smoothly, and at granting access to all banks within the monetary union under equal conditions.<sup>177</sup> Without refinancing loans, provided by NCBs, private banks in the EZ periphery could not comply with the reserve requirement and the monetary transmission mechanism would not work at all.
- Fiscal austerity and wage deflation would do more harm than good even to Germany, an export-led growth country, because these deflationary measures would shrink its external markets even further. Moreover, austerity-cum-deflation will increase the fraction of non-performing loans in the periphery and, therefore, the likelihood of NCBs capital losses. T2 claims are part of German financial wealth, so the German authors are right when they claim that there is a risk for Germany if there is a disorderly euro breakup. However, their economic policy recommendations are more of a self-fulfilling prophecy than a solution to this risk.

Fabrero and Uxo conclude that Germany has no choice but to sustain Target2 since if the EZ dissolved, the new German currency would appreciate and harm exports (p. 21):

*Without denying that T2 are part of Germany’s financial wealth, Whelan (2012),<sup>178</sup> states that in the event of a disorderly euro dissolution, the true problem for Germany, which has followed an export led growth pattern for a long time, would be that its new Deutschemark would appreciate with respect to the already existing euro and, much more, the new currencies (e.g., the Italian lira, the Spanish peseta and so on). . . . The loss for Germany would be that it could not purchase goods and services in the rest of the EZ without borrowing.*

In other words, according to this view, the Target2 imbalances are an unavoidable price that Germany must pay for its trade surplus.

## 9. The Costs of Bailing out the Euro

If Target2 saves the euro, it is only up to a point. The recycling of trade surpluses back to deficit economies—Mundell’s fourth criterion—could, in principle, fully compensate for the failure of the other three criteria to be satisfied and thus could contribute to the euro achieving OCA status. Target2 is certainly helping in this regard, although this was not one of its original aims and is still not an officially recognised aim.

But there are massive economic problems with the way that Target2 and the other rescue packages for the euro have been operating. We consider the key problems and the costs that they impose.

### 9.1. Private Debts Are Nationalised and Monetised

Target2 has, since 2007, been helping individuals, companies, and commercial banks to convert their private debts into sovereign debts and then monetise them. To illustrate, consider the previous example of the German manufacturer (A) and the Italian consumer (B). Suppose now that A sells EUR 100 worth of goods to B on credit,<sup>179</sup> leaving A with EUR 100 of capital in the form a private-sector Italian debt obligation. Target2 allows the German owner of this risky illiquid debt obligation to repatriate this asset and, in doing so, convert private German claims on an Italian resident into claims of the Bundesbank on Banca d’Italia via the ECB. In other words, Germany’s risky capital account deficit with Italy—the counterpart to its current account surplus—can be transformed into a risk-free asset via Target2 and then liquidated.

Governments can also use Target2 for the same purpose. A classic example is the Greek government, which was unable to raise long-term funding on the bond markets, but could

continue to finance its deficits through borrowing from its commercial banks by selling them short-term treasury bills (e.g., EUR 22.8 bn in the year to June 2011, although the ECB imposed a treasury bill cap of EUR 15 bn in February 2015<sup>180</sup>). These banks borrowed the funds to do this from the Bank of Greece—EU rules prevent the BoG lending directly to the government<sup>181</sup>—and the BoG, in turn, borrowed the funds from the ECB. Such backdoor funding of the Greek government via Target2 can continue indefinitely, so long as Greece stays in the EZ.<sup>182,183</sup>

In other words, Target2 is a way of creating liquidity to keep the Eurosystem afloat. On the one hand, if too little liquidity is created, then individuals, companies, banks and the government in a peripheral state might be unable to pay their day-to-day bills, the market could mark down the price of the government bonds held in the Target2 system as collateral, and taxpayers in surplus countries could lose out—in direct proportion to their capital key. On the other hand, if too much liquidity is created, this could have inflationary consequences, which would affect savers. Either way, there could be severe losses of real wealth experienced by savers and/or taxpayers in surplus countries.

### 9.2. Target2 Debts Are Being Mutualised across the Eurozone

Related to the previous point, the debts in Target2 are effectively being mutualised or socialised across the EZ member states—this, by definition, is what a bailout mechanism does—despite this being explicitly ruled out—especially by Germany—when the euro was introduced. Yet ever since the EZ was established, there has been pressure to introduce ‘Eurobonds’, i.e., bonds that are issued and guaranteed jointly by all EZ members—in effect, sovereign bonds of the European Union. Again, this has been resisted by Germany, despite Target2 being essentially an equivalent bailout mechanism. However, the European Stability Mechanism—also originally opposed by Germany—is really just another alternative for Eurobonds, since it provides loans to countries experiencing difficulties that are collectively guaranteed. As Tyler Durden (2012) puts it: ‘The difference between the three is merely of degree. There is more parliamentary control for Eurobonds or the ESM. In the ESM, creditor countries have more control over bailouts than with Eurobonds. Interest rate differences are also more pronounced with the ESM than with Eurobonds. The ECB wants to shift the bailout burden from Target2 to the ESM. Governments prefer to hide the losses on taxpayers as long as possible and prefer the ECB to alight<sup>184</sup> deficits. However, all three devices serve as bailout systems and form a “transfer union”’.<sup>185</sup>

A more recent example of debt mutualisation is the European Banking Union (EBU). This project was also originally opposed by Germany, despite the view that a monetary union was never likely to be sustainable without a banking union.<sup>186</sup> There was, however, a significant difference from previous bank rescue attempts and the ESM: private sector agents, including depositors, would share the burden alongside taxpayers. The EBU project, which began in 2012, comes under the governance of the European Banking Authority and has three components. The first is the Single Supervisory Mechanism (SSM),<sup>187</sup> which is based on the EU’s common financial regulatory framework. The second is the Single Resolution Mechanism (SRM),<sup>188</sup> run by the Single Resolution Board (SRB), which establishes rules for restructuring failing banks, taking over the responsibility for doing this from the NCBs. To finance the restructuring, the SRB can draw on the Single Resolution Fund (SRF),<sup>189</sup> the EU’s rescue fund for failing lenders, which itself is funded by the EZ banks and has a target minimum size of 1% of the covered deposits of all banks in the EBU. The third component, deposit insurance, has yet to be agreed.<sup>190</sup>

Related to this is the Bank Recovery and Resolution Directive (BRRD), which was introduced in 2014 to provide authorities with ‘comprehensive and effective arrangements to deal with failing banks at national level and cooperation arrangements to tackle cross-border banking failures’.<sup>191</sup> The directive ‘requires banks to prepare recovery plans to overcome financial distress. It also grants national authorities powers to ensure an orderly resolution of failing banks with minimal costs for taxpayers. The directive includes rules

to set up a national resolution fund in each EU country. All financial institutions have to contribute to these funds. Contributions are calculated on the basis of the institution's size and risk profile. The EU's bank resolution rules ensure that the banks' shareholders and creditors pay their share of the costs through a "bail-in" mechanism. If that is still not sufficient, the national resolution funds set up under the BRRD can provide the resources needed to ensure that a bank can continue operating while it is being restructured'.<sup>192</sup> As part of the bail-in rules, bank creditors, including bondholders and depositors (with deposits above EUR 100,000), have to absorb 8% of the liabilities (i.e., take an 8% haircut) before any state aid can be used to bail out banks. This is less onerous than some previous bail-ins. For example, in July 2013, depositors in Cyprus lost 47.5% of the value of their bank deposits above EUR 100,000.

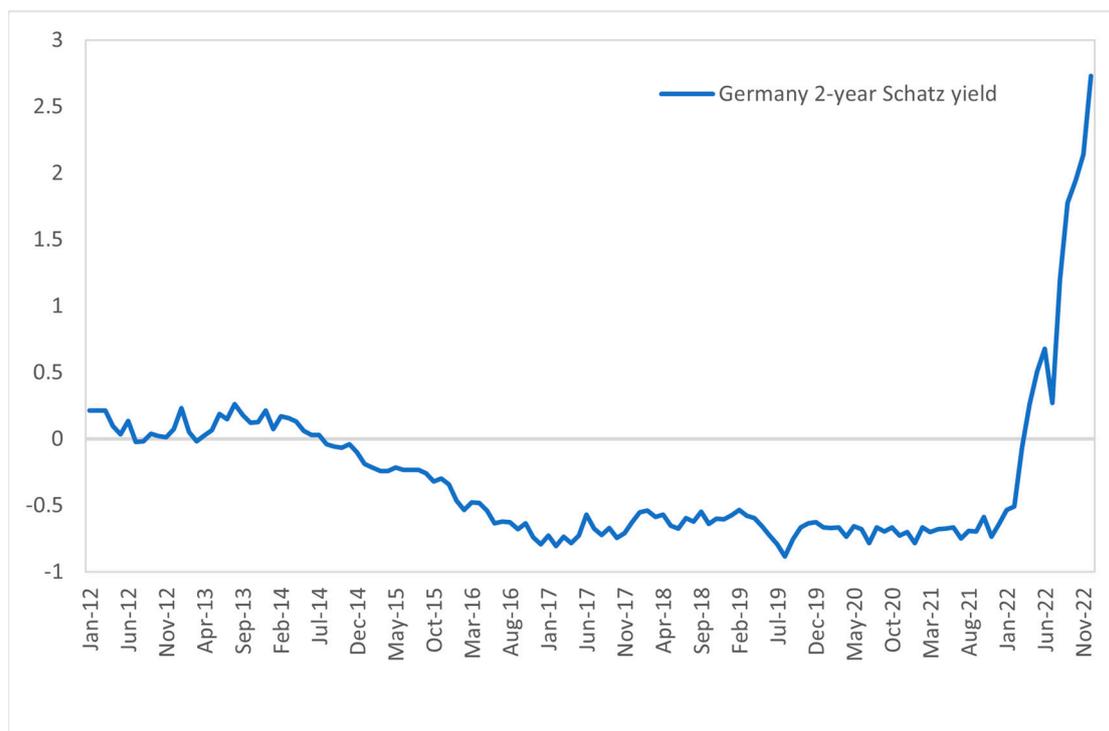
The SRM came into operation on 1 January 2016. Stress tests conducted by the EBA and the ECB in 2016 indicated that Banca Monte dei Paschi di Siena was insolvent in the 'adverse case'<sup>193</sup> and that Italy alone needed EUR 40 bn to rescue its banks.

In one of the first opportunities to apply the new resolution regime, namely, the rescue in 2017 of Veneto Banca and Banca Popolare di Vicenza by Intesa Sanpaolo,<sup>194</sup> no BRRD bail-in—which would have included senior bonds and unguaranteed deposits—was used, and the banks were wound down in insolvency proceedings at the national level. The decision not to use a bail-in was taken on the grounds that a BRRD resolution was not warranted in terms of the public interest. The BRRD was disapplied by the SRB, declaring that 'neither of the banks provide critical functions and their failure is not expected to have a significant adverse impact on financial stability'; as a result, local Italian law was applied, which did not have the 8% bail-in requirement.<sup>195</sup> The European Commission simultaneously approved state aid for the orderly market exit of the two banks, allowing Italy to mitigate the effects on the local economy. Under local Italian law, only shareholders and junior bondholders participated in the losses, as required by the state aid rules, although retail junior bondholders who were mis-sold bonds could try and claim compensation.

The European Commission took the view that such compensation is an entirely separate consideration to the burden-sharing required by the state aid rules. In light of the apparent wiggle-room granted by the new resolution regime, critics have accused the SRB and the European Commission of circumventing the no-bail-out principle and, consequently, have pushed for the harmonisation of national insolvency laws and a further tightening of the state aid rules to avoid something similar happening in future.

### *9.3. Target2 Facilitates Capital Flight, and This Distorts Interest Rates in the Eurozone*

Even if these are temporary teething troubles that will eventually sort themselves out—and supporters of the euro point out that it took well over a century for the dollar to be fully adopted in the US—what the Eurosystem cannot deal with on a long-term basis is the capital flight from the peripheral states to Germany (in particular) conducted through Target2. This is causing enormous distortions in Europe's capital markets as Germany becomes flooded with money that it cannot use productively<sup>196</sup> and there is a corresponding dearth of funds for investment in the peripheral states.<sup>197</sup> The distortion of German interest rates—which were negative between August 2014 and March 2022—is readily apparent in Figure 23. A study by Germany's Postbank estimates that German savers lost interest income worth EUR 125 bn between 2011 and 2015 as a result of the ECB's ultra-low rates and QE.<sup>198</sup> There are further distortions when investors outside the EZ take part in the ECB's QE exercise, as pointed out by Professor Frank Westermann of Osnabrück University: '[It results in] a significant increase in non-euro area foreign direct investment into Europe. . . . Investors in these countries sell their bonds to the ECB and in return buy equity and real estate, raising equity and house prices in many euro area countries. Most recently, offshore financial centres have become the largest net asset holder vis-à-vis the euro area in the ECB's statistics. Their current balance is €500 bn. Before the 2007–2008 financial crisis, this balance was close to zero'.<sup>199</sup>



**Figure 23.** Interest rate on two-year German debt (%), 2012–2022. Source: <https://tradingeconomics.com/germany/2-year-note-yield> (accessed on 12 January 2023).

#### 9.4. Target2 Treats Sovereign Debt as Risk-Free and the Implications for Central Counterparties

Target2 exploits Basel II rules which allow for sovereign debt to be treated as risk-free for regulatory capital purposes. However, as a result, considerable risk is inserted into the financial system. The CRR (Capital Requirements Regulation)<sup>200</sup>

*does not grant a general zero risk weight for sovereign debt. However, owing to the analogous adoption of exemptions stated within the Basel II framework, EU regulation de facto grants zero risk weights for the majority of debt issued by EU sovereigns. According to Article 114(4) of the CRR, exposures to member states' central governments and central banks denominated and funded in the domestic currency of that central government and central bank shall be assigned a risk weight of 0% in the standardised approach. Because of the currency union, the exemption is automatically applicable to all banks within the euro area that finance euro-denominated government debt, leading to preferential treatment of the respective bonds in spite of actual differences in credit risk.<sup>201</sup>*

Were that not the case, private sector institutions, such as central counterparties, as well as the central banks holding government debt, would have to take account of the riskiness of different EZ member states' government debt by way of haircuts and, additionally, in the case of the private sector institutions, by allocating more regulatory capital against it.<sup>202</sup> This would make the holding of much of that debt prohibitively expensive, which would, in turn, bring an end to the merry-go-round process of government bonds being issued and 'sold' to member state banks with no impact on bank capital.

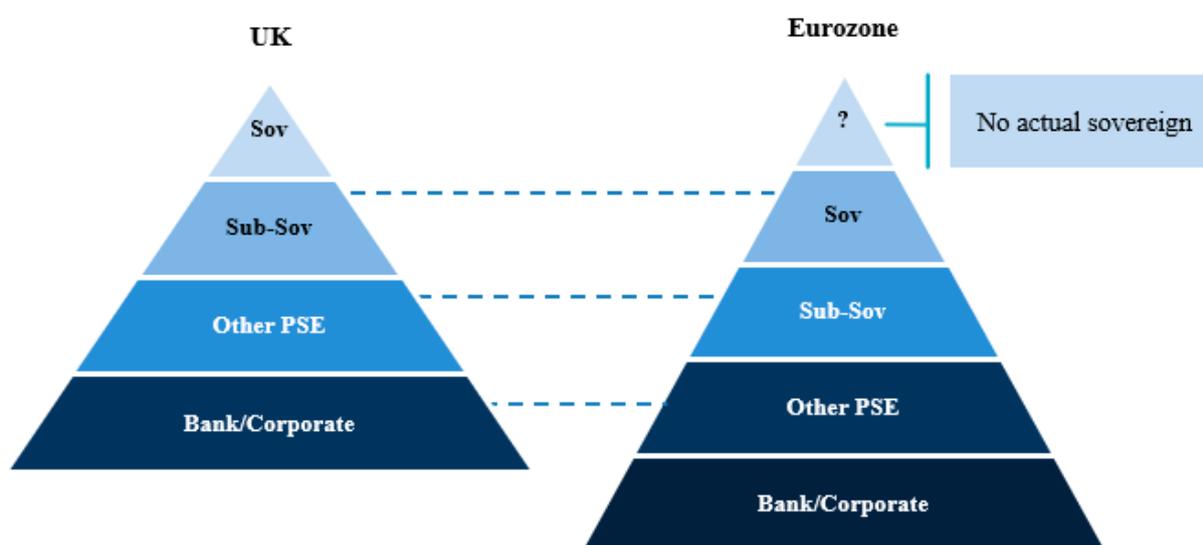
This has implications for CCPs which are required to assess the true degree of risk. One of the main reasons why the ECB wants euro-clearing<sup>203</sup> to be located in the EZ<sup>204</sup> is because it wants to prevent CCPs from haircutting member state bonds, as the London Clearing House did in 2011, causing significant problems in the Eurosystem. The LCH required banks to provide extra collateral to deal with possible losses in EU countries' debts, raising borrowing costs in the EZ. Christian Noyer, former governor of the Banque de France, said: 'It fuelled the Eurozone crisis at exactly the wrong moment. The mandate of UK regulators was not to protect the euro area, it was to protect the City [of London]. The

increase was not a normal increase, it was an explosion of margin calls'.<sup>205</sup> However, if euro-clearing is located in the EZ, then the ECB faces a conflict of interest when setting haircuts and margins, especially given the incomplete nature of the euro and its underpinning structures.

9.5. The Euro Is a Structurally Incomplete Sub-Sovereign Currency That Operates with Vast Amounts of Unmanaged Financial Risk

The structural incompleteness of the euro was exposed by Reynolds et al. (2020).<sup>206</sup> The key problem is that member states of the EZ are not 'sovereign' over their domestic currency and are, in effect, using a 'foreign' currency.

Therefore, EZ member state government debt is equivalent to debt issued by public sector entities (PSEs), such as municipal bonds in the US: such entities sit immediately below a sovereign (see Figure 24). Yet the EU treats this debt as of sovereign quality as a matter of law.



**Figure 24.** Comparison of the credit risk pyramid in the UK and the Eurozone—no actual sovereign at the apex of the euro-pyramid. Source: Reynolds et al. (2020, Figure 1). Note: PSE—public sector entities.

The reality is rather different:

- No member state individually controls the ECB, so EZ members are 'sub-sovereign', implying that the member states do not (and cannot) stand behind their government debts or currency in the way genuine sovereigns do—by printing more money to repay their debts when their tax base proves to be insufficient.<sup>207</sup>
- There is no joint-and-several liability between member states or lender-of-last-resort facility.<sup>208</sup> The EU's legal structures do not oblige EZ member states to stand together behind each other's debts in a way that would protect the balance sheets of EZ financial institutions through member states' collective guarantee and collective control over the ECB. This implies that the following statement made by an Executive Board member of the ECB, while true for a conventional central bank, is not true for the ECB: 'The only risk-free assets in the euro area are the ECB's own liabilities'.<sup>209</sup> There are *no* risk-free assets in the EZ.
- There is no EZ-wide bank deposit insurance scheme.
- The EZ's banks are generally weak and there have been no major cross-border mergers to increase the strength of the banking system.
- There is a significant problem with non-performing loans.<sup>210</sup>

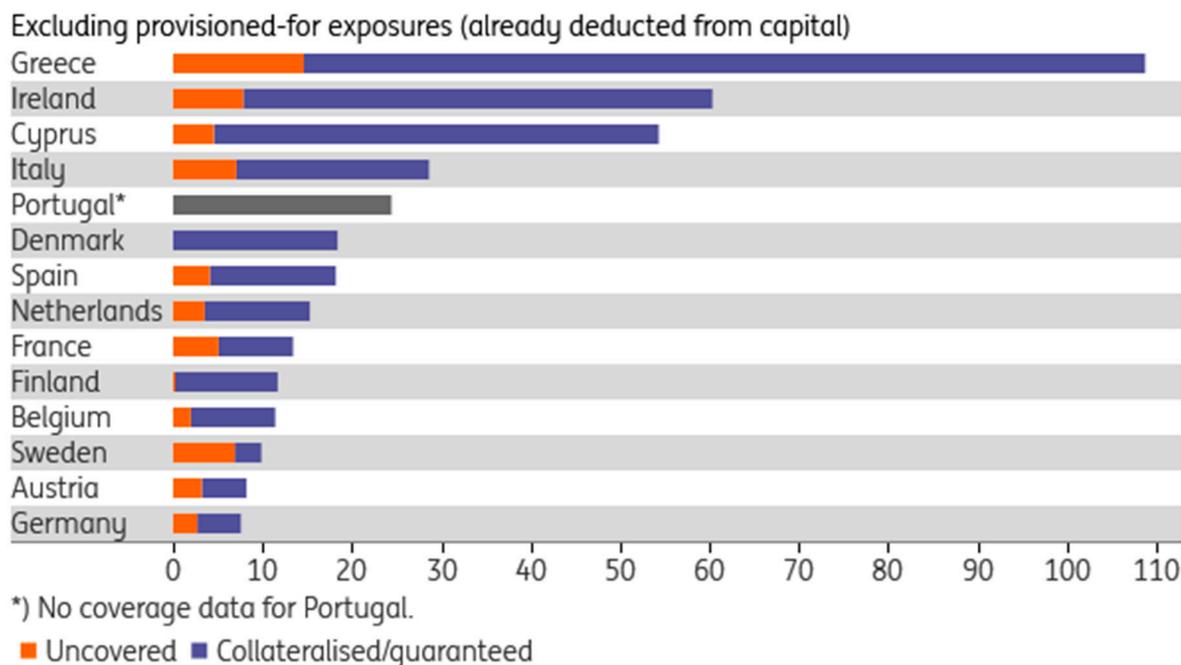
The ECB's *Financial Stability Review* of November 2019 noted that:

Low aggregate bank profitability in the euro area, which weakens the resilience of the euro area banking sector, is partly explained by the persistent underperformance of a sub-set of banks. These banks all stand out in terms of elevated cost-to-income ratios. But there also appear to be three distinct groups: (i) banks struggling with legacy asset problems; (ii) banks with weak income-generation capacity; and (iii) banks suffering from a combination of cost and revenue-side problems. The common cost inefficiency problem seems most pronounced for the largest and smallest banks. Three strategies, all of which should reduce overcapacity, could address the root causes, while avoiding increasing market power or the systemic footprint of institutions which are already systemically important. For some banks, the focus should be on targeting continued high stocks of non-performing loans (NPLs). But in systems with many weak-performing small banks, consolidation within their domestic system could improve performance. Finally, a combination of bank-level restructuring and cross-border M&A activity could help reduce the costs and diversify the revenues of large banks that are performing poorly.<sup>211</sup>

However, there is still little sign of any significant bank merger activity occurring across the EZ.<sup>212</sup>

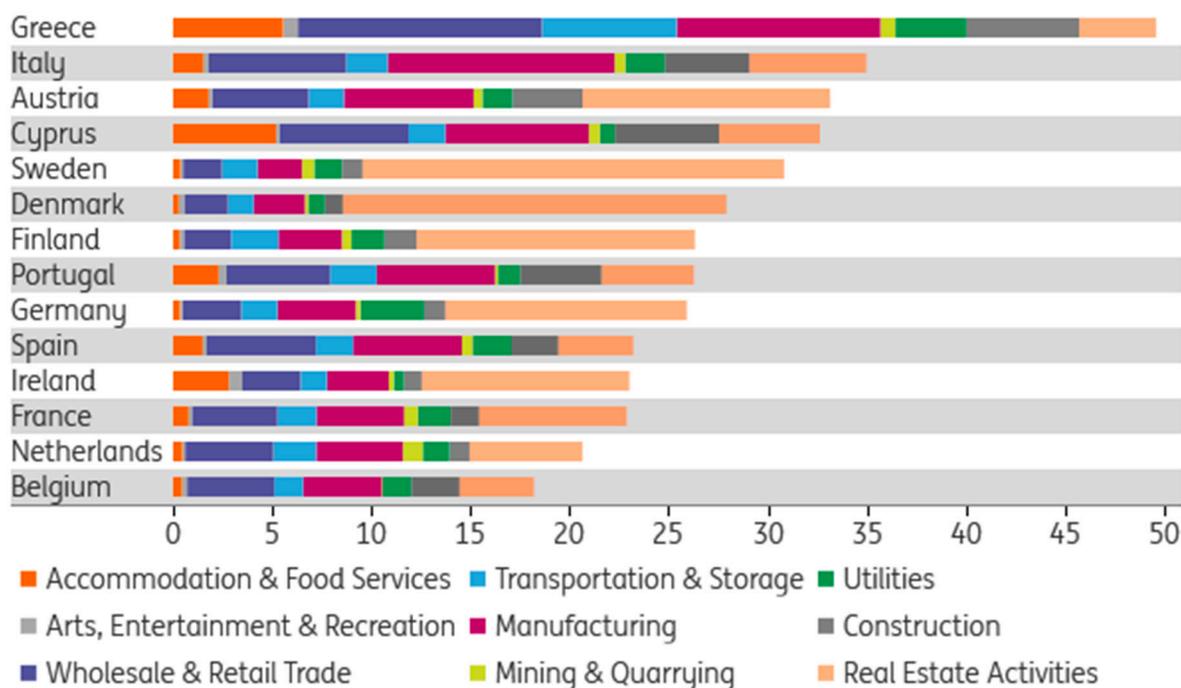
A particularly important problem is posed by NPLs. According to ECB figures, NPLs are on a downward trend. They accounted for almost EUR 1 trn (or 8%) of total loans in the EZ in 2014, implying a nominal amount of loans of EUR 12.50 trn.<sup>213</sup> In June 2019, they amounted to EUR 580 bn (or 3.8% of the total loans).<sup>214</sup> In June 2021, they were equal to EUR 422 bn (or 2.32% of the total loans), implying a nominal amount of loans of EUR 17.92 trn.<sup>215</sup> This downward trend could be the result of accounting manipulations, as discussed below.

Figure 25 shows the scale of the problem with NPLs in 2021, with Greece, Ireland, Cyprus, Italy and Portugal all having NPLs in excess of 25% of bank equity. Although most NPLs are collateralised or guaranteed, the quality of such collateral varies, but it is generally only worth 25–30% of the face value,<sup>216</sup> so banks will be reliant on government loan guarantee schemes to bail them out.



**Figure 25.** Non-performing loans in EU member states in 2021 (% of bank equity). Sources: 1. ECB. 2. Teunis Brosens (2020), Bank non-performing loans in 30 October 2021; <https://think.ing.com/articles/bank-non-performing-loans-the-silence-before-the-storm> (accessed on 10 January 2022).

Inevitably, the recession caused by the COVID-19 pandemic and the Russian invasion of Ukraine has made matters worse, with NPLs increasing as government support is phased out. Figure 26 shows the vulnerable sectors. Banks in Greece, Cyprus, Ireland and Portugal are vulnerable to tourism, while Italian banks are largely exposed to manufacturing and trade and Swedish banks are exposed to commercial real estate loans.



**Figure 26.** Share of vulnerable sectors in the total loan portfolio in EU member states in 2021 (%). Sources: 1. ECB. 2. Teunis Brosens (2020), Bank non-performing loans in 30 October 2021; <https://think.ing.com/articles/bank-non-performing-loans-the-silence-before-the-storm> (accessed on 10 January 2022).

All this evidence suggests that the debt of member states and their public sector entities cannot be treated as a sovereign quality and, in addition, is much larger than official estimates. To illustrate, the ECB estimate of NPLs for June 2019 was EUR 580 bn (or 3.8% of the total loans); this implies a nominal amount of loans equal to EUR 15.26 trn, which is EUR 3.35 trn higher than the figure for total loans given in the ECB statistical database of EUR 11.91 trn.<sup>217</sup> All this means that the entire EZ financial system is under-capitalised, under-collateralised, and has lower liquidity than required by the international standards set by the same Basel rules<sup>218</sup> that allow sovereign debt to be treated as risk-free.

Eurozone banks do not have the regulatory capital (and hence loss-absorption capacity) in place to cover the credit risk involved in running their loan book (nominally valued at EUR 15.26 trn in June 2019) and are, as a consequence, heavily under-capitalised. By the same token, other financial institutions using EZ government bonds as collateral are also heavily under-collateralised.

It also means that, unlike normal sovereign countries, EZ member states are at permanent risk of defaulting on their borrowings and cannot raise debt finance as if they were sovereign. This leads to additional collateral and liquidity problems when EZ member state government bonds are used on one side of international transactions, executed through, for example, central counterparties. Bond liquidity is essential to the effective operation of a financial system in which investors can buy and sell bonds quickly. When bond liquidity dries up, as happens in any financial crisis, this is rapidly transmitted to the banking system. Only around 800 of the 25,000+ bonds on the ECB’s eligible list are regarded as liquid. As a result, the euro currency operates with vast amounts of unmanaged financial risk.

Matters are further exacerbated by a lack of transparency and the use of misleading accounting practices (or ‘fake accounting’) that lead to additional risk. For example:

- Non-standard NPL treatment. Contrary to normal accounting practice around the world, the rump of NPLs—such as business loans, mortgage lending to consumers, and consumer credit—is discounted and then treated as performing. Treating this rump as performing debt is premised on the borrower achieving partial repayment, despite evidence that the non-rump portion of the debt will not be recovered and despite no adjustment being agreed to the amount owed by the borrower.
- Accounting practices that leverage the sovereign assumption. The EU has permitted banks to securitise NPLs and repackage them, with guarantees given by the relevant EZ member state in which the borrowers are located. It then permits EU banks to hold the resulting securitised NPLs at a level reflecting a sovereign treatment of the EU member state guarantee—see Figure 25 which shows that Greek banks, for example, have government guarantees in respect of NPLs of around 100% of their shareholders’ equity. This has alarming similarities with the repackaging of US sub-prime mortgages into supposedly ‘prime’ segments that sparked the Global Financial Crisis.<sup>219</sup> These guarantees should be considered part of each member state’s national debt, but they are not.<sup>220</sup>
- Opaque accounts. Eurosystem accounts are opaque. They do not list all public debts in the manner adopted by other developed countries, such as the UK or US. The system runs four different sets of accounts, but, when consolidated, it assumes the amounts owing between NCBs and the ECB can be netted, thereby disregarding the intra-system gross exposures. It is unclear whether this assumption is legitimate, even under EU law.

To summarise, the underlying cause of all these problems is that member states do not have sovereignty over the ECB, so that no individual state can print euros independently and when euro interest rates are set, they are set by a committee in which no member state has a majority.<sup>221</sup> If any one of these states finds itself in a position where it is unable to repay its debts from taxation or replacement borrowing, it depends on the willingness of other EZ member states to lend it money to do so—in effect, by printing more euros. As a result of the structurally incomplete euro currency, with no single sovereign backer, each member state of the EZ is in effect using and financing itself in a foreign currency.

This poses a serious threat to the world’s financial markets by introducing huge unmanaged risks into those markets and creating significant exposures for world economies as a result of:

- The fundamental design flaw in the legal architecture underpinning the EZ, which treats both the EZ and its member states as sovereign when these two assumptions are mutually incompatible.
- The extent of existing EZ member state debt that is not jointly-and-severally guaranteed in law—and which is not readily apparent from publicly available accounts.
- The fact that the true situation might be worse than is apparent, given Eurozone accounting practices—and may be worse still given the opacity of such accounting practices.
- The fact that EU and EZ regulators are not in a position to manage significant financial risk effectively, since they are structurally unable to reconcile the need to maintain the viability of the Eurozone with the need to regulate for financial safety and soundness.

Each of these factors is embedded in and a consequence of the EZ’s very structure and cannot be resolved politically by the EU in the foreseeable future.

#### *9.6. Target2 Liabilities Are Not Counted as Part of a Member State’s National Debt, and the Risks Associated with Them Are Unmanaged*

Target2 debts are not included in Eurostat’s figure for ‘General government gross debt’. This is usually taken as the anchor figure, even though it is not comprehensive.

It excludes, for example, the debts of power, water and transport utilities, and regional development agencies (a portion of which is lent by the European Investment Bank). So, the Eurostat data are not a comprehensive measure of public sector debt, even aside from the Target2 issue.

However, according to Bob Lyddon:<sup>222</sup>

*it is not simply a matter of adding the Target2 debt, since, depending upon which account that indebtedness is on, it may need to be collateralised by the borrowing NCB, and it is perfectly possible that the collateral is already counted in the 'General government gross debt' of the country of the borrowing NCB. On any such portion, the Target2 debt taken against collateral does not increase the 'General government gross debt'.*

*On the other hand, the debt may not be collateralised at all, or else the collateral pledged falls outside the 'General government gross debt': in either of those cases, the Target2 debt does increase the overall debt.<sup>223</sup>*

*Then there is the question of the excess Target2 debt which is netted away at the end of each business day, and which is not collateralised with bonds that are already included in 'General government gross debt'. We do not know who exactly are the debtors and creditors for this extra amount, which I believe to be €1.2 trn.<sup>224</sup>*

So, Target2 liabilities are not counted as national debt, and it is virtually impossible to discern from published Eurosystem accounts how much of these liabilities should be added to the national debt figures. Any estimate would only be guesswork. As a consequence of this lack of transparency, the risks associated with these liabilities are unmanaged by the Eurosystem because they are not recognised as risks—since Target2 treats sovereign debt as risk-free.

#### 9.7. Spillover Effects between Eurozone Banks and Sovereigns—The 'Doom Loop'

There are potential spillover effects<sup>225</sup> between EZ banks and sovereigns, leading to systemic risk in the form of a 'doom loop'.<sup>226</sup> We consider two examples and then discuss how the doom loop can be broken.

##### 9.7.1. Two Examples of a Doom Loop

The first example involves banks at risk of a government default. It follows from the EZ convention of treating member state sovereign debt as risk-free, which, in turn, allows EU banks to hold unlimited amounts of EZ government bonds on their balance sheets with no capital requirements, because the bonds have a 'zero' risk weight under the Basel rules. As a result, banks have accumulated large holdings of their national government's bonds under political pressure to help finance their country's national debt.<sup>227</sup>

However, the bonds are not risk-free, and their prices can fall significantly in times of crisis, such as in Greece in 2015 and in Italy in 2018. When bond prices fall and yields rise, banks must mark down the value of their bond holdings and may have to reduce lending to companies for investment purposes (and may also have to raise new capital to survive). This can severely impact the economy and, in the extreme case, lead to a recession. This, in turn, makes it more difficult for the government to raise the taxes needed to repay bondholders when bonds mature. This mutual dependency can lead to a downward spiral or 'doom loop'.

The risk is greatest in Italy where the banks are the most exposed in Europe. They held around EUR 400 bn of Italian government bonds in 2019, equal to 10% of their total assets. Table 3 shows key Italian banks' exposure to Italian government debt in 2019. The two largest banks, UniCredit and Intesa Sanpaolo, have larger exposures than their balance sheet capital is able to absorb in the event of a default. Italian banks also have a level of exposure to NPLs equal to more than 25% of their equity capital, as shown in Figure 25: a significant percentage of this is 'guaranteed' by the Italian government.

**Table 3.** Key Italian banks’ exposure to Italian government debt (June 2019).

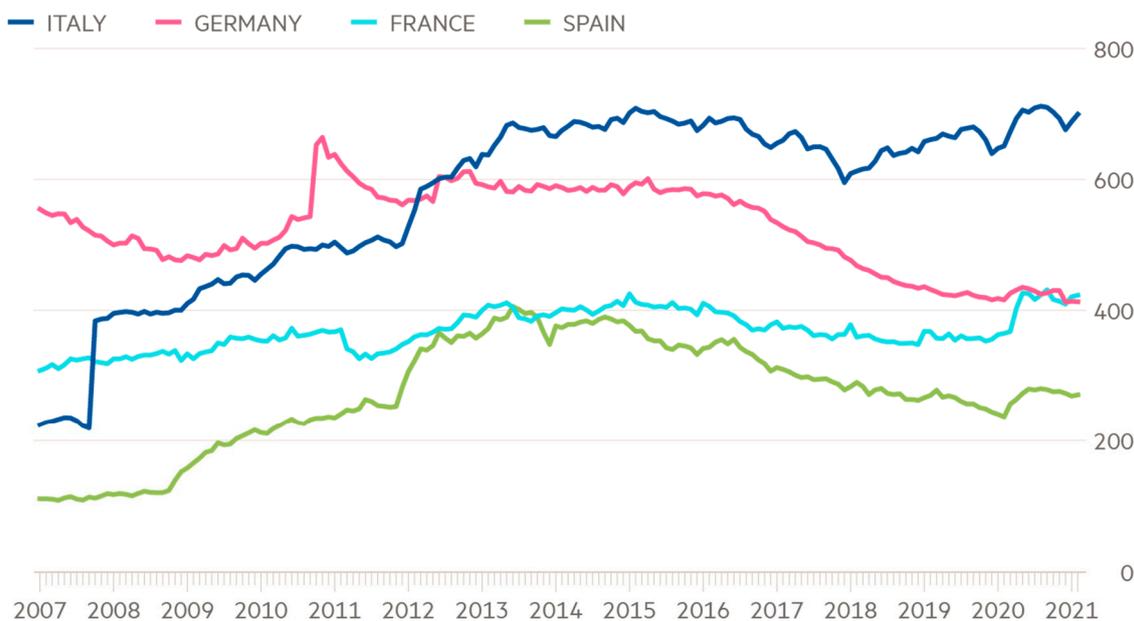
Bank	Exposure (EUR bn)
UniCredit	60.8
Intesa Sanpaolo	55.8
ICCREA Banca	45.5
Cassa Centrale Banca	21.6
Monte Paschi	20.8
Banco BPM	20.4
Unione di Banche Italiane	9.5
Medio-banca	8.2
BPER Banca	7.6
Banca Popolare di Sondrio	7.0
Credito Emiliano	3.1

Sources: 1. European Banking Authority. 2. (Migliaccio and Salzano 2020).

As a result of the massive issuance of government bonds to finance recovery from the COVID-19 pandemic, Italian and French banks’ exposure to their own countries’ government bonds reached record highs in 2020.<sup>228</sup> EZ banks held a total of EUR 2.1 trn of EZ government bonds, with Italian banks holding EUR 712 bn and French banks holding EUR 431 bn. This has raised concerns about a new doom loop developing, although, in the case of Italian and French banks, the doom loop has just kept growing, as Figure 27 makes clear. Figure 28 shows that EZ banks’ exposure to government bonds peaked in 2015 and fell gradually until the pandemic hit in 2020 and bond buying increased, particularly by Italian and French banks. Italian banks’ exposure to their government’s bonds equalled 18% of their total assets and nearly double their total capital. French banks’ exposure was lower, at 4% of their total assets—which is lower than the EZ average for reasons discussed in Section 9.8 below—but this still amounts to two-thirds of their capital.

### Italian and French doom loops have kept growing

Exposure of banks to domestic government debt securities and loans (€bn)

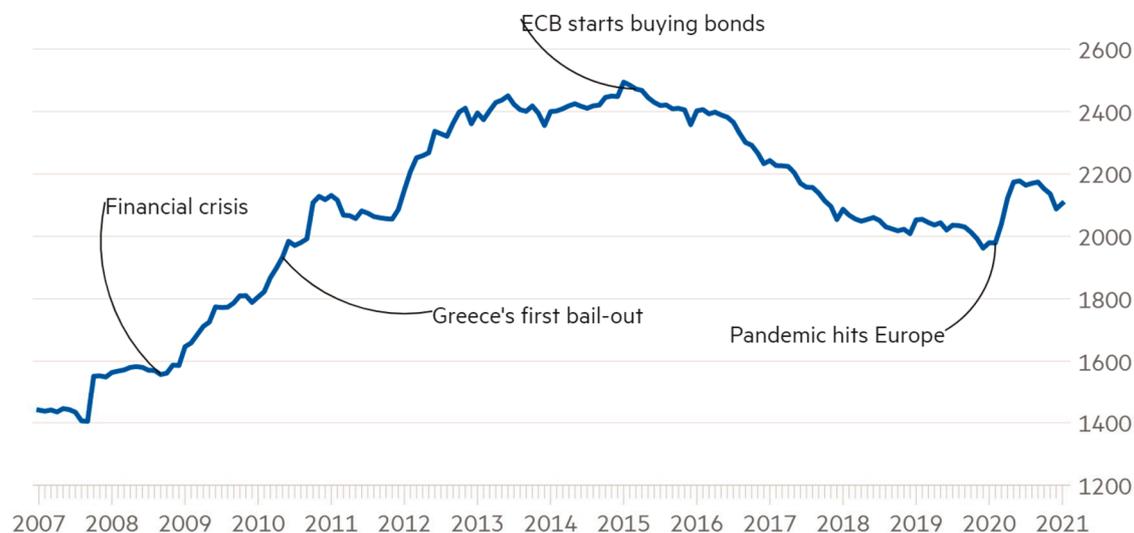


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**Figure 27.** Development of the doom loop in key Eurozone member states, 2007–2021. Sources: 1. ECB 2. (Arnold 2021).

## Europe's doom loop is growing again

Exposure of eurozone banks to domestic government debt securities and loans (€bn)



Estonian banks only included from January 2008 and Latvian banks from September 2010

Source: ECB

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**Figure 28.** Development of the Eurozone doom loop, 2007–2021. Sources: 1. ECB 2. (Arnold 2021).

Banks were actually incentivised to buy government bonds because they could borrow the funds to do so from the ECB at a negative interest rate of minus 1% (i.e., they were paid by the ECB to borrow money using Targeted Longer-Term Refinancing Operations (TLTRO)<sup>229</sup>). This created a ‘carry trade’, since the purchased bonds generated a positive return. Additionally, there is no additional capital to post since the bonds are classified as risk-free.

The second example involves governments at risk from banks defaulting and having to bail them out. Large German national banks have encountered difficulties as a result of investing in complex derivative contracts where the risks were poorly understood. The key culprit is the once mighty Deutsche Bank, although Commerzbank has also encountered difficulties.<sup>230</sup> In 2016, the IMF declared that Deutsche Bank was the greatest global contributor to systemic banking risk.<sup>231</sup> The bank’s shares halved in value, and the most talented staff, whose bonuses were linked to the share price, left. In 2018, it slipped to a 10-year low in the deal-making league table.<sup>232</sup> In February 2019, the bank announced it lost USD 1.6 bn on a municipal-bond investment bought prior to the GFC.<sup>233</sup> In July 2019, it announced 18,000 job losses as it exited equities trading, equivalent to 20% of its global workforce; it also created a ‘bad bank’ to hold EUR 74 bn of poorly performing assets, equivalent to removing EUR 288 bn of leverage exposure from its balance sheet.<sup>234</sup>

These national banks restructured and survived without overt government support,<sup>235</sup> but smaller German regional banks (Landesbanken) have also faced difficulties and had to be rescued with government funding. An example is NordLB, which had EUR 7.3 bn of bad shipping loans and, in 2019, was subject to a EUR 3.5 bn rescue plan whereby the Sparkassen savings bank group injected EUR 1.2 bn in new equity and the state of Lower Saxony provided EUR 1.5 bn in cash together with non-cash balance sheet support worth EUR 0.8 bn.<sup>236</sup>

### 9.7.2. Breaking the Doom Loop

There are, in principle, three measures that the EU could take to help break the doom loop.

The first measure is to recognise explicitly that EZ sovereign debt is not risk-free and hence should not have a zero-risk weight in banks' balance sheets. Remarkably, it was only in December 2018 that this issue was raised at a senior level in the EU by Danièle Nouy, the EZ's chief banking regulator, and Olivier Guersent, the EU official responsible for financial services.<sup>237</sup>

The second measure is to limit the amount of own-government bonds that a bank can hold on its balance sheet. This has been repeatedly proposed by the Bundesbank, but is opposed by the more indebted countries keen to have their banks buy the bonds that they issue.

The Basel Committee on Banking Supervision (BCBS) is also concerned about these two issues and, in 2017, released a consultation paper.<sup>238</sup> The BCBS considered three sets of ideas for revising the regulatory treatment of government bond exposures, but stated it had not reached a consensus on making any changes to the treatment of sovereign exposures. The ideas were grouped into three broad categories:

*The first set of ideas relates to: (i) the removal of the internal ratings-based (IRB) approach framework for sovereign exposures; (ii) revised standardised risk weights for sovereign exposures held in both the banking and trading book, including the removal of the national discretion to apply a preferential risk weight for certain sovereign exposures; and (iii) adjustments to the existing credit risk mitigation framework, including the removal of the national discretion to set a zero haircut for certain sovereign repo-style transactions.*

*The second set of ideas relate to mitigating the potential risks of excessive holdings of sovereign exposures, which, for instance, could take the form of marginal risk weight add-ons that would vary based on the degree of a bank's concentration to a sovereign (defined as the proportion of sovereign exposures relative to Tier 1 capital).*

*The third set of ideas is related to the Pillar 2 (supervisory review process) and Pillar 3 (disclosure) treatment of sovereign exposures [in the Basel framework]. Regarding the former, these include ideas related to guidance on: (i) monitoring sovereign risk; (ii) stress testing for sovereign risk; and (iii) supervisory responses to mitigating sovereign risk. Regarding the Pillar 3 framework, this paper includes ideas related to disclosure requirements related to banks' exposures and risk-weighted assets of different sovereign entities by jurisdictional breakdown, currency breakdown and accounting classification.*

An ECB analysis by [Alogoskoufis and Langfield \(2019\)](#)<sup>239</sup> argued that the Basel Committee's proposed regulatory reforms involve a trade-off between concentration risk (i.e., the home country government bond bias) and credit risk: 'We find that regulatory reforms targeting portfolio concentration indeed reduce banks' home bias, but are consistent with increased sovereign credit risk exposure. Conversely, reforms aimed at reducing credit risk exposure can exacerbate concentration. None of the envisaged reforms unambiguously reduce both concentration and credit risk. Consequently, reforms could strengthen the doom loop through cross-border contagion. . . . These findings reflect the incompleteness of euro area sovereign debt markets'.

They then offered a potential solution to complete the markets: 'A portfolio with both low concentration and low credit risk can only be assembled if the investible universe is expanded to include a security that entails both properties'. Their solution to reducing both concentration risk and credit risk requires banks to invest in a new 'area-wide low-risk asset' in a way that minimises capital requirements. The area-wide low-risk asset is created contractually by pooling and tranching existing government bonds with the same national weights as the ECB capital key and without the need for additional capital. However, their portfolio optimisation model indicates that a positive holding for this new asset will only materialise if there are positive capital charges on all alternative asset allocations (such as government bond holdings with a significant home country bias) or restrictive large

exposure limits for all single-name government bonds. Without these positive capital charges on alternative portfolio weightings or when large exposure limits are not restrictive, banks have no regulatory incentive to reallocate their portfolios, regardless of the existence of an area-wide low-risk asset.<sup>240</sup>

While, in principle, this is a sensible application of a standard portfolio diversification strategy, it risks, given the sub-sovereign nature of EZ member state government bonds, ending up looking very similar to the pooling of sub-prime mortgages that caused the GFC. Concentration and credit risks might be reduced at the level of individual banks, but it is not clear how this strategy reduces these risks at a EZ-wide level.

The third measure is a European Deposit Insurance Scheme (EDIS)—which involves risk pooling across the EZ—designed to give confidence to bank customers in all EZ member states, to reduce the risk of capital flight, and hence enhance financial stability. This is the final component of the EZ Banking Union. The first two components—a single bank supervisor (the Single Supervisory Mechanism) and a Single Resolution Mechanism for banks that fail—are already in place.

For a long time, Germany refused to consider deposit insurance. However, on 5 November 2019, the then German finance minister, Olaf Scholz, finally accepted that Germany would consider an EDIS in order to complete the Banking Union and save the euro. In an article in the *Financial Times*, he wrote: ‘We understand that compromises are necessary. . . .The need to deepen and complete European Banking Union is undeniable. After years of discussion, the deadlock has to end. Therefore, I am calling on the EU to act now to strengthen Europe’s sovereignty in an increasingly competitive world’.

Four steps would be required to achieve this: ‘First, we need common insolvency and resolution procedures for banks, building on the example of the US Federal Deposit Insurance Corporation. . . .Second, ensuring a stable banking sector means further reducing risks. This means further reducing the number of non-performing loans and tackling the risks associated with sovereign debt. . . .Third—and this is no small step for a German finance minister—an enhanced banking union framework should include some form of common European deposit insurance mechanism. A European deposit reinsurance scheme would significantly enhance the resilience of national deposit insurance. . . .Last but not least, we have to intensify our efforts to prevent arbitrage. Tax law still distorts competition within the EU. This is why Germany, together with France, is calling for the adoption of a common corporate tax base and a minimum effective tax. Progress with Banking Union must not lead to competition-distorting tax arrangements’.<sup>241</sup> This last step effectively means fiscal union in the EU, which is just one step short of political union.

Scholz’s proposals were criticised for being too conditional. He made it clear that Germany would not consider deposit insurance—which would have the effect of moving an individual country’s default risk to the European level and hence putting Germany on the hook—before countries like Italy place strict limits on the amount of Italian government bonds their banks can hold. As a result, Isabel Schnabel, a member of the German Council of Economic Experts and former member of the ECB Governing Council, stated ‘the Eurozone remains fragile. Without cutting the cord between sovereigns and banks, the so-called sovereign-bank doom loop, completion of the Banking Union is impossible. A fiscal backstop for the Single Resolution Fund and rules covering non-performing loans are not sufficient. Worries about Italy have led some to reject any further risk-sharing in the Eurozone. But political instability [in Italy] shows that action is urgently needed’.<sup>242</sup>

Professor Tobias Tröger from Goethe-University Frankfurt am Main and managing director of the European Banking Institute argues that the second pillar of the Banking Union, common resolution through the Single Resolution Board, has so far not gained much traction.<sup>243</sup> Even worse, absolutely nothing has been done about EDIS. In an article headed ‘EU leaders to commit to finishing Banking Union . . . one day’, [Guarascio and Strupczewski \(2021\)](#) report that the EU ‘reiterate[s] our full commitment to the completion of the Banking Union and, capitalising on recent discussions, invite [EU finance ministers] to agree, without delay and on a consensual basis, on a stepwise and time-bound work plan

on all outstanding elements needed to complete the Banking Union'.<sup>244</sup> The article makes clear that no further progress will be made until Scholz's four steps have been addressed.

In the meantime, Manfred Hubner from the Sentix Euro Breakup Index has a sense of déjà vu with the repeat of 'dark memories' of the months leading up to the GFC and 'practically no glimmer of hope' anywhere.<sup>245</sup>

### 9.8. Cross-Border Spillover Effects

We now turn to discuss cross-border spillover effects. Table 4 shows how exposed non-Italian banks were to Italian debt in 2019. French banks are particularly badly exposed (EUR 276 bn), followed by German (EUR 61 bn), Spanish (EUR 37 bn), Belgian (EUR 25 bn), and UK banks (EUR 17 bn). Table 5 lists 17 banks with exposures above EUR 3 bn. French banks predominate: BNP Paribas (EUR 150 bn), Crédit Agricole (EUR 99 bn), and Société Générale (EUR 22 bn). There are also large exposures for Deutsche Bank (EUR 30 bn), DEXIA (EUR 22 bn), and Barclays (EUR 17 bn).

**Table 4.** Non-Italian banks' exposure to Italian general government and private sector debt (June 2019).

Country	Exposure (EUR)
France	295.7 bn
Germany	61.0 bn
Spain	36.8 bn
Belgium	24.9 bn
UK	17.2 bn
Portugal	2.9 bn
Luxembourg	2.5 bn
Ireland	2.3 bn
Greece	1.7 bn
Austria	448.2 m
Malta	148.6 m
Cyprus	64.4 m
Lithuania	20.5 m

Sources: 1. European Banking Authority. 2. (Migliaccio and Salzano 2020).

**Table 5.** Key non-Italian banks' exposure to Italian debt (June 2019).

Bank	Exposure (EUR bn)	Exposure to General Government Debt (%)	Exposure to Private Sector Debt (%)
BNP Paribas (France)	150.0	20	80
Crédit Agricole (France)	99.0	18	82
Deutsche Bank (Germany)	29.8	10	90
DEXIA (Belgium)	22.0	56	44
Société Générale (France)	21.7	19	81
Barclays (UK)	17.2	43	57
BBVA (Spain)	14.2	33	67
Commerzbank (Germany)	13.5	83	17
BPCE (France)	12.0	60	40
BCC (Spain)	7.7	100	0
Sabadell (Spain)	6.9	100	0
RCI (France)	6.7	0	100
SFIL (France)	6.2	35	65
Volkswagen Bank (Germany)	4.8	0	100
Aareal Bank (Germany)	4.1	20	80
Unicaja Banco (Spain)	3.8	100	0
DZ (Germany)	3.4	100	0

Sources: 1. European Banking Authority. 2. (Migliaccio and Salzano 2020).

French banks were also heavily exposed to Greece at the time of the Greek financial crisis in 2010: of the EUR 134 bn worth of claims<sup>246</sup> on Greece by European banks, French banks had an exposure equal to EUR 52 bn. However, the bailout of Greece in May 2010 by the IMF and EZ with a loan of EUR 110 bn enabled the French banks to eliminate almost all their exposure to Greece over the next two years by selling most of their holdings of Greek bonds, allowing the other bonds to mature, and taking partial write-offs. According to [Steil and Walker \(2015\)](#): ‘The bailout effectively mutualised much of their exposure within the Eurozone’.<sup>247</sup>

This is because the EZ bailout was shared according to each member state’s capital key (around 20% for France at the time, compared with an exposure of 40% of total European lending). This led to a direct reduction in France’s Greek exposure—sovereign and bank—by EUR 8 bn, and the other measures that the French banks took resulted in France’s exposure falling from 40% to 0.6% of total European lending to Greece between 2010 and 2015. By contrast, over the same period, Germany’s exposure increased from EUR 10 bn to EUR 35 bn, and Italy’s and Spain’s from virtually nothing to EUR 39 bn and EUR 25 bn, respectively. [Steil and Walker \(2015\)](#) concluded: ‘France has managed to use the Greek bailout to offload EUR 8 bn in junk debt onto its neighbours and burden them with tens of billions more in debt they could have avoided had Greece simply been allowed to default in 2010. The upshot is that Italy and Spain are much closer to financial crisis today [2015] than they should be’. This is another clear example of a cross-country spillover effect helping to create systemic risk in the EZ.

The cross-border doom loop has been considerably worsened by the Russian invasion of Ukraine. This is because of the size of the exposure of EZ banks to Russia. Out of a total exposure of USD 90 bn by foreign banks, French, Italian and Austrian banks accounted for USD 25 bn, USD 25 bn and USD 18 bn, respectively.<sup>248</sup> Particularly exposed were Société Générale, the Austrian bank Raiffeisen, UniCredit, and Intesa Sanpaolo, Italy’s largest bank, with Russian loans of EUR 5 bn.<sup>249</sup> To illustrate, in response to sanctions imposed by western governments on Russia, Société Générale ended its banking and insurance activities there and sold its stake in Rosbank and the group’s insurance subsidiaries to Interros Capital, resulting in a loss of EUR 3.1 bn.<sup>250</sup> By contrast, UK banks’ total exposure was USD 3 bn. With Russia removed from the SWIFT international payments system, this will make it more difficult for Russian companies to service and repay their loans.

Other parts of the financial services sector have also been badly affected. EZ countries (as well as the UK) have significant inward direct investments in Russia—see [Table 6](#). These investments are at risk of being expropriated by the Russian government. Cyprus is particularly badly affected as it has become a centre for recycling Russian oligarch funds back into Russia.<sup>251</sup> Furthermore, as the Russian economy is closed off to much of the rest of the world, the reduction in exports of oil, gas, coal, grain and raw materials created shortages and higher prices and could lead to a global recession, just as the world was coming out of the COVID-19 pandemic. Non-Russian investors held a total of USD 39.7 bn in Russian government bonds. French banks held USD 4.5 bn, US banks USD 3.8 bn, Austrian banks USD 3.2 bn, and Italian banks USD 2.6 bn. UK banks held USD 520 m of these bonds.<sup>252</sup>

**Table 6.** Inward direct investment in Russia (June 2021).

Country	Value (USD bn)
Cyprus	167.0
UK	52.0
Netherlands	47.8
Bermuda	42.4
Luxembourg	31.3
Ireland	28.0
France	23.3
Bahamas	23.0
Germany	21.5
Switzerland	17.6

Sources: 1. Central Bank of Russia, Investment Monitor. 2. ([Lynn 2022](#)).

However, the spillover effects of the Russian invasion extend well beyond the EZ financial sector and have dealt significant damage to the real economy of the EZ. Particularly badly affected was Germany, which used to get 49% of its gas supplies from Russia—see Table 7. Deutsche Bank predicted that the introduction of rationing, following the Russian cut in gas supplies (through the gas pipeline Nordstream 1) and Germany’s own voluntary reduction in Russian gas imports, would lead to an accelerated decline in investment and the degradation of industrial facilities, resulting in ‘structural damage’ to the economy: ‘Particularly in energy-intensive industries, the long-term propensity to invest would likely decline even more, because until now security of supply has been an asset in Germany. Should this no longer be guaranteed, there is a risk of structural damage to Germany as an industrial location. . . . That would speed up the decline in capital stock—such as factories—across the country’s energy-intensive sector. National debt would also rise under such circumstances and the nationwide savings ratio would likely increase as cautious Germans choose to save rather than spend’.<sup>253</sup> Gas consumption in Germany (and France and Italy) at the end of 2022 was 30% lower than the 2017–2021 average.<sup>254</sup> Marcel Fratzscher, head of the German Institute for Economic Research, estimated that Germany lost around EUR 100 bn, or 2.5% of the country’s economic output, in 2022.<sup>255</sup> As a result of higher European energy costs, BASF announced it would invest EUR 10 bn in petrochemical projects in China and ‘permanently’ downsize its presence in Europe.<sup>256</sup> This, in turn, has raised questions about Germany’s growing dependency on China, with EUR 100 bn in exports to China and EUR 140 bn in imports from China in 2021. German officials ‘acknowledge the worrying direction of travel’, but they have no appetite for the kind of rupture in trade with China pursued by the Trump and Biden administrations in the US.<sup>257</sup>

**Table 7.** The dependency of European states on Russian gas.

Country	Dependency (%)
North Macedonia	100
Bosnia & Herzegovina	100
Moldova	100
Finland	94
Latvia	93
Bulgaria	77
Germany	49
Italy	46
Poland	40
France	24
Netherlands	11
Romania	10
Georgia	6
Ireland	0
Ukraine	0

Sources: 1. Bruegal based on Eurostat 2. (Millard 2022).

Italy was also heavily dependent on imported Russian gas, and Mario Draghi, then Italian prime minister, raised the possibility that Italians will also have to prepare for rationing if the situation worsens.<sup>258</sup> Table 7 shows how dependent much of Europe has been on Russian gas.

March 2023 witnessed a further example of a cross-border spillover. Two US banks—Silicon Valley Bank and Signature Bank—collapsed almost overnight, and the contagion spread to Credit Suisse in Switzerland.<sup>259</sup> Signature Bank was closed down, but the other two banks were taken over by larger banks, with the support of their financial regulators. Credit Suisse—which had incurred substantial losses in two investment funds, Archegos Capital and Greensill Capital—was taken over by UBS, but holders of Credit Suisse’s CHF 16 bn contingent convertible AT1 bonds<sup>260</sup> lost everything.

These events sent shockwaves through the global financial system, especially in the EZ.<sup>261</sup> Particularly badly affected was Deutsche Bank, whose share price fell by 14% on 24 March, following a spike in the cost of insuring against the bank defaulting on its debt obligations. The problems with Deutsche Bank were discussed above, but commentators were struggling to explain the size of this fall. Andrew Coombs of Citigroup said it was unlikely to be the result of concerns over the bank’s commercial real estate exposure or a US Justice Department investigation into banks and Russian sanctions. Instead, he blamed an ‘irrational market’ and fear of a bank run as happened in the case of Credit Suisse: ‘the risk is . . . a knock-on impact from various media headlines on depositor psycholog[y], regardless of whether the initial reasoning behind this was correct or not’, thereby demonstrating again the fragility of the EZ banking system.<sup>262</sup>

Five-year credit default swaps for EZ banks exceeded 150 basis points for the first time since the GFC (when they reached nearly 300 basis points) and the 2012 European debt crisis (when they reached nearly 200 basis points)—see Figure 29. Kristalina Georgieva, managing director of the International Monetary Fund, called for vigilance as she warned that the global economy faces increased financial stability risks.<sup>263</sup> Janet Yellen, US treasury secretary, said: ‘As we saw in 2008 and 2020, runs and fire sales can spread like a contagion’.

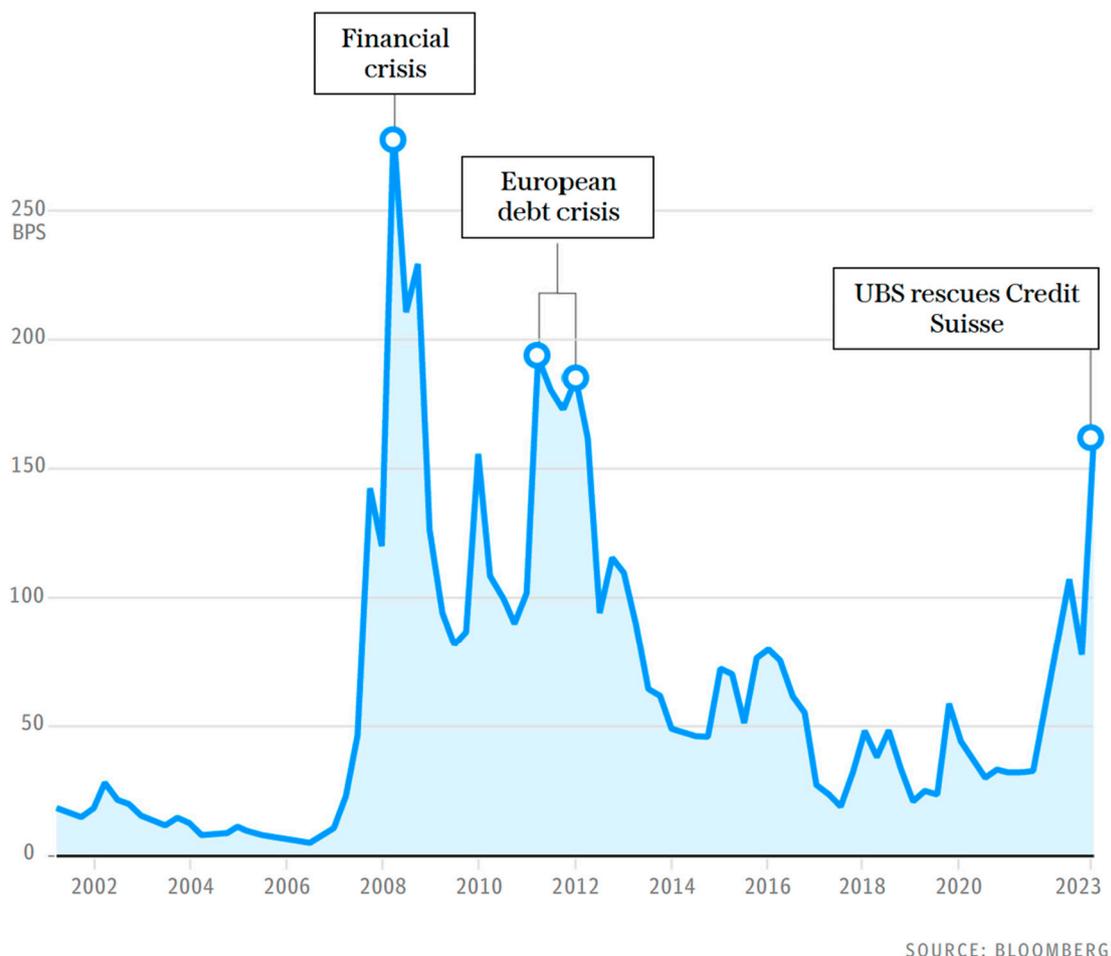


Figure 29. Five-year credit default swaps on Eurozone banks (basis points). Source: (Foy 2023).

Andreas Dombret, a former executive at the Bundesbank, has pointed out that the absence of a common EZ deposit protection scheme increased the risk of a bank run in one member state resulting in depositor flight to another member state’s banks. Since the US guaranteed all deposits in the collapsed Silicon Valley and Signature Banks, Dombret argued that the protection provided by the ‘Federal Deposit Insurance Corporation is

[now] *de facto* unlimited'. By contrast, the backstop provided by the European Stabilisation Mechanism is capped at EUR 68 bn.<sup>264</sup>

Evans-Pritchard (2023b) goes further and says that 'If anything does go wrong—and there is a high probability that it will, given the galloping contraction in the money supply—the Eurozone still lacks the machinery necessary to contain a banking crisis. The EU authorities do not have the legal power to conduct the sort of rescue measures just concocted by the US Treasury, the Federal Reserve, and the Federal Deposit Insurance Corporation, acting in concert. . . . The Bank Recovery and Resolution Directive does not allow national governments to bail out uninsured depositors in a crisis. There is no equivalent to the US "systemic risk exemption" clause, which limited contagion (briefly) after the collapse of Silicon Valley Bank. . . . Each country is still responsible for rescuing its own banks even though it cannot print its own money or set its own interest rates, and no longer has its own lender-of-last-resort; and even though it has no means of blocking dangerous inflows of speculative capital (as happened to Spain). A banking crisis still threatens to pull any of the Eurozone high-debt states into the abyss with it'.<sup>265</sup>

### 9.9. Spillover Effects between Eurozone Banks and Shadow Banks

Particularly at risk from a banking crisis are 'shadow banks' or 'non-bank financial intermediaries' as they are officially known. These are investment funds that engage in the two principal banking activities of maturity transformation (borrowing over the short term in the money markets to lend long or to invest in real estate and other assets that may be hard to sell at short notice) and liquidity transformation (converting cash into illiquid assets). Regular banks are closely regulated and must satisfy Basel III solvency rules, with minimum capital, leverage, and liquidity requirements. Shadow banks do not have to meet these standards. In addition, they cannot call upon a central bank to provide emergency funds in a liquidity crisis (i.e., they are not eligible to apply to a central bank's lender-of-last-resort facility), and they are not protected by government deposit insurance. The Financial Stability Board (FSB)<sup>266</sup> states that shadow banks are susceptible to 'margin call dynamics [and act as] amplifiers of liquidity stress'. They thus face a doom loop in a financial crisis. This is concerning, given the size of the shadow banking sector. Figure 30 shows that shadow banks collectively hold more assets than regular banks (USD 239 trn vs. USD 183 trn in 2021) and are now the main source of global finance. Therefore, they create systemic 'bank-like financial stability risks'.

Even more significant is the geographical concentration of shadow banks. Many of them are based in Ireland, which has become the fifth largest global host. Figure 31 shows that the assets of shadow banks based in Ireland are 12 times the country's GDP. There was an early warning of potential cross-border spillover problems in September 2022 when a spike in UK government bond yields led to a GBP 1 trn margin call in leveraged liability driven investments (LDIs) held by UK pension funds.<sup>267</sup> Many of the LDI funds involved were domiciled in Ireland, where the total value of investment fund holdings in UK government bonds was GBP 267 bn. Gabriel Makhoul, the governor of the Irish central bank, said the contagion from this incident risked turning into a broader financial crisis: 'The recent events were "near misses". We need to move urgently towards developing a framework that tackles the systemic risks that non-banks now pose to the stability of the financial system as a whole'. Luxembourg is also a significant centre for shadow banks. One commentator pondered: 'Can we say with any certainty today that the Eurozone's bailout machinery would immediately deploy all means to put out a raging fire in any country within the EU jurisdiction if the source of the problem was in shadow banking? Or would perennial arguments over moral hazard again intrude? Would the fractious politics of Europe's half-formed monetary union again allow the problem to fester? We do not know'.<sup>268</sup>

Share of total financial assets

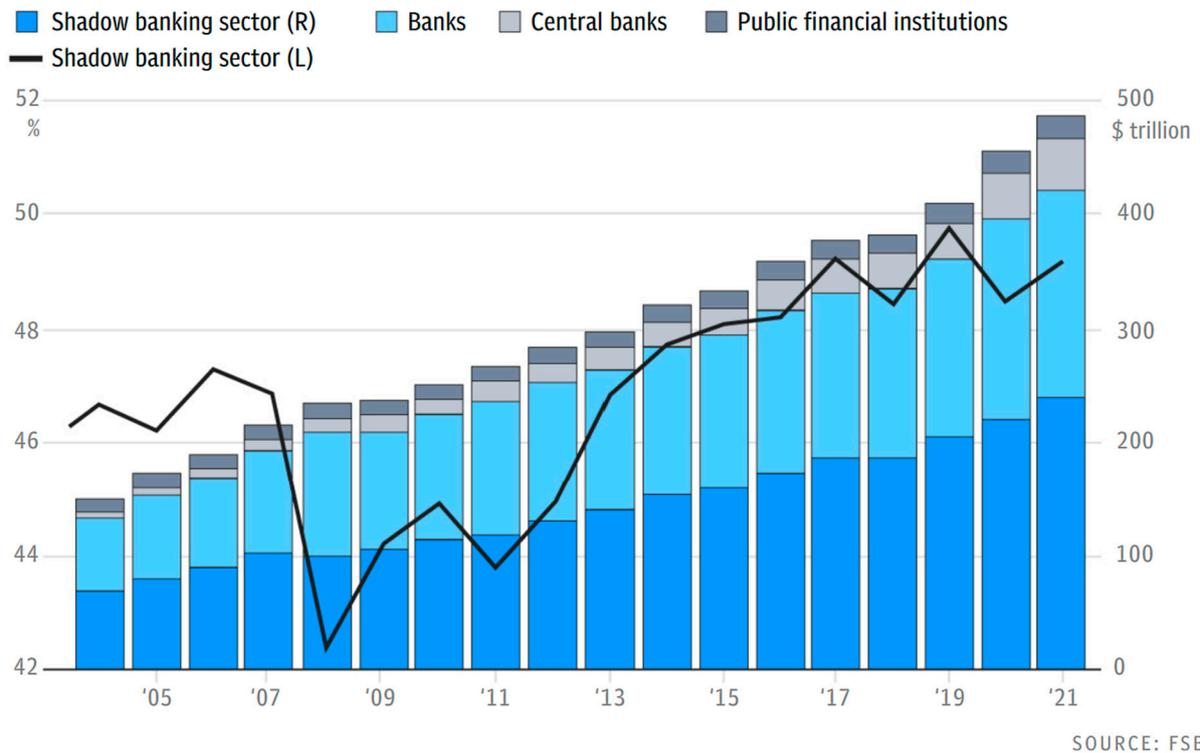


Figure 30. Shadow banks are bigger than regular banks. Source: Evans-Pritchard (2023a).

Assets as percentage of GDP

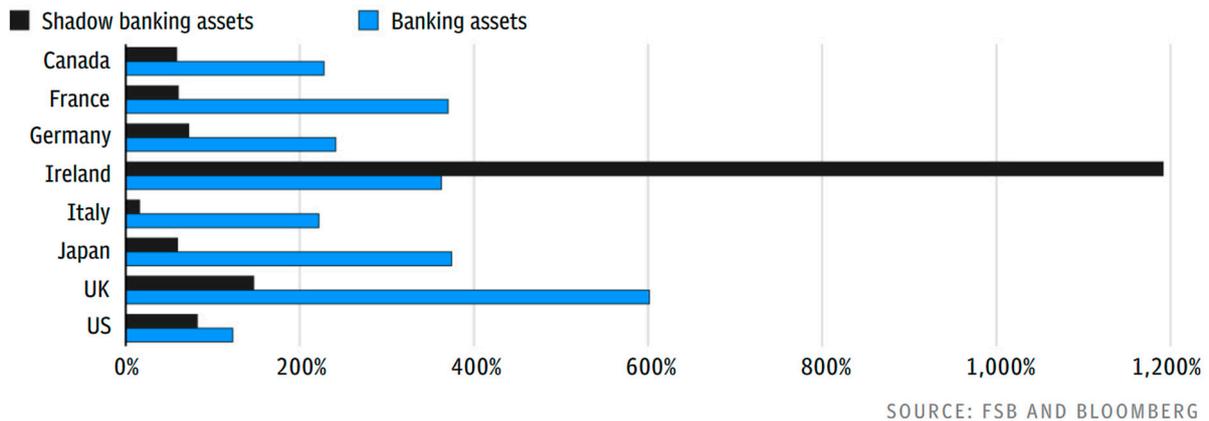


Figure 31. The relative size of the shadow banking sector in selected countries. Source: Evans-Pritchard (2023a).

The ECB’s *Financial Stability Review*<sup>269</sup> of May 2023 warned that ‘elevated vulnerabilities’ in shadow banks could result in spillovers to the EZ banking sector. EZ banks’ asset exposure to shadow banks average 9% of their total assets, while 14% of their funding stems from shadow banks. There is also a considerable concentration of exposures. Around 80% of funding and 90% of asset exposures are concentrated in fewer than 20 banks, while the top 100 shadow banks account for around 46% of the banks’ exposures. Similarly, 80% of the outstanding notional amount for derivatives traded by shadow banks is intermediated by EZ banks.

The ECB said that ‘any turmoil in the [shadow banking] sector is likely to disproportionately affect large, complex, systemically important banks, as asset exposures, funding

linkages and derivative exposures are concentrated in this group'. It was concerned about linkages between the two sectors, which 'expose banks to liquidity, market and credit risks', and added that if such risks were to materialise, they could precipitate an outflow of the funding provided by the shadow banking sector, amplify the funding pressures faced by banks, and force a sale of assets, which could impact prices and valuations. It argued that 'A small group of systemically important banks is key to ensuring the smooth operation of parts of the [shadow banking] sector. If one or a group of such institutions were to become distressed, there would probably be substantial ramifications in terms of the ability of significant parts of the [shadow banking] sector to manage liquidity and market risks. At the same time, distress in the [shadow banking] sector would probably affect these key banks more significantly than smaller banks'. The ECB called for greater resilience of these 'key nodes' in the financial system as a 'precondition for containing spillovers between the two sectors. . . .Improving liquidity risk management practices and tackling synthetic leverage in the [shadow banking] sector would indirectly support the resilience of banks, by mitigating the risk of such spillovers occurring'.

However, given the extent of the concentration risk that is evident between the large, systemically important EZ banks and the shadow banks, it is not clear that there could be any meaningful increase in effective liquidity risk management without severely impacting expected returns.

#### 9.10. Cross-Border Transmission of Eurozone Monetary Policy

A final example of systemic risk spillovers is the cross-border transmission of EZ monetary policy. This issue has been discussed in an empirical study by [Skouralis \(2021\)](#) undertaken for the European Systemic Risk Board.<sup>270</sup> The author points out that the '[EZ] is a special case because, on the one hand, there is significant heterogeneity amongst countries and, on the other hand, there is a single monetary authority and high financial integration. The latter, despite all the direct and indirect benefits, could lead to more costly crises, since economies are exposed to both domestic and currency union shocks. A country level systemic risk event may become aggravated, due to strong financial contagion in the euro banking system, and lead to a widespread adverse effect on the union-wide financial stability'.

The study finds significant spillovers in terms of economic activity and financial stability: 'Our empirical evidence suggests that Italy, Spain and Germany are the most systemically important countries in the monetary union. However, shocks in some of the smaller countries (Ireland) can also have a sizeable impact at the union level. We observe that core countries are highly interconnected [implying a potentially high degree of financial contagion] but their spillovers to the rest of the union members are low. On the other hand, the systemic risk shocks in the peripheral countries have a considerably larger effect on all the [other EZ] members. In addition, we examine the impact of systemic risk shocks on the macroeconomy. The results indicate that an unexpected increase in the [EZ] aggregate systemic risk leads to a slowdown in economic activity, of which two thirds of its variation can be attributed to cross-country spillovers'.

The study also examines the role of spillovers in what it describes as the 'risk-taking channel' of monetary policy, i.e., the increase in risk taking by banks when interest rates are ultra-low in an attempt to compensate for a reduction in profits caused by significantly lower spreads between lending and deposit rates. The study finds that in normal times, a monetary contraction reduces systemic risk. However, during the QE period of ultra-low interest rates—which the study denotes as the ZLB (zero lower bound) period—the relationship is reversed, and expansionary monetary shocks lead to a decrease in the risk level. It also finds that cross-country spillovers play an important role in the transmission of monetary policy shocks, accounting for more than 17% of the systemic risk and 13% of GDP responses' variation. There are also significant asymmetries amongst countries, with core economies benefiting the most in terms of growth and financial stability.

This heterogeneity in the response by different EZ member states to monetary policy transmission and shocks provides further confirmation that the EZ is not an OCA.

#### 9.11. Target2 Is Helping to Bail out Uncompetitive Economies and Delay the Necessary Equilibrating Adjustments to the Real Economies of Underperforming Eurozone Members

Finally, and most significantly, Target2 is papering over the cracks of a much more fundamental problem, namely, it is helping to bail out, in the words of Tyler Durden (2012), ‘uncompetitive econom[ies] with too high prices [since they cannot use devaluation to make themselves competitive]. Thanks to this bailout mechanism, [these countries do] not have to deregulate labour markets, and reduce government spending to adjust prices relatively, but can continue [their] spending spree and maintain [their] uncompetitive internal structure’.<sup>271</sup>

Fahrholz and Freytag (2011, p. 15) argue that ‘The Target2-system impedes economic recovery within the EMU. Hard budget constraints are a key to kick-start structural reforms in some EMU-member countries. However, the Target2-system is not only aggravating real misalignments but also softening budget constraints. . . .The European settlement system is not only a monetary issue but of *real* concern for the survival of the euro area’.<sup>272</sup>

Abad et al. (2013, p. 58) put it this way: ‘The European debt crisis was caused by divergent intra-European fiscal policy stances and an expansionary monetary policy which have contributed to rising intra-EMU current and financial account imbalances and diverging crisis-prone international liability positions. The repatriation of German private credit and the deposit flight from the crisis countries have been matched by the rising Target2 deficit positions of the European crisis countries. The Target2 system has buffered the destabilising impact of the deposit flight and has further helped to prevent a full-scale banking and financial crisis in the debtor and, possibly, the creditor countries. The downside is that the Target2 payment system helps to postpone the necessary adjustment of fiscal balances and unit labour costs, which would reduce current account imbalances in the euro area to a sustainable level’.<sup>273</sup>

Erlor and Hohberger (2016, p. 503) add that ‘Target2 balances have been substituted for the missing private capital flows between EMU countries. Thus, the Target2 balances can be considered non-market-based subsidies. In particular, they help current account deficit economies to receive the necessary capital imports, which financial markets no longer offer to these countries. As long as these capital flows are non-market-based, they no longer reflect the decision-making process of private agents and will, therefore, lead to an inefficient capital allocation. Accordingly, this development will result in high economic costs, which mainly have to be paid by economies with positive Target2 balances, such as Germany’.

Furthermore, according to Barredo-Zuriarrain et al. (2017, p. 391):

*Far from encouraging economic convergence, the monetary integration process has increased the productive, trade, and financial imbalances among the Eurozone’s member countries. The division of labour inside the European Monetary Union was further polarised between core economies, specialising in high value-added goods, and the peripheral ones, specialising in middle-low value-added goods. Furthermore, the adoption of a single currency led to the worsening of external account balances. In this sense, the progressive trade deficits experienced by the peripheral countries were financed by the massive financial funds of the core countries. These imbalances are the key element in the sovereign debt crisis that the peripheral countries are facing today [i.e., in 2017]. The austerity policies applied have placed responsibility on these countries. However, these policies have only worsened the problem. Any attempt to solve this situation should, first, try to correct productive imbalances, keeping in mind that the weight of the adjustment should be shared by both debtor and creditor countries*<sup>274</sup>

—which is in line with the Keynes Plan.

In other words, Mundell's fourth criterion is being used to compensate for the failure of the second and third criteria to operate effectively—as driving forces of economic efficiency—in the EZ.

Supporters of the euro will continue to argue that Target2 is performing a useful and temporary role until the conditions for a fully endogenous OCA emerge and the peripheral states have become as efficient as a core state, such as Germany. However, those at the heart of the euro project have come round to accepting that the emperor has no clothes. In late 2011, Jürgen Stark recanted and resigned from the Executive Board, along with former Bundesbank head Axel Weber, recognising that the ECB had taken on 'a new role: to fall into panic. It gave in to outside pressure . . . Together with other central banks, the ECB is flooding the market, posing the question not only about how the ECB will get its money back, but also how the excess liquidity created can be absorbed globally'.<sup>275</sup>

Similarly, Otmar Issing, the first chief economist of the ECB when it was created in 1998 and one of the founding fathers of monetary union, admits that the ECB is becoming dangerously over-extended and that the whole euro project is unworkable in its current form:

*One day, the house of cards will collapse. The euro has been betrayed by politics, the experiment went wrong from the beginning and has since degenerated into a fiscal free-for-all that once again masks the festering pathologies. Realistically, it will be a case of muddling through, struggling from one crisis to the next. It is difficult to forecast how long this will continue for, but it cannot go on endlessly. . . The Stability and Growth Pact has more or less failed. The moral hazard is overwhelming. Market discipline is done away with by ECB interventions. There is no fiscal control mechanism from markets or politics. This has all the elements to bring disaster for monetary union. The no-bailout clause is violated every day and the European Court's approval for bailout measures is simple-minded and ideological. . . The ECB has crossed the Rubicon and is now in an untenable position, trying to reconcile conflicting roles as banking regulator, Troika enforcer in rescue missions and agent of monetary policy. Its own financial integrity is increasingly in jeopardy.*

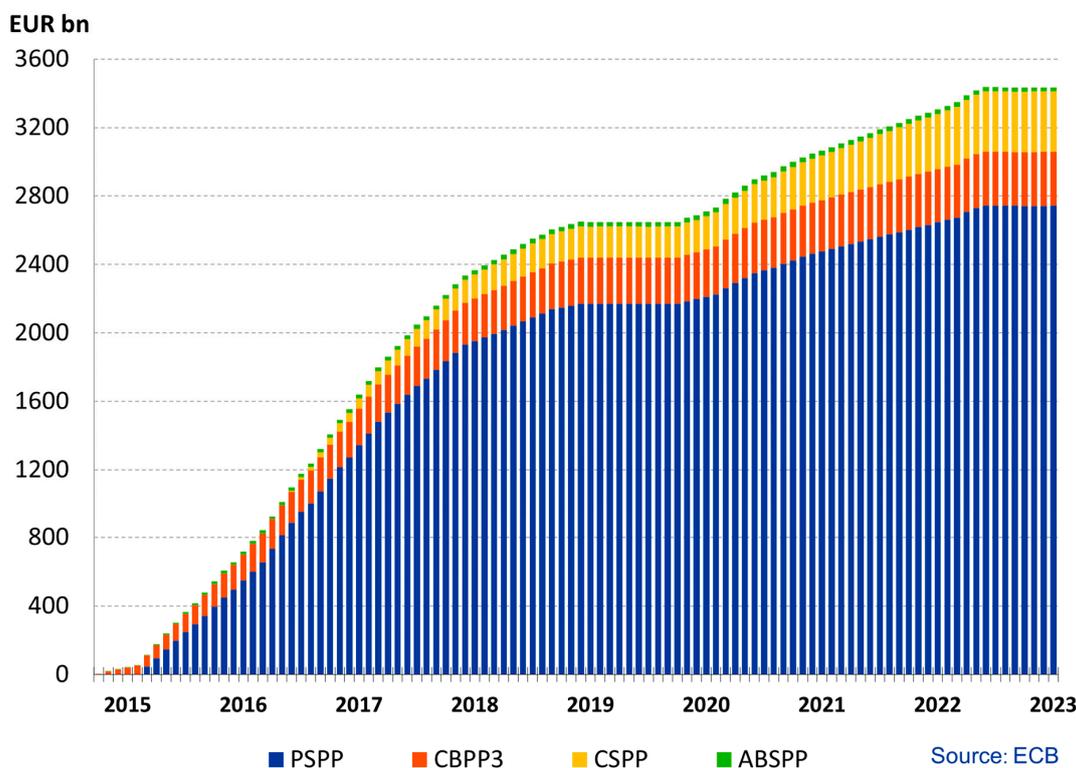
*The venture began to go off the rails immediately, though the structural damage was disguised by the financial boom. There was no speed-up of convergence after 1999—rather, the opposite. From day one, quite a number of countries started working in the wrong direction. A string of states let rip with wage rises, brushing aside warnings that this would prove fatal in an irrevocable currency union. During the first eight years, unit labour costs in Portugal rose by 30% versus Germany. In the past, the escudo would have devalued by 30%, and things more or less would be back to where they were. Quite a few countries—including Ireland, Italy and Greece—behaved as though they could still devalue their currencies. The elemental problem is that once a high-debt state has lost 30% in competitiveness within a fixed exchange system, it is almost impossible to claw back the ground in the sort of deflationary world we face today. It has become a trap. The whole Eurozone structure has acquired a contractionary bias. The deflation is now self-fulfilling. The first Greek rescue in 2010 was little more than a bailout for German and French banks. It would have been far better to eject Greece from the euro as a salutary lesson for all. The Greeks should have been offered generous support, but only after [they] had restored exchange rate viability by returning to the drachma. [The fear was a chain-reaction reaching Spain and Italy, detonating an uncontrollable financial collapse. This nearly happened on two occasions, and remained a risk until Berlin switched tack and agreed to let the ECB shore up the Spanish and Italian debt markets in 2012.]*

*Cloaking it all is obfuscation, political mendacity and endemic denial. Leaders of the heavily indebted states have misled their voters with soothing bromides, falsely suggesting that some form of fiscal union or debt mutualisation is just around the corner. Yet there is no chance of political union or the creation of an EU treasury in the foreseeable future, which would in any case require a sweeping change to the German constitution—an*

*impossible proposition in the current political climate. The European project must therefore function as a union of sovereign states, or fail.*<sup>276</sup>

### 10. The Eurozone’s Quantitative Easing Programme and Its Reversal

The ECB’s QE programme began very late in the day in March 2015, well after the GFC and the peak of the EZ sovereign debt crisis (2012). The first phase ended on 13 December 2018, with Mario Draghi, then president of the ECB, stating that for some of the previous four years, QE had been ‘the only driver of this recovery’ since the financial and sovereign debt crises.<sup>277</sup> However, it ended much sooner than was originally anticipated—in part because of the way Target2 was set up using capital keys. The second phase was introduced in 2020 in response to the COVID-19 pandemic and presented a different set of problems; it ended in July 2022. Further problems have been introduced by the third winding down phase of QE, not least of which is the war in Ukraine, which delayed the introduction of the fourth phase, namely, the reverse or quantitative tightening (QT) phase, by about a year. There is also the question of whether the QE programme is legal under EU law. Figure 32 shows the scale of the ECB’s QE programme, which amounted to EUR 3.434 trn as of January 2023.<sup>278</sup> Box 1 attempts to quantify the scale of the EZ’s debt problems. The QT phase is making visible the debts that Target2 has been trying to conceal. The European Commission wishes to mutualise these debts. Germany is opposed to this, although its resolve has been weakening under its current political leadership. More significantly, the German economic engine—responsible for the German ‘economic miracle’ both in the years following the Second World War and during the first two decades of the 21st Century as a result of the introduction of an undervalued euro—is faltering. These issues are discussed further below.



**Figure 32.** ECB Asset Purchase Programmes (EUR bn), January 2015–January 2023. Source: ECB Asset Purchase Programmes; <https://www.ecb.europa.eu/mopo/implement/app/html/index.en.html> (accessed on 20 February 2023). Note: PSPP—Public Sector Purchase Programme, CBPP3—Third Covered Bond Purchase Programme (CBPP3), CSPP—Corporate Sector Purchase Programme, and ABSPP—Asset-Backed Securities Purchase Programme (ABSPP). The data are cumulative.

**Box 1.** Quantifying the scale of the Eurozone's debt problems.

It is impossible to provide a single figure to quantify the scale of the whole problem. We can however provide estimates of the size of two key problems with the Eurozone: the size of Eurozone member state national debts and the size of non-performing loans in Eurozone banks.

Take as examples Italy and Spain, which have the highest liabilities in the Eurosystem. Their official national debts are 133% and 98% of their GDP, respectively. However, we estimate that the actual national debt-to-GDP ratios of Italy and Spain could be as high as 167% and 138%, respectively, which is significantly greater than would normally be expected, given their BBB and A credit ratings.

This is because their share of debts in the European Investment Bank (EIB) amounts to 4–5% of their GDP, while the costs of the ECB's QE programme adds another 3%. The Target2 euro payment system adds either nothing (if the debts are secured on existing public sector bonds) or up to 25–32% of GDP (if the debts are unsecured or are secured on non-public sector bonds). So the volume of extra public sector debt is in the range of 8–40% of GDP for these countries—and this excludes all contingent liabilities.

A key problem is that official Eurostat statistics, which are used as the common reference point for assessing EU member state debt, do not provide a full picture of this debt. They omit the direct debts of public sector entities like transportation, power and water utilities, and the indirect debts of these entities through the EIB. They omit the extra public indebtedness caused by the QE programme and by the unsettled balances in Target2.

They also omit all contingent liabilities, especially those of the highest EU-level institutions, including the EU itself, the ECB, the European Stability Mechanism, and the EIB—all of which have low loss-absorption capacity of their own. They omit the liability of member state governments through their national bank deposit guarantee schemes, which are unfunded, and the liability of the Italian and Cypriot governments for the guarantees they have issued in connection with the securitisation of their banks' non-performing loans.

Accordingly, the risk of default on these debts is much higher than generally realised, first because the debts are higher, and secondly because the Eurozone sovereigns—which are ultimately liable for the debts of both EU-level institutions and public sector entities, as well as the contingent liabilities—are not genuine sovereigns, having surrendered many of the instruments of financial sovereignty to the EU-level institutions. In particular, they cannot ask their NCBs to print money to pay back their debts in a way that genuine sovereign countries can. Because the debt is greater and the risk of default is higher, the loss-absorption capacity within the Eurosystem is correspondingly lower than it appears.

The second issue is the size of NPLs. The official ECB estimate is €580 bn (or 3.8% of bank total loans). NPLs are very high in the southern states of the Eurozone. Italy has a quarter of the Eurozone's NPLs and they are in excess of 40% of total loans in both Cyprus and Greece.

But official estimates exclude the NPLs which have been hidden off-balance-sheet through securitisations and which the ECB treats as being reversed out of NPL status through 'restructurings' and 'forbearance'.<sup>279</sup> In reality, these loans can be categorised as 'zombie' loans liable to fall back into NPL status at any time. Further, we argue that the 3.8% figure represents a potentially insufficient write-down on the face value of the loans that sit in NPL status, and Eurozone banks are using over-optimistic risk-weighted assets methodologies on all of their business lines.<sup>280</sup>

The Eurozone banking system is currently able to meet its liabilities as they fall due only because of the ECB's QE programme of €2.9 trn and the Eurosystem's 'hidden' lending to banks of €3.1 trn, totalling €6 trn of monetary support from the European authorities.

In total, the Eurosystem owns or controls as collateral an amount that equates to 64% of the 'General government gross debt' of the 20 Eurozone countries.

Source: Reynolds et al. (2020, p. 17). Note: Data and estimates are for 2019

**10.1.** The ECB's Own Capital Keys Prevented the Full Implementation of the First Phase of QE

Writing in 2017, Yanis Varoufakis, the former Greek finance minister, was one of the first commentators to recognise that Draghi would have to halt QE asset purchases:

*because of a shortage of German Bunds. Remember how European quantitative easing works: to buy any amount of Italian bonds, Draghi has to buy twice as many Bunds.<sup>281</sup> That is the only way the ECB could pull off QE 'euro-style'. In other words, the only way of convincing German Chancellor Angela Merkel and Bundesbank chairman Jens Weidmann to allow the ECB to do QE was that it purchased government debt in proportion to GDP or to ECB shareholding by member states.<sup>282</sup> Same thing. Now, the problem is that Bunds*

*are running out because German finance minister Dr Wolfgang Schäuble is not issuing them—he is running a surplus. German financial institutions have an obligation to retain the Bunds they have. So you have excess demand for Bunds. This is creating problems for the smaller banks in Germany and the pension funds. And that is pushing Draghi into tapering already, and why the ECB's programme of QE is going to be withdrawn very soon.*<sup>283</sup>

Also in 2017, analysis by the Official Monetary and Financial Institutions Forum (OM-FIF), while accepting Varoufakis's assessment about the ECB's QE programme, discovered that the rules mentioned by Varoufakis had not actually been followed:

*Figures for July [see Figure 33] show that, for the fourth month in a row, German bonds bought under the European Central Bank's public sector purchase [i.e., QE] programme (PSPP) fell short of the amount allowed by the 'capital key' allocation. Other countries have also seen significant deviations from the capital key, under which bonds are bought in proportion to the share of the ECB capital provided by each country. This figure is determined by the size of GDP and population, and is adjusted slightly to reflect the ineligibility of Greek bonds given their low credit rating.*<sup>284</sup>

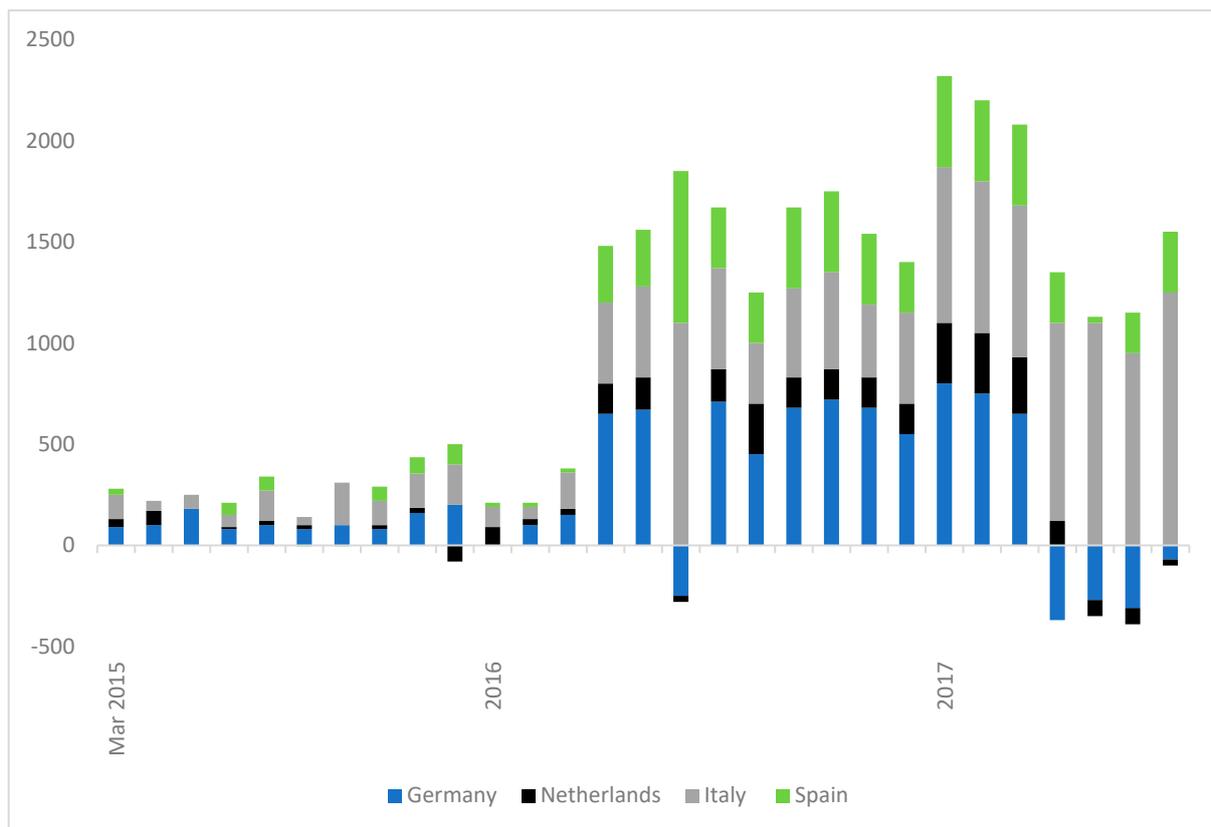
*Since April, the ECB has bought an additional €4.2 bn of Italian bonds and €809 m of Spanish bonds, against an under-purchase of €1.09 bn for Germany and (since May) €172 m for the Netherlands. The divergence suggests growing difficulties with the ECB's quantitative easing programme and has reignited speculation about a tapering of bond purchases.*

*These figures mark a significant break from the pattern that existed for the two years from the start of the PSPP in March 2015 until March 2017. During that period the ECB over-purchased German and Dutch bonds by a total of €8.3 bn and €2.3 bn respectively. Italian and Spanish bonds were also over-purchased to compensate for the scarcity of bonds in smaller euro area countries, including Cyprus, Estonia and Portugal. However, the scale of Italian and Spanish bond over-purchasing has increased rapidly this year. Since January the ECB has overshot Italy's adjusted capital key by an average of €920 m per month and Spanish bonds by €311 m per month. This compares with €264 m and €181 m respectively each month from the start of the PSPP to the end of 2016. In July, the over-purchase of Italian bonds reached more than €1.2 bn, the highest monthly figure to date.*

*Mario Draghi, president of the ECB, reiterated in late June that the bank remains committed to QE through bond purchases. But the longer QE goes on, the greater the demand will be for bonds in core countries. In the coming months, the amount of eligible bonds could begin to face significant strains. To avoid a sudden fall in the amount of German bonds available, or a politically toxic redistribution of the capital key to allow higher allocations to bonds from southern countries, Germany is scaling back the rate at which its own bonds are purchased.*

*...As the ECB remains committed to doing 'whatever it takes' to return the euro area to stability and growth, new tools could be needed as the potential limits of QE edge ever closer.*<sup>285</sup>

In October 2017, the ECB announced that it would cut its QE programme back from EUR 60 bn<sup>286</sup> to EUR 30 bn a month of bond purchases starting in January 2018, but the scheme would be extended until September 2018 or longer if needed.<sup>287</sup> Mario Draghi said nothing about the shortages of German Bunds: 'The recalibration in our asset purchases reflects growing confidence in the gradual convergence of inflation rates towards our inflation aim on account of the increasingly robust and broad based economic expansion. We did not discuss composition and how the asset purchase programme will evolve; however, we will continue to buy sizeable quantities of corporate bonds'.<sup>288</sup> German lawyer, Gunnar Beck, has described this new strategy as little better than 'hoovering up junk'.<sup>289</sup>



**Figure 33.** ECB under-purchasing German bonds and over-purchasing Italian and Spanish bonds—Public Sector Purchase Programme, monthly deviation from adjusted capital key (EUR m), May 2015–July 2017. Source: European Central Bank, OMFIF analysis.

The cutback in QE was needed for another reason, namely, the serious overheating of the German economy, which grew at an annualised rate of 3.2% in the fourth quarter of 2017 and was experiencing capacity constraints in the form of equipment and labour shortages, as well as a real estate bubble in its largest cities. Professor Clemens Fuest, president of the Ifo Institute in Munich, said: ‘It is clear that monetary policy is too expansionary for Germany. . . We think the ECB should be cutting asset purchases to zero by April [2018, six months sooner than planned]’.<sup>290</sup>

So, once again, we have evidence that the single interest rate set by the ECB in the EZ was not suitable for any of its economies. While the peripheral economies were still coming out of a recession—and hence needed a low rate of interest—core economies, such as Germany, were booming—and hence needed a much higher rate to dampen the boom. The EZ economies grew at an annualised rate of 2.7% in the fourth quarter of 2017 and unemployment fell to 7.3%, but this was largely due to QE. The gradual withdrawal of QE, combined with a stronger euro and uncertainty about the trade tension between the US and China, reduced EZ economic growth to just 1.6% in the first quarter of 2018.<sup>291</sup>

### 10.2. The Second Phase of QE in Response to the COVID-19 Pandemic Is Perpetuating a Real Estate Bubble

Yanis Varoufakis claims that the second phase of QE—the EUR 1.85 trn Pandemic Emergency Purchase Programme and, in particular, the EUR 800 bn NextGenerationEU Pandemic Recovery Programme—was perpetuating a real estate bubble in addition to being a ‘wasted crisis’ for not moving the EU closer to fiscal union.<sup>292</sup>

...in its [November 2021] Financial Stability Review,<sup>293</sup> the European Central Bank issued an angst-ridden warning: Europe is facing a self-perpetuating debt-fueled real estate bubble. What makes the report noteworthy is that the ECB knows who is causing

*the bubble: the ECB itself, through its policy of quantitative easing—a polite term for creating money on behalf of financiers. It is akin to your doctors alerting you that the medicine they have prescribed may be killing you.*

*The scariest part is that it is not the ECB's fault. The official excuse for QE is that once interest rates had fallen below zero, there was no other way to counter the deflation menacing Europe. But the hidden purpose of QE was to roll over the unsustainable debt of large loss-making corporations and, even more so, of key Eurozone member states (like Italy).*

*Once Europe's political leaders chose, at the beginning of the euro crisis a decade ago, to remain in denial about massive unsustainable debts, they were bound to throw this hot potato into the central bank's lap. Ever since, the ECB has pursued a strategy best described as perpetual bankruptcy concealment.*

*Weeks after the pandemic hit, French president Emmanuel Macron and eight other Eurozone heads of government called for debt restructuring via a proper Eurobond. In essence, they proposed that, given the pandemic's appetite for new debt, a sizeable chunk of the mounting burden that our states cannot bear (unassisted by the ECB) be shifted onto the broader, debt-free, shoulders of the EU. Not only would this be a first step toward political union and increased pan-European investment, but it would also liberate the ECB from having to roll over a mountain of debt that EU member states can never repay.*

*Alas, it was not to be. German Chancellor Angela Merkel summarily killed the idea, offering instead a Recovery and Resilience Facility,<sup>294</sup> which is a terrible substitute. Not only is it macroeconomically insignificant; it also makes the prospect of a federal Europe even less appealing to poorer Dutch and German voters (by indebting them so that the oligarchs of Italy and Greece can receive large grants). And, despite an element of common borrowing, the recovery fund is designed to do nothing to restructure the unpayable debts that the ECB has been rolling over and over—and which the pandemic has multiplied.*

*So, the ECB's exercise in perpetual bankruptcy concealment continues, despite its functionaries' twin fears: being held to account for the dangerous debt-fueled bubble they are inflating, and losing their official rationale for QE as inflation stabilises above their formal target.*

Varoufakis is, of course, correct that fiscal union is the only long-term sustainable way out of the EZ crisis, so he is, therefore, right to describe the recovery programme as a 'wasted crisis' for not moving the EU closer to fiscal union. However, the idea that the EU has 'broad, debt-free, shoulders' is demonstrably false, as the evidence presented earlier makes abundantly clear.<sup>295</sup>

In the meantime, Italy is receiving EUR 200 bn in funding from the Pandemic Recovery Programme, which is equivalent to 2.5% of its GDP p.a. for five years. The programme requires very strict conditionalities in terms of competitiveness and efficiency reforms. Draghi planned to reduce the bloated public sector, invest in technology, and dismantle barriers to business as part of a national recovery and resilience plan. This was anticipated to induce a permanent increase in growth, which would, in turn, lead to a steady reduction in the debt-to-GDP ratio. European Commission president Ursula von der Leyen said 'it is the largest recovery package in EU history and Italy is receiving the largest share. We are putting our Union's strength at the service of Italy's recovery'. But the reality is that the EU's recovery fund is, as Thomas Fazi puts it, 'all about increasing Brussels's control over the budgetary policies of member states and strengthening the EU's regime of technocratic and authoritarian control'.<sup>296</sup>

The combined effect of different countries' pandemic recovery programmes was to induce not just an asset bubble but also inflation well above target levels. This was exacerbated by the war in Ukraine—which increased global food and energy prices. The disruptions in the supply of Russian gas going to Europe—due to a combination of sanctions and cuts in supplies by Russia—pushed the EU into recession, especially in those states

most heavily dependent on Russian gas, such as Italy, which bought 46% of its gas from Russia before the invasion.<sup>297</sup>

### 10.3. The Third Phase of QE—Winding Down, except in the Case of Italy

In July 2022, the ECB began winding down the QE programme by ending the purchase of bonds under the PEPP<sup>298</sup>—which was EUR 132 bn short of the planned EUR 1.85 trn—in response to an increase in inflation. The ECB said: ‘The Russian invasion of Ukraine is a watershed for Europe. . . . [We will] take whatever action is needed . . . to pursue price stability and to safeguard financial stability’.<sup>299</sup>

The Bank of England was the first central bank to announce the end of its QE programme. It did so in December 2021.<sup>300</sup> It also raised the Bank’s own interest rate (Bank Rate) from 0.1% to 0.25% in December 2021, with further increases during 2022 and 2023 that took it above 5%.<sup>301</sup> The Bank acted because UK inflation had risen to 5.4%, which was well above the target rate of 2%, and reached a peak of 11.1% in October 2022.<sup>302</sup> In November 2022, it initiated a formal QT programme of selling the bond holdings it had built up, namely, GBP 875 bn of UK government bonds and GBP 20 bn of UK corporate bonds acquired between March 2009 and December 2021.<sup>303</sup>

The US Federal Reserve Bank was the first central bank to actually begin a QT programme. In June 2022, it started to reduce its bond holdings by USD 95 bn a month. On 4 May 2022, the benchmark Federal Funds Rate was increased by 50 basis points to a range of 0.75–1%,<sup>304</sup> and was further increased gradually to exceed 5% in 2023.<sup>305</sup> The Fed acted because the QE programme it introduced in response to COVID-19—together with reduced manufacturing imports from and other supply chain disruptions in China due to COVID-19-related lockdowns—had increased the US inflation rate to 10.1% in June 2022, the highest rate in 40 years.<sup>306</sup>

The EU faced additional inflation in the form both of surging energy prices arising from the reduction in oil and gas supplies from Russia<sup>307</sup> and of rising food prices caused by a reduction in exports of key foods such as wheat and sunflower oil from Ukraine. Furthermore, a shortage of key supplies, such as microchips and equipment, had reduced industrial production, especially in Germany.<sup>308</sup> The German inflation rate peaked at 11.6% in October 2022,<sup>309</sup> which was driven by 41.9% and 13.1% increases in energy and food prices, respectively.<sup>310</sup> EZ inflation peaked at 10.6% also in October 2022.

In July 2022, the ECB raised three key interest rates by 50 basis points to 0.50%, 0.75%, and 0.00%, respectively, on main refinancing operations,<sup>311</sup> the marginal lending facility,<sup>312</sup> and the deposit facility.<sup>313</sup> The ECB said it ‘stands ready to adjust all of its instruments within its mandate to ensure that inflation stabilises at its 2% target over the medium term. . . . [and that] further normalisation of interest rates will be appropriate’.<sup>314</sup> In September, the ECB raised the three interest rates by 75 basis points to 1.25%, 1.5%, and 0.75%.<sup>315</sup> ECB president Christine Lagarde said that EZ inflation (9.1% in August) was ‘far too high’ and likely to remain above the bank’s 2% target for at least two years and also predicted a ‘substantial slowdown in euro area economic growth’. There were further increases during 2022 and 2023 year to reach 4.50%, 4.75%, and 4.00% in September 2023—the highest rates since 2009.<sup>316</sup> The ECB said: ‘Keeping interest rates at restrictive levels will over time reduce inflation by dampening demand and will also guard against the risk of a persistent upward shift in inflation expectations’.<sup>317</sup> Market participants anticipated that ‘we are closer to the peak for interest rates’.<sup>318</sup>

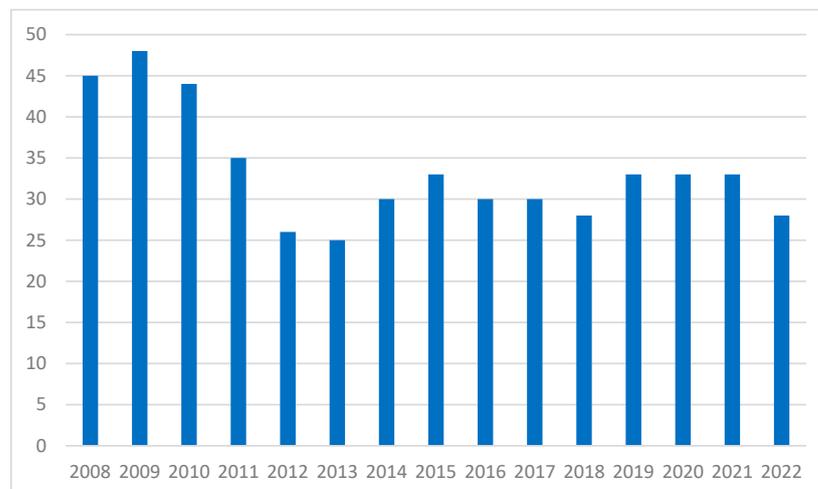
In May 2022, the ECB’s chief economist had warned that the ECB would increase interest rates in July and September.<sup>319</sup> This warning alone was sufficient for investors to execute the largest sell-off of European corporate bonds in 20 years, concerned that this could tip the EZ economy into a full-scale recession and reduce the ability of EZ companies to service their debts. The spread on high-yield bonds increased to 515 basis points from 331 basis points since the start of 2022.<sup>320</sup>

EZ government bonds also responded, with Germany’s 10-year government bond (Bund) yield—the benchmark for the EZ bond markets—rising above 1% for the first time since 2015 and Italy’s 10-year yield spread over Germany’s—a barometer of political and economic risks in the EZ—rising above 200 basis points, the widest spread since the start of the pandemic—see Figure 34.<sup>321</sup> Asset swap spreads over Bunds—which provide a measure of bank credit risk since banks are the main counterparties in asset swaps—were at 90 basis points, their highest levels since the GFC and the European sovereign debt crisis.<sup>322</sup> The ECB was nervous about the impact of tighter monetary policies on spreads in the EZ and particularly Italy, according to commentators.<sup>323</sup>



**Figure 34.** Italy–Germany 10-year government bond yield spread (basis points), April 2007–March 2023. Source: <http://www.worldgovernmentbonds.com/spread/italy-10-years-vs-germany-10-years/> (accessed on 12 May 2023).

Mario Draghi admitted that ‘The spreads have been rising in a lot of European countries. This does not disguise the fact that we’re starting from a higher base, and from a public debt stock that is much higher’. In May 2022, Italy’s official public debt was 151% of its GDP,<sup>324</sup> and the ECB’s QE programme purchased EUR 722 bn of Italian public debt, amounting to around 40% of Italy’s GDP. Italy needed to redeem and hence refinance EUR 200 bn government bonds in 2022 and EUR 305 bn in 2023.<sup>325</sup> With QE about to end, the question being asked was who will buy Italian government bonds. Figure 35 shows that foreign investors have been disinvesting from Italy since 2009.



**Figure 35.** Share of Italian public debt held by foreign investors (%), 2008–2022. Sources: 1. [https://www.bancaditalia.it/pubblicazioni/finanza-pubblica/2022-finanza-pubblica/en\\_statistiche\\_FPI\\_20220215.pdf](https://www.bancaditalia.it/pubblicazioni/finanza-pubblica/2022-finanza-pubblica/en_statistiche_FPI_20220215.pdf) (accessed on 10 January 2023). 2. <https://scoperatings.com/ratings-and-research/research/EN/173351> (accessed on 26 August 2023).

In July 2022, the ECB approved the introduction of a new instrument called the Transmission Protection Instrument (TPI),<sup>326</sup> which:<sup>327</sup>

*can be activated to counter unwarranted, disorderly market dynamics [namely a severe widening of the spread between the yields on member state government bonds] that pose a serious threat to the transmission of monetary policy across the euro area. By safeguarding the transmission mechanism, the TPI will allow the [ECB] to more effectively deliver on its price stability mandate.*

*Subject to fulfilling established criteria, the Eurosystem will be able to make secondary market purchases of securities issued in jurisdictions experiencing a deterioration in financing conditions not warranted by country-specific fundamentals, to counter risks to the transmission mechanism to the extent necessary. The scale of TPI purchases would depend on the severity of the risks facing monetary policy transmission. Purchases are not restricted ex ante.*

*TPI purchases would be focused on public sector securities (marketable debt securities issued by central and regional governments as well as agencies, as defined by the ECB) with a remaining maturity of between one and ten years. Purchases of private sector securities could be considered, if appropriate.*

*... [The established] criteria include: (1) compliance with the EU fiscal framework:<sup>328</sup> not being subject to an excessive deficit procedure (EDP), or not being assessed as having failed to take effective action in response to an EU Council recommendation under Article 126(7) of the Treaty on the Functioning of the European Union (TFEU); (2) absence of severe macroeconomic imbalances: not being subject to an excessive imbalance procedure (EIP) or not being assessed as having failed to take the recommended corrective action related to an EU Council recommendation under Article 121(4) TFEU; (3) fiscal sustainability: in ascertaining that the trajectory of public debt is sustainable, the [ECB] will take into account, where available, the debt sustainability analyses by the European Commission, the European Stability Mechanism, the International Monetary Fund and other institutions, together with the ECB's internal analysis;<sup>329</sup> (4) sound and sustainable macroeconomic policies: complying with the commitments submitted in the recovery and resilience plans for the Recovery and Resilience Facility (RRF)<sup>330</sup> and with the European Commission's country-specific recommendations in the fiscal sphere under the European Semester.*

*... Purchases would be terminated either upon a durable improvement in transmission, or based on an assessment that persistent tensions are due to country fundamentals.*

The ECB also said that 'PEPP reinvestment flexibility will continue to be the first line of defence to counter risks to the transmission mechanism related to the pandemic', allowing it to continue buying Italian government bonds using the proceeds from maturing bonds.

The clear implication of these measures is that the TPI is primarily intended for the purchase of Italian government bonds and that the ECB will end up holding most of Italy's national debt over time, which is in clear violation of the capital keys. The measures are also likely to violate the Lisbon Treaty's no-bail clause and could be challenged in the German Constitutional Court. The Ifo Institute's Clemens Fuest argued that the idea that these mechanisms are merely about the effective transmission of monetary policy is simply not plausible, but instead amount to a fiscal transfer: 'We'll be back where we started with the ECB once again before the Constitutional Court'.<sup>331</sup> Joachim Nagel, Bundesbank president, warned that the ECB would have to put sufficient safeguards in place to avoid straying into the 'monetary financing' of government deficits and claimed that it will be 'virtually impossible' to decide when a divergence in borrowing costs between EZ members justifies the activation of the TPI.<sup>332</sup> Jens Weidmann, the previous Bundesbank president, went further and said that 'The TPI puts the ECB in the near-impossible situation of deciding when a country's bond yields are justified or not. It means the ECB must have an opinion

on the outcome of elections and political processes, and assess likely policy decisions with a view to growth and policy finances'.<sup>333</sup>

Ambrose Evans-Pritchard (2022a) went even further:<sup>334</sup>

*It is politically impossible to keep mopping up Italy's debt issuance under the guise of monetary policy. The euro's crash to dollar parity has been the last straw. The Bundesbank has lost patience. The ECB is in the worst internal disarray since the depths of the Eurozone debt crisis. Hawks and doves are contradicting each other daily on fundamental strategy. Markets have no idea how the new 'anti-spread' tool (TPI) to protect Italy is supposed to work, or whether it is legal outside an emergency. 'It is a complete shambles. Christine Lagarde has lost control and is not showing any leadership', said one source close to the Bundesbank.*

*. . . Isabel Schnabel, Germany's [former] member of the [ECB Governing] Council, . . . said 'Our currencies are stable because people trust that we will preserve their purchasing power. Failing to honour this trust may carry large political costs. . . History is full of examples of high and persistent inflation causing social unrest. Sudden and large losses in purchasing power can test even stable democracies. . . Determined action is needed to break these perceptions. . . [The ECB] must engineer a recession now to avoid something worse later'. This is the voice of the old Bundesbank.*

*It was an explicit warning that the ECB would no longer set policy to cap the bond yields of vulnerable states. Hedge funds could hardly receive a clearer invitation to revive the 'short Italy' trade.*

*'We've been short since the beginning of the year. It seemed like Italy's problems had gone away, but that was only because the ECB was buying more than 100 pc of net debt supply. They can't keep doing that now', said Mark Dowding from BlueBay Asset Management.*

*The International Monetary Fund said in its latest 'Article IV' report that foreigners have pulled a net €70 bn out of Italy over the last six months. It warned of a 'vicious cycle between the sovereign and banks' as yields rise on Italian debt.*

*The risk is more concentrated than a decade ago, since QE actively encouraged Italian banks to play the carry trade and acquire even more Italian sovereign debt. The infamous doom-loop of 2011–2012 is alive and well. The Eurozone Banking Union that was supposed to eliminate this uniquely European disorder never happened.*

*. . . The IMF described a possible chain-reaction where rising yields cause losses for banks, which then tighten loans, causing a credit crunch, which in turn leads to a deeper downturn in a pernicious spiral.*

*. . . Italy has emerged from the pandemic with a debt burden of 150% of GDP, 15 points higher than pre-Covid and nearing the point of no return for a sub-sovereign borrower unable to control its own currency. It has further liabilities to the ECB's Target2 payments nexus near 30% GDP.*

*. . . Italy's core problem is the toxic mix of high public debt intersecting with a trend growth rate near zero. One shocking detail in the IMF's report is that total factor productivity has fallen by 13.5% since 2000.*

*Mr Draghi has not had time to drive through the radical reforms needed to rescue Italy from this bad equilibrium. His planned shake up of the pension and tax systems has stalled.*

*. . . 'The ECB can't give Rome a blank cheque, and it can't keep pushing the envelope on monetary financing of debt', said BlueBay's Mr Dowding.*

*For now, the ECB is skewing redemptions of its bond portfolio away from Bunds and into Italian bonds, and on an eye-watering scale. This has technical limits and is a clear violation of the Maastricht Treaty's no bail-out clause the longer it goes on.*

*The TPI was unveiled in early July but the details have yet to be ironed out. Nothing has yet appeared in the Journal Officiel and the instrument is not legally valid until it does so.*

*David Marsh, head of the Official Monetary and Financial Institutions Forum, said there are unresolved questions over who bears the financial risk of TPI interventions. It is unclear whether the tool constitutes a fiscal risk and therefore breaches the budgetary sovereignty of the German Bundestag, and whether it is compatible with past rulings by the German Constitutional Court.*

*'The TPI can be activated only if there is contagion and a whole lot of countries are under pressure', said Peter Schaffrik from RBC Capital. 'If push comes to shove, the ECB will be there to buy Italian debt. But could the spreads go to 300 first? Yes they could'.*

*...The real danger for Italy is that it might be asphyxiated slowly by untenable borrowing costs that stay high and that expose the underlying pathologies of the economy over time, until something snaps.*

There is actually another option for Italy, which was designed when Draghi was head of the ECB: a rescue package involving loans from the European Stability Mechanism and the EU bail-out fund, combined with bond purchases made by the ECB as a supporting measure. The conditions for the loan would be severe—as Greece knows all too well—and would require the approval of all member state parliaments. As one commentator noted: 'Italian political risk is back on the table, just as the ECB debt shield disappears'.<sup>335</sup>

Even a modest increase in interest rates would severely increase the difficulties of financing and refinancing Italy's national debt: 'The global economy has never been so sensitive to the slightest change in borrowing costs. The Institute of International Finance says global debt has reached 348% of GDP since the pandemic. It was 269% at the peak of the last debt bubble in 2007. ... The perennial locus of trouble is Europe's half-built monetary union, where the bond-buying spree of the European Central Bank has mopped up Club Med (and French) debt issuance as if there was no tomorrow, and tomorrow has now arrived'.<sup>336</sup>

However, it is not just Italy that has problems. So does France. Emmanuel Macron failed in his promises to reform taxes and labour laws to make the economy more competitive—although, in April 2023, he did raise the retirement age from 62 to 64, despite massive street protests.<sup>337</sup> Agnès Verdier-Molinié, director of the French Research Institute on Public Administration and Politics, says that France is 'the country that taxes the most, that spends the most, and that works the least'. French national debt matched that of Germany in 2007 (64% vs. 65%) but reached 113% in 2022 compared with Germany's 71%. France's debts have grown to be the third largest in the world in absolute terms, behind only the US and Japan.<sup>338</sup> François Villeroy de Galhau, governor of the Banque de France, said: 'It is an illusion to think that our debt has no cost and no limits. We must bring the debt back below the level of 100%. Every 1% rise in interest rates will cost €40 bn a year extra in interest payments'. The spread in French 10-year government bond yields over Germany doubled to 54 basis points in 2022, following the end of the ECB quantitative easing programme.<sup>339</sup> In June 2023, the credit rating agency S&P Global announced that it could lower France's ratings in the next 18 months if the national debt (then at 111%) did not decline, and this would become more likely if there was a prolonged economic slowdown or if France did not adequately curb government spending; it did not downgrade France immediately because it said that France had the 'implicit support' of Germany to meet its liabilities, implying that it believed that Germany would underwrite France's debt and, in effect, implying that EZ national debts are mutualised. France has now joined the club of EZ countries with national debts above 100%, alongside Greece, Italy, Portugal, and Spain.<sup>340</sup>

The energy crisis was soon being used as another opportunity to try and mutualise debt at the EU level. In September 2022, the think tank Bruegel called for a 'grand bargain' on energy across EU member states. This would involve states contributing to common

pools of energy and to ensuring that burdens are more fairly shared among member states via a 'joint European fund' that could, for example, compensate Spain if it allowed Algerian gas to be rerouted through Italy to make it easier to supply central European markets.<sup>341</sup> In the same month, the IMF proposed a new central 'fiscal capacity' in the EU to help fund downturns in member states as well as investments in green energy. All this has raised concerns from the 'frugal' northern member states. They had been prepared to accept common borrowing to finance the EUR 800 bn post-COVID-19 recovery fund on the condition that it was a one-off exercise executed in extreme circumstances. Within a couple of years, they were being asked to consider a new 'joint European fund' in a new set of extreme circumstances.<sup>342</sup>

Bruno Le Maire, the French finance minister, has criticised the EU's 60% limit on national debt as 'obsolete'. He has proposed a 'new economic model' at the EU level, given the need for huge investments in renewable energy to tackle climate change and for more defence spending following the Russian invasion of Ukraine. He claimed that the distinction between 'frugal' northern EU member states, led by Germany, and profligate southern states was no longer relevant. What was important, he said, was the future trajectory of debt reduction as a percentage of GDP. By contrast, Christian Lindner, the German finance minister, called for the EU to become 'tougher, not softer' in reducing national debt.<sup>343</sup>

Undeterred, Le Maire called for a 'stronger and more independent' Europe by proposing a five-point plan for dealing with increasing energy costs, including measures for reducing energy consumption, weakening state aid rule restrictions, and creating new EU-level funding. The plan was immediately supported by EU commissioners Thierry Breton and Paolo Gentiloni, who called for a 'European budgetary response' to the energy crisis.<sup>344</sup>

At around the same time, in October 2022, Germany announced a EUR 200 bn borrowing plan to create a 'protective shield' for its households and businesses against the surge in energy costs using an EU facility—called SURE—designed for the COVID-19 pandemic.<sup>345</sup> This meant that it was not included in official borrowing limits and involved, according to one commentator, a 'fair amount of trickery'; and, according to another, 'Germany has once again chosen to flout the principle of collective EU action and go it alone in a crisis, prompting protests from Italy's Mario Draghi and the wrath of the European Commission'.<sup>346</sup> Thierry Breton, the French commissioner for the EU Single Market, pointed out that not all member states could borrow at this level on the financial markets and that it was important to maintain a level playing field across the EU: 'We need to reflect urgently on how to offer member states—which do not have this fiscal room for manoeuvre—the possibility of supporting their industries and businesses', along the lines of Bruegel's 'grand bargain'. The European Commission responded to the German announcement by opening discussions on a more ambitious EU-wide borrowing plan for dealing with the energy crisis.<sup>347</sup> However, the Dutch finance minister, Sigrid Kaag, questioned the need for this: 'We would be concerned that the immediate default position is yet another instrument. Is this the right answer to the problem we are trying to fix?'

In February 2023, the European Commission announced that it was proposing to finance weapons for Ukraine via its own budget or, in the words of Josep Borrell, the EU high representative for foreign affairs and security policy, to find new ways for involving the Commission to 'do common purchase'. The EU has already established a European Peace Facility Fund, worth EUR 5.5 bn, which has been used to reimburse member states for weapons they supplied to Ukraine.<sup>348</sup> This is despite the fact that Germany is reluctant to become more heavily involved in Ukraine.<sup>349</sup>

In June 2023, the Commission announced that it would review the seven-year Multi-annual Financial Framework (MFF)—the long-term EU budget which runs from 2021 to 2027. The budget was set at EUR 1.07 trn and was increased by a EUR 750 bn COVID-19 recovery programme. However, it has been severely depleted by the war in Ukraine and the influx of 5.1 mn refugees. The Commission, supported by the European parliament,

wants to increase the budget for a number of purposes, such as providing pre-accession funding for the western Balkan countries in preparation for them joining the EU and to cover the cost of repaying the EU's debts.<sup>350</sup>

Also in June 2023, Christian Lindner proposed that high-debt EU countries reduce their debt-to-GDP ratios by 1 percentage point p.a. after the rules about EU member state finances (specified in Stability and Growth Pact) were suspended during the pandemic. He argued that the Commission's own debt reduction proposal<sup>351</sup> of half a percentage point p.a. did not go far enough, since it also permitted bespoke debt-reduction arrangements with inadequate safeguards—which amounted to 'bilateralising' fiscal rules. The German view was supported by Sigrid Kaag, who said that 'common safeguards' would be needed to ensure there was sufficient debt reduction for all member states. However, France's Bruno Le Maire, was 'opposed to uniform automatic deficit and debt reduction rules' and complained that some aspects of the Commission's proposals were already too rigid, while Italy's finance minister, Giancarlo Giorgetti, argued that they gave insufficient scope for investments in growth and the green transition.<sup>352</sup> One commentator observed: 'both Italy and France have made it more than clear that they have no intention of making the spending cuts needed to bring deficits into line with the demands of the Maastricht criteria. In outright defiance, . . . Giorgetti said: "We believe we have done the right things. We don't respect the 3% limit [on budget deficits as a percentage of GDP]"'.<sup>353</sup>

So, a clear pattern is now emerging. France, in particular, uses every opportunity to promote an EU-wide fiscal solution backed by EU-wide borrowing. The European Commission immediately supports this. Then, it is criticised by one of the 'frugal' northern states, such as Germany or the Netherlands.

It is also clear that the Commission has no intention of giving up on its aim to mutualise debt and control EU fiscal policy. According to one commentator: 'The Commission is trying to use the Ukraine crisis to advance fiscal integration by the Monnet method of creepage'.<sup>354</sup>

Thomas Mayer, former chief economist at Deutsche Bank and author of *Europe's Unfinished Currency* (Mayer (2012)) said: 'For almost 10 years, the ECB has been mutualising public debt on its balance sheet, and it seemed to have no consequences. But now we can all see the effects with rising inflation and the falling euro. The ECB can no longer disguise it. What the German people long feared is happening: monetary union is degenerating into a common debt community. I don't think they will react until they are presented with the bill for what they thought was free lunch, so this could go on for a long time. It is going to be a slow-motion train wreck'.

On 22 September 2022, the European Systemic Risk Board (ESRB) issued its first-ever General Warning since its establishment following the GFC on vulnerabilities in the EU financial system. It said that the EU's credit system was under threat as a result of geopolitical tensions such as the energy shock, rising interest rates following the unwinding of QE, and a pronounced deterioration in the macroeconomic outlook: 'These risks may materialise simultaneously, thereby interacting with each other and mutually amplifying their impact'.<sup>355</sup>

Ambrose Evans-Pritchard (2022b) explains how this affects the ECB: '[It] is already a captive fiscal agent. It is currently buying Italian bonds on a large scale to prevent borrowing costs spiralling out of control, even though Eurozone inflation is 10%. The Italian bail-out is not a one-off liquidity measure *in extremis*. It amounts to continuous monetary financing of a budget deficit. Italy would face a full-blown debt crisis in current circumstances if the ECB even hinted at the withdrawal of this backstop. . . . "Italy exhausted its fiscal space long ago", said Robin Brooks, chief economist at the Institute of International Finance. Italy's 10-year yields . . . [at 4.2% are] untenable for a country that combines a public debt ratio of 151%, a fiscal deficit of 6% (IMF data), [and] chronically-low growth'. . . . "At this level of yields, it would not take much to get Italy into trouble. Spreads are no longer the issue. The level of rates is", said Ruben Segura-Cayuela from Bank of America. . . . The Eurozone's doom-loop of sovereign states and commercial banks taking each other

down in a destructive vortex has been in remission. It has not gone away. The ECB's QE has kept it alive. It encouraged southern European banks to buy their own country's debt to earn easy money on the carry trade. They now face mark-to-market losses on these holdings, straining capital ratios. . . . As always, Brussels has its own empire-building agenda, aiming to capitalise on the energy shock to entrench the precedent of joint debt issuance and advance the ideological cause of fiscal union. . . . [Europe's leaders] did not understand that [like the Anglo-Saxon countries] they too had been lured into the great global credit boom of the early noughties. Nor did they anticipate that the structure of monetary union would leave them less able to cope with the consequences'.<sup>356</sup>

In November 2022, the ECB published another *Financial Stability Review*.<sup>357</sup> It pointed out that the EZ faced multiple threats to its financial stability in the light of continuing high inflation (especially with respect to food and energy), a weaker economic outlook, falling house prices, and geopolitical tensions—with households, banks, companies, and governments all at risk. It said that inflation was reducing disposable income and affecting households' and energy-intensive firms' ability to service debts, while the risk of recession was threatening corporate profits. It also warned about dangers to the public finances as governments borrow to lessen the impact of the energy crisis and concluded: 'All of these vulnerabilities could unfold simultaneously, potentially reinforcing one another'.

Otmar Issing—now president of the Centre for Financial Studies at Goethe University in Frankfurt—described the ECB as suffering from a 'misdiagnosis' of the factors behind the surge in prices, having 'lived in a fantasy' that played down the danger of inflation spiralling out of control: 'Inflation was a sleeping dragon; this dragon has now awoken. The ECB has contributed massively to this trap in which it is now caught because we are heading towards the risk of a stagflationary environment'. He said the ECB was too slow to raise interest rates and reverse eight years of very loose monetary policy, which included negative rates and EUR 4.9 trn worth of bond purchases. However, he added that now was 'not the time to raise interest rates to elevated levels. [The ECB] would be in a better, or at least a less bad, situation if they had started to normalise policy before—the war should not distract from this fact. [The prospect for a] stagflationary [situation of rising inflation and slowing growth is] the worst combination for a central bank'. He contrasted central bank responses to the 1970s oil price shocks: 'The Bundesbank tried to control inflation and the consequence was moderate inflation and a mild recession, but the Fed waited too long and the US had double-digit inflation and a deep, deep recession'.<sup>358</sup>

To make matters worse, the EZ also entered a technical recession in 2023 after experiencing two consecutive quarters of falling GDP in 2022Q4 and 2023Q1. This was a consequence of the loss of Russian natural gas and the impact of high inflation on reducing consumer spending.<sup>359</sup> Eric Dor, an economics professor at the IESEG School of Management in Paris, said that 'stagflation is now very plausible in the eurozone', with Europe facing a period of sticky inflation and stagnant growth.<sup>360</sup>

Of particular concern is the German economy. Since the COVID-19 pandemic, it has grown by just 0.2% (i.e., between 2019Q3-2023Q2); this compares with 1.7% in France, 1.8% in the UK, 3% in Japan and the EZ, and 6.1% in the US.<sup>361</sup> Matthew Lynn (2023b) argues that:<sup>362</sup>

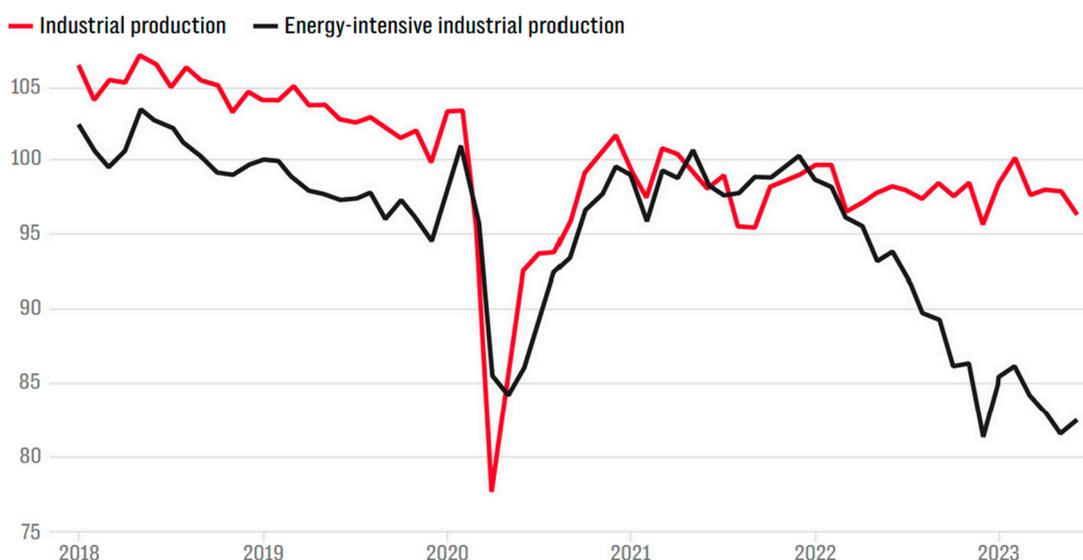
*After coasting on an undervalued currency, cheap energy, and a booming China, Germany is stuck in a spiral of decline. . . . Germany got extraordinarily lucky in the first two decades of this century. The replacement of the mighty Deutschemark with the far weaker euro meant that its currency was dramatically undervalued, allowing it to build up huge trade surpluses and dominate a vast range of industries where it may otherwise have been unable to compete. The industrialisation of China, meanwhile, was built on German machine tools creating a huge new market for the country's formidable engineering firms. And it had access to what seemed like an endless supply of cheap Russian gas, allowing it to continue with heavy, power-hungry industries—the huge BASF plant in Ludwigshafen uses about as much gas as the whole of Switzerland—long after they would*

have been obsolete elsewhere. Add it all up, and this happy combination of circumstances created an illusion of permanent prosperity that allowed Germany during the Merkel era to complacently lecture the rest of the world on the brilliance of its consensual model, while racking up trade surpluses as if they would last forever. That luck has now run out. The war in Ukraine meant that the Russian gas had to be turned off, and given the ridiculously self-indulgent decision to close its nuclear plants, Germany only managed to avoid blackouts by paying eye-watering prices for energy on the global market. Factories are already closing because they can't afford power. China seems to have bought all the German technology it needs, and is now turning the tables mercilessly on its former tutor. Led by the likes of BYD, the Chinese auto companies could well be about to destroy the German auto giants, and the EU's planned tariffs on Chinese electric vehicles seem like they will be too late to save them. . . . Meanwhile, Germany has failed to digitise, with the fax machine still an everyday piece of kit. The country that capitalised so well on the first and second industrial revolutions is nowhere in the third. . . . But the real problem is deeper. Germany's consensual, coalition-based political system. . . is incapable of pushing through the radical change and modernisation the country needs. . . . It is possible that Germany will reform itself one day. It is still a rich country, with a highly skilled workforce, a huge depth of technical talent and a huge presence in global markets. But it will take a radical overhaul of its political system, and a shattering of the complacent centrism that dominates its internal debate before that happens. And there is little sign of any such move on the horizon.

Figure 36 shows the extent of the decline in German energy-intensive industrial production since 2015, while Figure 37 shows that Germany's net public investment as a share of GDP has been negative for most of this century. Yanis Varoufakis has called it 'a slow burning collapse of the German industrial model. They didn't invest for 13 years and now it has come back to haunt them. They have lost their access to cheap Russian gas and are losing their easy access to the Chinese market. They will still make cars, but a lot of the value added will slip away. There is going to be a gradual pauperisation'.<sup>363</sup>

### Germany's declining industrial output

Official data measuring Germany's industrial output (index 2015=100)



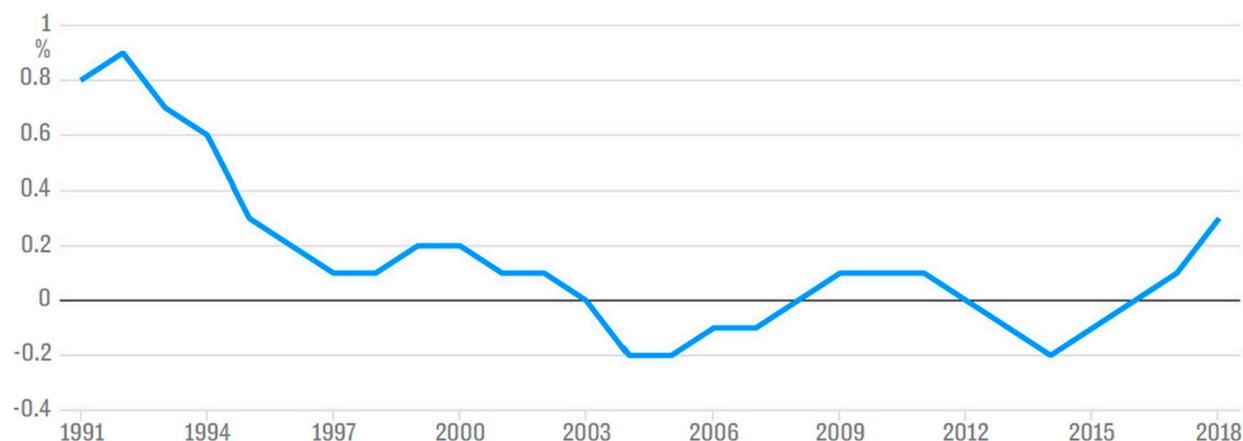
Seasonally and calendar adjusted

SOURCE: FEDERAL STATISTICAL AGENCY (DESTATIS)

Figure 36. Germany's industrial output (index 2015 = 100). Source: (Lynn 2023b).

## Net public investment in Germany has been negative for most of this century

### Net public investment as a share of GDP



SOURCE: DESTASIS

**Figure 37.** Germany's net public investment as a share of GDP. Source: (Lynn 2023b).

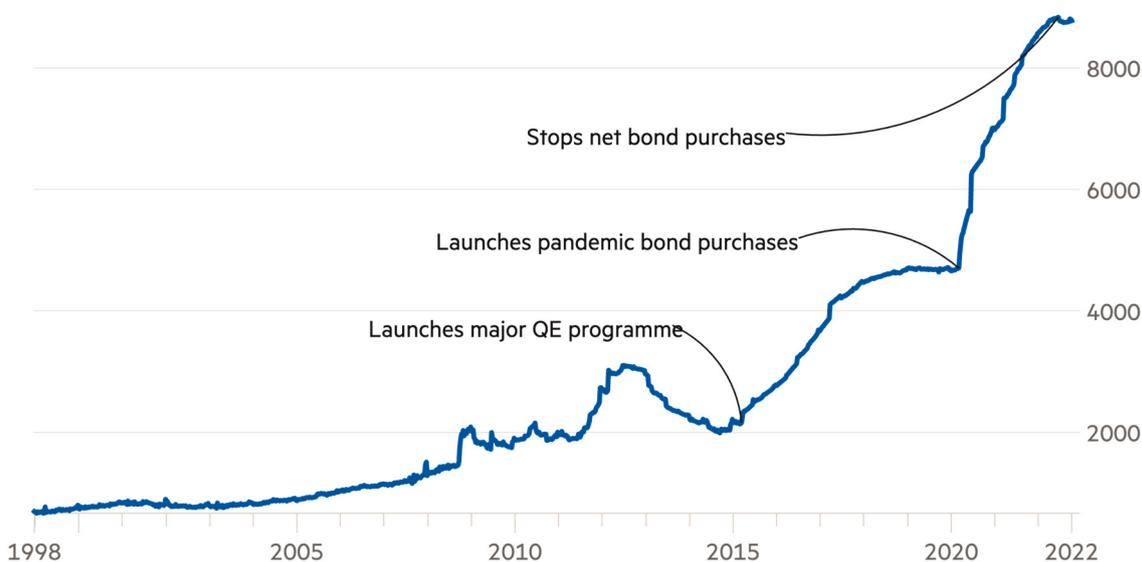
The travails of the German economy are reflected in the wider EU economy. In 2023, the EU economy was 65% of the size of the US economy, down from 91% in 2013—despite the EU population of 450mn being significantly larger than the US population of 332 mn—while US gross domestic product per capita was more than twice that of the EU and the gap is growing. The EU missed out on the technology boom in the early 2000s that created companies such as Apple, Alphabet and Amazon in the US and Alibaba in China. There is now concern amongst EU policymakers that the next technology revolution—in artificial intelligence and quantum computing—will also pass Europe by. According to Professor Costas Lapavitsas of SOAS, University of London, author of the *State of Capitalism* and a former Greek member of parliament: 'The manufacturing base has been disappearing since 2000 and I don't see any real evidence that [the European Commission] are responding to it. The balance of probability is that this decade will be even worse than the previous one. The social tensions beneath the surface are enormous and it's unclear how they are going to hold the whole system together'. Even Mario Draghi accepts that 'The European economy has been losing competitiveness in the 20 years since the euro's introduction...In many, many technological fields, we have lost footprint', and he blames this on the failure of Europe's leaders to understand the economic implications of what they had done, in particular, an unfinished monetary union which lacks the political and fiscal union necessary to make it work (Foy and Johnston 2003; Evans-Pritchard 2023d).

#### 10.4. The Fourth Phase of QE—Quantitative Tightening

The ECB began its own QT programme in March 2023. It had printed massive amounts of money to buy assets: its balance sheet, the most reliable measure of the amount printed, had ballooned from EUR 2 trn in 2015 to EUR 8.8 trn or 66% of the EZ's GDP in 2022—see Figure 38. This compares with 34% for the Federal Reserve, 48% for the Bank of England, and 136% for the Bank of Japan.<sup>364</sup>

## The ECB's balance sheet has ballooned

Total assets/liabilities of the Eurosystem (€bn)



Source: European Central Bank  
© FT

**Figure 38.** The ECB's balance sheet in October 2022 (EUR bn). Source: *Financial Times Europe Express*, 26 October 2022.

At the October 2022 meeting of the ECB Governing Council, plans were discussed to start shrinking the balance sheet. However, concern was expressed by Giorgia Meloni, who had replaced Mario Draghi as Italian prime minister, that tighter monetary policy was 'considered by many to be a rash choice' that 'creates further difficulties' for heavily indebted member states such as Italy and could lead to wider financial market turbulence.

The ECB decided to index the interest rate on Targeted Longer-Term Refinancing Operations (TLTRO) to the average applicable key ECB interest rates.<sup>365</sup> TLTROs were the EUR 2.1 trn in ultra-cheap loans provided by the ECB to banks during the pandemic to keep them lending to households and companies. However, with ECB (and hence TLTRO) interest rates above zero, banks had an incentive to place the TLTRO money borrowed on deposit with the ECB in another risk-free carry trade. The TLTRO programme will be gradually wound down and come to an end by September 2024.<sup>366</sup>

The ECB also announced it would start to reduce the EUR 5 trn portfolio of bonds it has accumulated through QT, beginning in March 2023 at around EUR 15 bn per month—but this would be adjusted in light of experience.<sup>367</sup> It would begin by reducing the number of maturing bonds—valued at EUR 350 bn in 2023—it replaced in the EUR 3.26 trn Asset Purchase Programme portfolio. However, the ECB would continue reinvesting the EUR 1.7 trn Pandemic Emergency Purchase Programme portfolio until at least 2024 and would concentrate PEPP reinvestments in the most heavily indebted countries to avoid a bond market sell-off. Banque de France governor François Villeroy de Galhau said: 'Balance sheet normalisation shouldn't be completely on automatic pilot: let us start clearly but cautiously, and then accelerate gradually'. By contrast, Bundesbank president Joachim Nagel wanted an early and aggressive stop to reinvestments.

The ECB's QE programme and its reversal has created a number of problems.

First, the ECB's bond-buying programme had caused major distortions in the EZ bond and money markets. Most significantly, it had created a shortage of the most highly rated bonds, such as German Bunds, and this had the effect of reducing risk-free rates in the

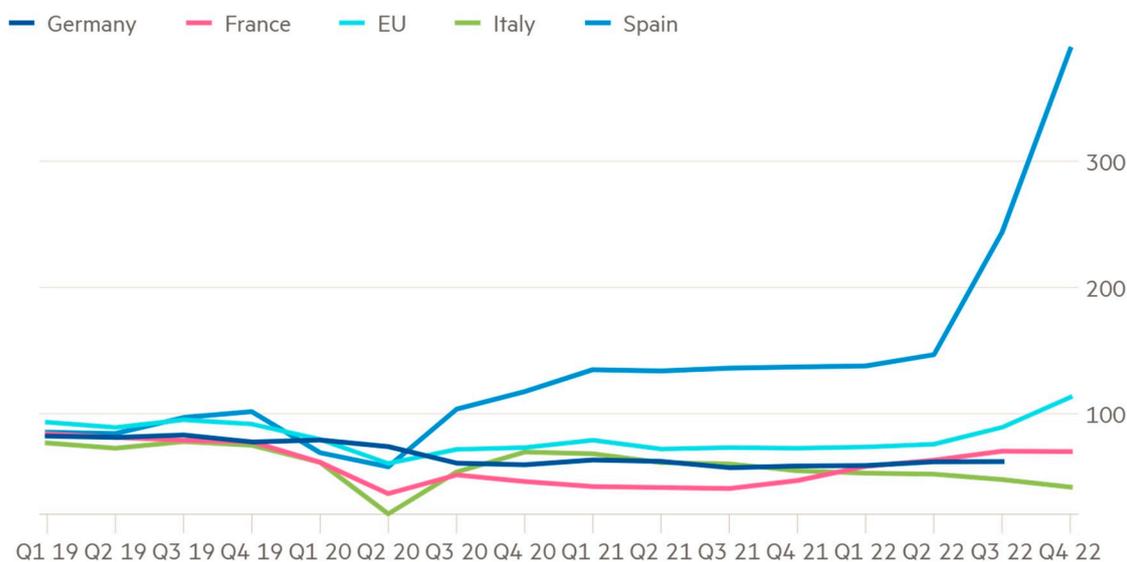
market at the very time the ECB was trying to raise them to lower inflation. Konstantin Veit, portfolio manager at Pimco, said: ‘As there are limited safe options out there to invest in, this leads to collateral scarcity and drives a large part of the money market to trade well below the ECB’s deposit rate’. Germany has been trying to correct this by creating more bonds that it can lend out using the repo market.<sup>368</sup>

Second, the ECB’s bond-selling programme will clash with EZ governments’ own bond issuance plans. In 2023, EZ governments planned to sell EUR 1.3 trn in bonds to cover the cost of reducing the impact of high energy prices on households and companies. Of this, EUR 500 bn would target private-sector investors. Piet Haines Christiansen, a strategist at Danske Bank, said: ‘Markets will have some difficulties initially absorbing the significant amount of bond supply without the ECB in the market’, while Veronika Roharova, head of EZ economics at Credit Suisse commented that: ‘Debt sustainability concerns could resurface [in countries such as Italy] as interest rates rise further and the ECB shifts from net bond buying to selling’, thus reigniting concerns about a repeat of the 2012 sovereign debt crisis—see Figure 34.

Third, higher interest rates have contributed to an increase in company bankruptcies. Figure 39 shows that there was an increase in the number of company bankruptcy declarations in the EU in 2022, especially in Spain. This is explained by the large number of ‘zombie’ companies that were kept afloat during the pandemic through government support, but which could no longer survive because of slower economic growth and higher energy prices, wages, and borrowing costs. The main sectors affected were transport & storage and accommodation & food services. In the case of Spain, changes in insolvency law in September 2022 made it easier for companies to restructure their debt, leading to a surge in such court filings.<sup>369</sup>

### A surge in Spanish bankruptcies lifts EU numbers to a new high

EU company bankruptcy declarations, index (2015=100)



Seasonally and calendar adjusted data. Germany has not yet released data for Q4 2022.

Source: Eurostat

© FT

**Figure 39.** EU company bankruptcies 2019–2022. Source: *Financial Times*, 17 February 2023; <https://www.ft.com/content/c90c3556-3218-47ff-aeda-3f23af217c11> (accessed on 19 February 2023).

Fourth, the rise in interest rates at a time of increasing economic uncertainty is leading to a credit crunch. The ECB bank-lending survey for January 2023 indicated that EZ banks were becoming much more cautious in making loans and were reducing loans for mortgages

at the fastest rate since the GFC: ‘Higher risk perceptions related to the economic outlook and industry or firm-specific situation, banks’ declining risk tolerance, as well as higher cost of funds continued to have a tightening impact on credit standards for loans to euro area firms’.<sup>370</sup> The ECB bank-lending survey for July 2023 revealed that the net demand for loans in 2023Q2 fell by 42%, the worst fall on record. Net fixed investment demand in Italy was down by 55%. Credit to households was contracting in absolute terms.<sup>371</sup>

Fifth, the increase in corporate bankruptcies together with lower lending have reduced the profitability of European banks, and this is reflected in their share prices. The Stoxx Europe 600 Banks index was 69% lower in February 2023 than its May 2007 peak (138 vs. 538). This fall is explained in part by the ECB’s negative interest rates having the effect of narrowing the banks’ borrowing–lending spread (and hence net interest income). Yet the ECB’s announced programme of increasing rates has failed to be reflected in any sign of recovery in bank share prices, indicating that the prospect of increasing numbers of NPLs has had a larger negative impact on share prices. The ECB’s November 2023 *Financial Stability Review* reported that the European economy ‘remains fragile’, with banks showing ‘early signs of stress’ as default rates and payment arrears increase.<sup>372</sup>

Sixth, rising interest rates are reducing profits or even leading to losses at the national central banks that had purchased domestic bonds for macroeconomic and financial stability objectives, according to a BIS study.<sup>373</sup> Furthermore, European NCBs bought large amounts of corporate bonds in addition to government bonds during QE—unlike the Bank of England which only bought GBP 20 bn of corporate bonds. But Europe’s banks do not have the reserve liquidity to buy these bonds when the NCBs try to sell them back to the market. In addition, again unlike the Bank of England, European NCBs have not been indemnified by their governments against losses on QE unwinding—which will eat directly into their capital. As one commentator noted: ‘This will render some central banks effectively insolvent as balance sheets are unwound at lower prices than were paid, creating widespread populist resentment over the costs of sustaining the single currency’.<sup>374</sup> Another commentator described the situation with respect to Germany: ‘The German Federal Audit Office (Bundesrechnungshof) has warned that the Bundesbank may need a bailout due to losses on the EUR 650 bn of bonds it bought as part of the Eurozone’s equivalent of Quantitative Easing. . . . [Any loss] is shared around the Eurozone national central banks in accordance with ECB capital keys. Any profit or loss on an ECB operation is first passed back to the ECB by the Eurozone national central bank which incurred it, and then the ECB parcels the requisite portion back out to each one, based on their ECB capital keys, including a portion to the one which incurred it. The Bundesbank is on-risk for up to 26.3615% of any such loss. [Under plausible assumptions, this could amount to EUR 218 bn out of EZ-wide losses of EUR 826 bn. This] would bankrupt the Bundesbank. . . . The German Federal Government would have to make good the amount from its budgetary reserves, or else issue new debt’.<sup>375</sup>

On top of all this, the world is at a ‘tipping point’ on debt that threatens to spark a ‘global reckoning’ after years of government borrowing binges, according to Noel Quinn, CEO of HSBC, the world’s seventh largest bank. Speaking in October 2023 at a Future Investment Initiative Institute conference in Saudi Arabia, known as Davos in the Desert, Quinn said the current rate of borrowing is unsustainable: ‘I’m concerned about a tipping point on fiscal deficits. When it comes, it will come fast and I think there are a number of economies in the world where there could be a tipping point and it will hit hard’.<sup>376</sup> Figure 40 shows that global debt has reached a 60-year high.

Yet at precisely the same time, the Italian budget deficit and debt interest costs are spiralling upwards, as Figures 41 and 42 show. The Meloni government is increasing spending during a global bond storm and projecting a budget deficit of 5.3% of GDP. The Italian-German 10-year bond yield spread has reached 200 basis points. Lorenzo Codogno, the ex-chief economist at the Italian treasury, said: ‘It would not take much for yield spreads to shift to a bad equilibrium. Italy is now vulnerable to any external shock’. In addition, Italy has to roll over maturing bonds and issue new bonds over the next year equal to

24% of its GDP. Goldman Sachs says the world’s bond sell-off has ‘exposed a fault line in European sovereign credit’.<sup>377</sup>

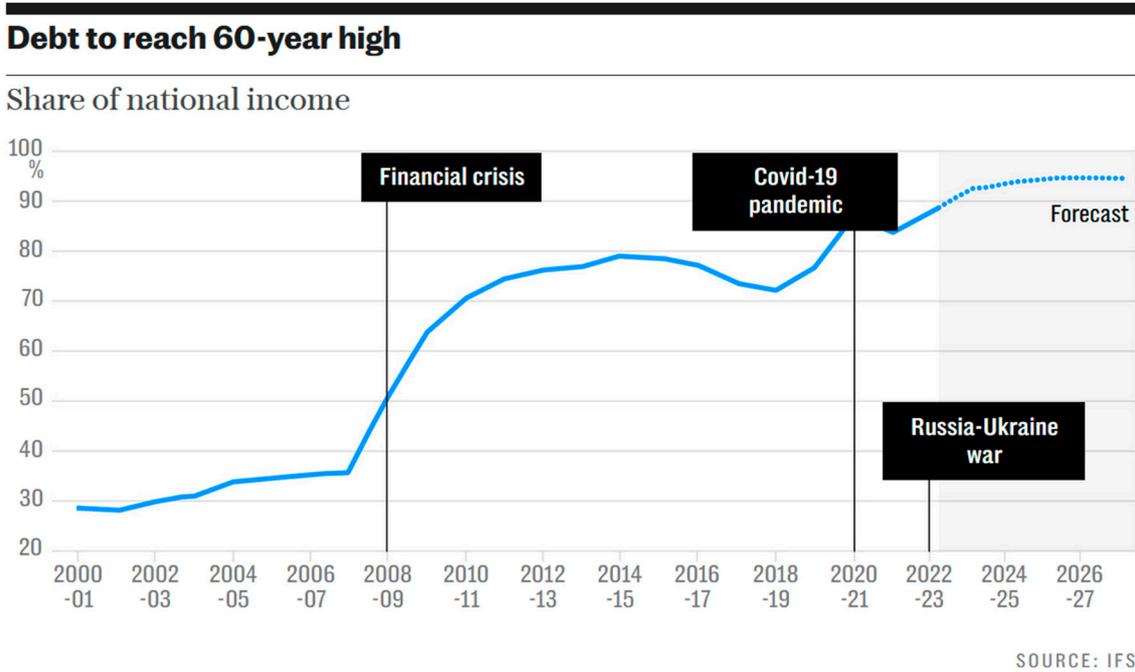


Figure 40. Global debt as a share of global national income 2000–2027. Source: (Chan 2023b).

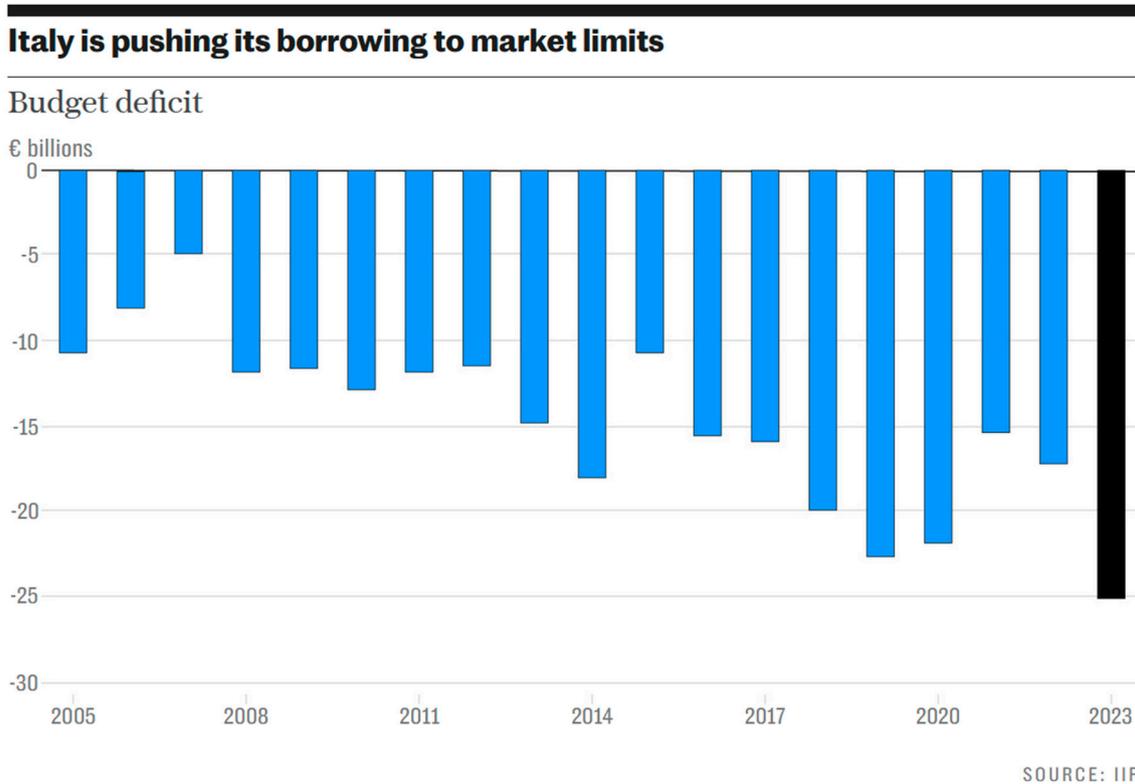
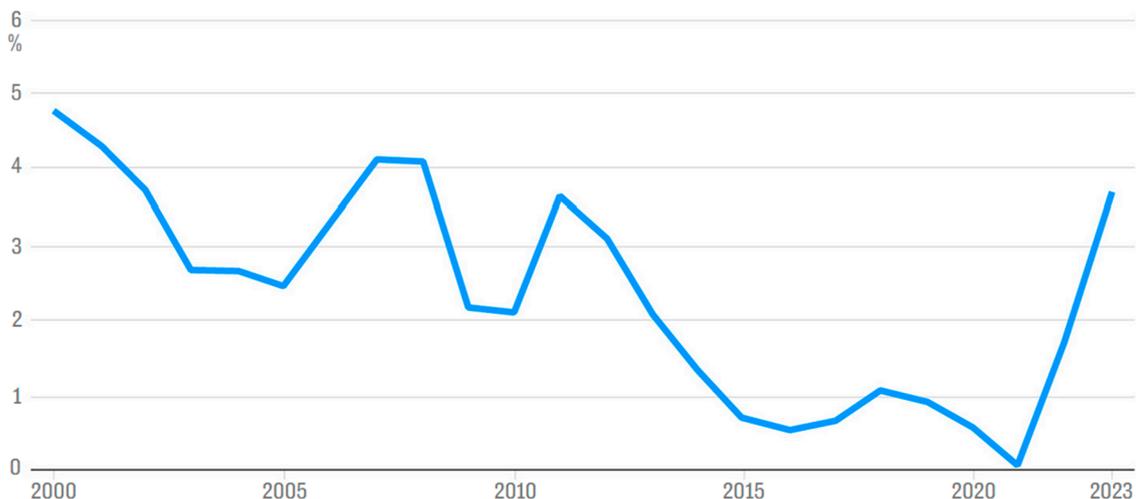


Figure 41. Italian budget deficit, EUR bn, 2005–2023. Source: (Evans-Pritchard 2023c).

## Interest costs for the Italian Treasury are rocketing

Average yield of government securities at issuance



SOURCE: DEPARTMENT OF THE TREASURY

**Figure 42.** Italian government bond yields at issuance, average, 2000–2023. Source: (Evans-Pritchard 2023c).

According to Ambrose Evans-Pritchard, Europe’s debt crisis will start to tear the North and South apart:<sup>378</sup>

*Lending is deteriorating most rapidly in Italy and Spain. ‘The tightening in financing conditions corroborates our view that the euro area is headed towards a sharp recession’, said Ludovico Sapiro from Barclays. Trouble is baked into the pie already, whatever happens to Vladimir Putin’s war and global gas prices. Banks are doing what they always do at the rumble of thunder: they are imposing tougher terms on households and small firms; they are rejecting loan applications. This is a self-fulfilling process that can spin out of control at turning points in the business cycle. Ignazio Visco, governor of the Bank of Italy, warned . . . of a ‘serious credit crunch’ if the ECB tightens too hard into the downturn. Businesses are battenning down the hatches, limiting borrowing to what is strictly necessary to stay afloat. Homeowners are baulking at soaring mortgage costs.*

*. . . [B]anks will lose a key prop just as they face the hit from the global bond market crash. They were induced to accumulate government debt under Quantitative Easing. Those banks most invested in this sovereign bank doom-loop now carry large paper losses that must be ‘marked to market’. This erodes their capital ratios, forcing them to curtail lending.*

*. . . The ECB faces an excruciating dilemma. . . . The founding contract of the euro was that the ECB should be as rigorous as the Bundesbank, and the euro should be as hard as the D-Mark. That contract looks like a quaint relic today. But it would be tempting fate to assume that Germany will tolerate double-digit inflation for long, or that it will allow the ECB to keep tilting policy towards the needs of Club Med debtors in the cause of euro solidarity.*

*The German economic establishment thinks the country is on the cusp of a wage-price spiral. . . . There is an even deeper problem of social cohesion. Inflation is toxic in Germany because of deep-rooted cultural traditions. Half of Germans rent rather than own property. They typically keep their savings in bank accounts, and have no financial assets. They have entirely missed out on the compensating wealth gains of the last decade. Gefühlte Inflation—the inflation that shoppers feel—is running at twice the official CPI rate.*

... Volker Wieland, a former member of the German Council of Economic Experts, said inflation had reached the point where nothing short of sharply positive real rates will be enough to break the fever. 'Inflation is going to become entrenched unless the central bank acts', he said.

Positive real rates are precisely what Italy cannot endure. It is why premier Giorgia Meloni lashed out at the ECB on her first day in office, denouncing rate rises on the cusp of recession as precipitous.

... Mrs Meloni is now in implicit alliance with France's Emmanuel Macron, who has also castigated unnamed monetary hawks at the ECB. His demarche is logical: France has an even bigger debt burden than Italy. Data from the Bank for International Settlements shows that total public and private debt (non-financial) is 351% of GDP in France, up 70 percentage points over the last decade. The comparable figure is 276% in Italy, and 271% in the UK, and 199% in Germany.

It is not that Germany is right, or that Italy and France are right. They are all right. This conflict is what happens if you impose a single coin and a single interest rate on a disparate region that fails every key test of Robert Mundell's Optimal Currency Area.

... Thomas Mayer... said the ECB has already gone beyond the point of no return. It has become a fiscal captive, much as the Bank of Italy was captive of the Italian treasury under the lira. 'We have seen the "lirisation" of the euro', he said. He predicts that the EMU experiment will end in much the same way as the Latin Monetary Union in the 19th century. Switzerland eventually pulled out because it lost patience with chronic debasement. The eurozone is a sturdier beast but the pressures are the same. 'It can't survive', he said.

Jeremy Warner added: '[T]he single currency's underlying fault lines... remain multifaceted and entrenched. Whatever its pretences, the European economy is still essentially just a collection of individual sovereign economies with little that connects them beyond free trade and a shared currency. Legal, insolvency, entitlement and tax systems remain wildly varied, while a properly functioning Banking Union is still just a distant aspiration'.<sup>379</sup>

Speaking at the World Economic Forum in Davos in May 2022, Professor Adam Tooze from Columbia University<sup>380</sup> asked: 'Could Italy get bad quickly? Yes, it certainly could. The ECB has no credible mechanism to defend the southern European states as QE winds down. They're talking about a "spread-management" instrument [i.e., the TPI] and telling us they've got a magic bullet, but the markets don't believe it. We all know that if there was a legal way to control yields they would already have used it. So, it is just sleight of hand. The ECB can skew the reinvestment of its existing portfolio to vulnerable countries, but that is a token gesture'.

Nevertheless, Tooze did not think the EZ would disintegrate at this time: 'Europe's leaders cannot let that happen, but neither will they resolve the incoherence of an orphan currency union without fiscal union. The whole Eurozone has been in suspended disbelief for years. It ought to blow up, but it never does, because somehow they find ways to improvise. That does not exclude a crisis along the way, and Italy is the stand-out candidate because it has incendiary politics<sup>381</sup> as well as zero trend growth and a debt ratio of 151% of GDP. ... The silver lining is that inflation works wonders for debt-dynamics. It erodes the real burden of legacy borrowing. ... Two or three years of inflation above 5% is beneficial: it burns off the debt. But you have to protect vulnerable people from real income losses. That is a poverty problem, and there are policies to address it'.<sup>382</sup>

So, the EZ is saved for now by inflation, which Germans—who ironically will be amongst the principal funders of any EZ rescue package—greatly fear. Issing said this 'goes back to the hyperinflation in the 1920s and currency reform in the 1940s. ... It is almost entrenched in the genes of the public. ... [But it] is not just the Germans being pathological about inflation—you can observe this in all countries'.<sup>383</sup>

### 10.5. Is the QE Programme Legal under EU Law?

Another important issue is whether the QE programme is actually legal under EU law. In August 2017, Germany's Federal Constitutional Court (Bundesverfassungsgericht) ruled that part of the ECB's EUR 3.434 trn QE programme (namely, the EUR 2.6 trn Public Sector Purchase Programme (PSPP)<sup>384</sup> component of the Asset Purchase Programme) might violate EU law (in particular, the prohibition on the monetary financing of government budget deficits (as set out in Art. 123 of the Treaty on the Functioning of the European Union (TFEU)) and referred the case to the European Court of Justice. However, many commentators, including Wolfgang Schäuble, the former German finance minister, have defended the ECB's action and expected that the ECJ would decide in the ECB's favour. It did so on 11 December 2018 by declaring that 'The PSPP programme does not exceed the ECB's mandate. The programme falls within the area of monetary policy, in respect of which the EU has exclusive competence for the member states whose currency is the euro, and observes the principle of proportionality'.

In May 2020, the Federal Constitutional Court announced that:<sup>385</sup>

*[It] is not bound by the [ECJ's] decision competences conferred upon the ECB, which are limited to monetary policy. Rather, it [the ECJ's 11 December 2018 ruling] allows the ECB to gradually expand its competences on its own authority. The PSPP improves the refinancing conditions of the member states as it allows them to obtain financing on the capital markets at considerably better conditions than would otherwise be the case; it thus has a significant impact on the fiscal policy terms under which the member states operate. In particular, the PSPP could have the same effects as financial assistance instruments pursuant to Art. 12 et seq. ESM [European Stability Mechanism] Treaty.*

*The PSPP also affects the commercial banking sector by transferring large quantities of high-risk government bonds to the balance sheets of the Eurosystem, which significantly improves the economic situation of the relevant banks and increases their credit rating. The economic policy effects of the PSPP furthermore include its economic and social impact on virtually all citizens, who are at least indirectly affected, inter alia as shareholders, tenants, real estate owners, savers or insurance policy holders. For instance, there are considerable losses for private savings. Moreover, as the PSPP lowers general interest rates, it allows economically unviable companies to stay on the market. Finally, the longer the programme continues and the more its total volume increases, the greater the risk that the Eurosystem becomes dependent on member state politics as it can no longer simply terminate and undo the programme without jeopardising the stability of the monetary union.*

*...Following a transitional period of no more than three months allowing for the necessary coordination with the Eurosystem, the Bundesbank may thus no longer participate in the implementation and execution of the ECB decisions at issue, unless the ECB Governing Council adopts a new decision that demonstrates in a comprehensible and substantiated manner that the monetary policy objectives pursued by the PSPP are not disproportionate to the economic and fiscal policy effects resulting from the programme. On the same condition, the Bundesbank must ensure that the bonds already purchased and held in its portfolio are sold based on a—possibly long-term—strategy coordinated with the Eurosystem.*

The view of the Federal Constitutional Court is undoubtedly correct, but, in October 2020, the European Commission opened an infringement procedure against Germany on the grounds that the Federal Constitutional Court's May 2020 announcement directly violated 'fundamental principles of EU law, in particular the principles of autonomy, primacy, effectiveness and uniform application of Union law'. The EU has claimed the primacy of EU law over domestic law since the *Costa v ENEL* case of 1964,<sup>386</sup> yet this primacy has never been confirmed by any treaty between member states and has merely been asserted by the ECJ and the European Commission. Nonetheless, the Commission

closed the infringement procedure in December 2021 based on formal commitments by Germany to recognise the primacy of EU law and the authority of the ECJ.<sup>387</sup>

In the meantime, ECB president Christine Lagarde announced that the ECB ‘will continue doing whatever is needed, whatever is necessary. . . undeterred’.<sup>388</sup> Furthermore, [Febrero et al. \(2018, p. 92\)](#) argue that Germany and other creditor EZ countries ‘have eased their pressure on debtor countries in order to suffocate populist anti-euro sentiments, with a view to keeping the euro afloat’. This is clearly a key point that will dominate thinking in the ‘frugal’ north and will doubtlessly be exploited by France and the European Commission to push for further debt mutualisation and fiscal solidarity across the EU.

*In short, the German political establishment has capitulated.* By meekly accepting the primacy of EU law over domestic law and by easing pressure on debtor countries in the EZ, the German political establishment has effectively conceded that the EU has become a ‘transfer union’ and that Target2 is the vehicle through which the ‘transfer union’ operates. However, the following question remains: will German savers and taxpayers accept this and, if so, for how long? Germany’s significant structural economic problems may mean that this question gets answered sooner than Europe’s political elite expected.

### 11. Can a Country Leave the Eurozone?

The ECB argues that ‘the size of the Target2 balances does not pose additional risk to the Eurosystem or the NCBs given the irreversibility of the euro’.<sup>389</sup>

However, as John [Whittaker \(2016\)](#) points out:<sup>390</sup>

*. . . the euro is not irreversible. Indeed, . . . exit risk is an unavoidable feature of monetary union. Thus, if a country’s Eurosystem debt presents a risk when it leaves the euro, and if there is a non-zero probability that it will leave, then its Eurosystem debt is risky. A contingent risk is a risk.*

*. . . The departure of any country from monetary union would involve large political and financial costs and uncertainty, particularly for that country but also for other Eurozone members, given the absence of agreed exit procedures. This makes monetary union more durable than a fixed rate regime between separate currencies.*

*Yet, there must be a limit to the tolerance of creditor countries. There must be some threshold level of exposure to Greece or any other debtor country, or expected future exposure, beyond which Germany and the other creditors would refuse further credit either via the Eurosystem or official loans, accept their losses, and expel.*

*Despite the ECB’s assertion that monetary union is irreversible, exit risk will always be present, just as it is in any ordinary fixed exchange rate regime. The difference with monetary union is that it raised the stakes by cementing all financial claims into a ‘foreign’ currency.*

*The Greek government knows this. Indeed, the fear of being deprived of Emergency Liquidity Assistance and forced out of the euro<sup>391</sup> was the main reason why it accepted the conditions attached to the [2015] bailout.<sup>392</sup> Likewise, it was the threat to cut ELA that persuaded the Irish government to accept an official loan programme in November 2010 and the Cypriot government to accept a programme in March 2013.*

In June 2017, Greece received another loan of EUR 8.5 bn from the EZ’s other member states, bringing the total value of EU/IMF outstanding loans to EUR 225 bn.<sup>393</sup> But Greece was told that it would have to wait until 2018 before any debt relief would be considered. Greece was already running a primary surplus—the government’s budget balance before debt repayments and interest—of between 2–3% of its GDP as a result of huge cuts in government spending. According to Yanis Varoufakis, Germany used its political and financial muscle to impose austerity on Greece despite widespread acknowledgement from the rest of the EZ that the policy was self-defeating and unsustainable.<sup>394</sup>

John [Whittaker \(2016\)](#) continues:<sup>395</sup>

*Even if the Greek government runs large budget surpluses which it uses to repay its official loans, this will merely cause an equal rise in its Eurosystem (Target2) debt, unless the budget surpluses induce private financial inflows.*<sup>396</sup>

*While ‘austerity’ may be given the credit for turning round the Irish economy, the loan programmes for Greece have been notably unsuccessful and there has been mixed success elsewhere. The argument has been made [e.g., by Varoufakis] that austerity in Greece may have improved economic efficiency and budget balances, but that the dominant effect has been to depress economic activity and create political instability, making the repayment of loans less likely.*

By the beginning of 2017, even Mario Draghi, as the Italian head of the ECB—who on 26 July 2012 had said the ECB would do ‘whatever it takes to preserve the euro’<sup>397</sup>—conceded, in a letter to two Italian parliamentarians, that a country could leave the EZ, but would first need to settle its Target2 liabilities ‘in full’.<sup>398</sup> For example, if Italy left the EZ in 2017, Italian citizens would have to repay the equivalent of EUR 433 bn (increased to EUR 684 bn as of December 2022). As Equations (2) and (3) above show, this could only be achieved by inducing sufficient private financial inflows, e.g., through the sale of national assets, such as state industries and Banca d’Italia’s gold holdings.

The problem in the case of Greece is that, as Tim Worstall writing in 2017 points out:

*Greece cannot afford the primary surplus the Eurogroup<sup>399</sup> has called for. . .*

*Debts which cannot be repaid will not be repaid. That’s why we have bankruptcy in the first place. Or, when it comes to sovereign nations, we have debt rescheduling and IMF programmes instead of bankruptcy.*

*When the Greek crisis first blew up, what should have happened was the standard IMF programme: a haircut on the debt, devalue the currency and a bit of a loan to tide things over until growth returned. This is similar to the approach taken by Iceland—which has already recovered while Greece languishes—and is what the IMF has been doing for decades in other places.*

*The one thing standing between Greece and this approach was the euro. In order to protect the integrity of the single currency, debts to the private sector banks were refinanced by public money from varying combinations of the EU itself, the ECB, the Eurogroup, the IMF and so on.*

*This is the crucial point. There are no private sector capitalists left. If there were, we could simply say ‘you lost your money, better luck next time’. Instead there are only official creditors, run by politicians, who have their voters wondering what has happened or will happen to their money.*

*For it is still true that Greece cannot repay those debts, and therefore Greece will not repay them. All that can change is who will lose money and when. Unsurprisingly, politicians are keen to delay the inevitable until they have retired and are collecting their pensions. That the Greeks have to see theirs cut in the interim is just bad luck.*

*. . .The Greek debt crisis is a contest between politics and reality.*<sup>400</sup>

The ECB made it very clear during the Greek crisis that it would not act as lender of last resort if a member state got into difficulties. This gave the euro the status of a foreign currency when repaying debt held by non-residents—as confirmed by Reynolds et al. (2020). It also meant that EZ governments, having lost their monetary sovereignty, could default—a prospect which has generated large spreads in interest rates amongst EZ countries.<sup>401</sup> Should Greece leave the EZ and the Bank of Greece fail to pay back its Eurosystem debt in full, the NCBs of the other EZ countries would share the loss in proportion to their capital key.

## 12. Is There a Political Solution to the Eurozone Problem?

Supporters of the euro believe that the EZ will in due course become an OCA if there is also 'closer economic policy coordination with an agreed framework for national budgetary policies'.<sup>402</sup> In effect, this means fiscal and political union of the member states of the EZ. A number of economists have also recognised this:

- 'There can be little doubt that the absence of a political union is a serious design flaw in the European monetary union that will have to be remedied to guarantee the long-run survival of the Eurozone'.<sup>403</sup>
- 'European integration is a political process. The importance of the political origins, motivations and consequences of European integration cannot be overemphasised'.<sup>404</sup>
- 'The EMU seems locked into a vicious circle, which had been foreseen long ago: "monetary unity imposed under unfavourable conditions will prove a barrier to the achievement of political unity", Milton Friedman foresaw. But now political unity is precisely the necessary condition to save monetary unity'.<sup>405</sup>
- 'EMU is impractical to the point of impossibility if... it is introduced before—rather in conjunction with—political union. In this context, political union must include a thorough-going centralisation of fiscal and debt management powers. There is no escape from the interdependence of political and monetary union. German politicians and Bundesbank officials have correctly emphasised that the two ideas are inseparable. Indeed, for many of Europe's leaders, the great merit of EMU is that it is a building-block—perhaps the most important building-block—in the construction of political union. In view of the proliferation of official statements associating political and monetary union, Mr. Kenneth Clarke's<sup>406</sup> view that "I do not believe EMU is any threat to the continued existence of the nation state" is puzzling. At any rate, the EU will fail to create a single currency unless it simultaneously establishes a political union'.<sup>407</sup>
- 'If the Eurozone follows the precedent of the 1930s, it will not survive. ... A fully-federal Europe with a banking union and a fiscal union is the best solution to this problem but is politically infeasible'.<sup>408</sup>

The EU is indeed a very long way from political unification, and there is a clear and present crisis concerning the EZ that Target2 (like other rescue attempts) is merely papering over.

Yet, there is a completely different view of the EZ crisis—and it is held by the EU's political establishment. Far from being concerned, a crisis is exactly what it wants. This is because a crisis—indeed, a series of crises—is the only way to achieve political union in Europe—which is the political elite's ultimate aim.<sup>409</sup> The foundation stone of this strategy was laid down by Jean Monnet, who was one of the founding fathers of the European Union. Understandably enough, after the horrors of two world wars, he—along with other post-war leaders, such as Konrad Adenauer and Robert Schuman—prized peace above all other virtues, and no price was too high to pay for it. To prevent further wars on European soil, the resources for making war—coal and steel—needed to be shared amongst the European people instead of being concentrated in the hands of a single European power. Thus, he devised a proposal to introduce a European Coal and Steel Community—a 'proposal [that] will lay the first concrete foundations of the European Federation which is indispensable for the maintenance of peace'. Established in 1951, this was the first of the organisations that ultimately developed into the European Union.

But Monnet—who never stood for or was elected to political office—also recognised that the creation of a European Union was not going to be a straightforward process: 'I have always believed that Europe would be built through crises, and that it would be the sum of their solutions. But the solutions had to be proposed and applied'.<sup>410</sup> He believed that economic crises should be welcomed as opportunities to bring the states of Europe closer together, give up sovereignty, and gradually move to a federal Europe. He wrote the following words to a friend in 1952: 'Europe's nations should be guided towards the super-state without their people understanding what is happening. This can be accomplished by

successive steps, each disguised as having an economic purpose, but which will eventually and irreversibly lead to federation’.

The introduction of the single currency in 1999 was just another step towards that federation. But there was a fundamental economic problem with the way it was implemented, as pointed out by John Lanchester: ‘The nineteen countries in the Eurozone (out of [the then] twenty-eight in the EU) would adopt a single currency but would not have a parallel system to raise tax. There would be monetary union without fiscal union. A European Central Bank would run the currency and set interest rates, but there would be no pan-European finance ministry to run the economy. If you pitched this idea to a class in Economics 101, there would be an embarrassed pause, and eventually a hand would go up and someone would ask, “Is that even possible?” The answer: “Nobody knows.” The EU went ahead with its experiment anyway. To raise the stakes even further, . . . monetary union was, by design, irreversible’.<sup>411</sup>

While this looks like a serious flaw in the design of the euro—which soon manifested itself in the boom-and-bust experience of the EZ’s peripheral economies in the first decade following the euro’s introduction—Europe’s political elite see it as another step in the process first to fiscal union and then to political union. It is no accident that the 1957 Treaty of Rome—the first formal treaty setting up what is now the European Union—opens with the aim of pursuing ‘ever closer union’ or that modern successors to Monnet, such as Guy Verhofstadt MEP, a former prime minister of Belgium, openly call for a United States of Europe. Verhofstadt believes that political unity is now Europe’s ‘last chance’ and wants it to ‘abandon the artificial divisions of nation states and instead embrace a unified democracy on a continental scale, a United States of Europe, . . . so that Europe remains secure, influential, and prosperous into the future’.<sup>412</sup> This view was strongly supported by Martin Schulz, then leader of the German Social Democratic Party, who wanted a United States of Europe by 2025.<sup>413</sup>

But there is the rub: what form should this political unity take? There are only two possible models that Europe could adopt, those of France or Germany, as a recent book by German, British, and French economists Markus K. Brunnermeier, Harold James and Jean-Pierre Landau make clear (Brunnermeier et al. (2016)).<sup>414</sup> The authors:

*. . . explore the dichotomy between French and German political-economic philosophies. The first values flexibility and solidarity and state intervention; the second stresses rules and consequences and free markets.*

*They note that France and Germany have in effect swapped sides in this debate. In the nineteenth and early twentieth centuries, the French had a strong tradition of economic liberalism, and the newly unified Germany believed in state-centered, state-directed economic policies. These biases were reversed by the disasters of Nazism and the Second World War. France’s wartime failure discredited its elites and their laissez-faire inclinations, and led to a heavy new emphasis on state planning, whereas Germany became obsessed with the idea of a rules-based liberalism. The product, known as ordoliberalism, involves a mixture of free-market economics with an attitude toward rules that approaches mystic reverence.*<sup>415</sup>

*. . . It is a matter of deep conviction [in Germany] that the euro must never be a ‘transfer union’. The Eurozone must never be about the rich paying for the poor, the North for the South. There are good historical reasons for this passionate adherence to fiscal rectitude, rooted in the causal link between deficits, runaway inflation, and the rise of the Nazis. . . . This theme in German thought runs very deep. A German government can’t follow the necessary policies without facing electoral disaster. . . . Where others see a crisis caused by weak demand, Germany sees a crisis caused by excessive use of cheap credit, which can be cured only by severe cuts in spending. . . . Chancellor Angela Merkel. . . talks fondly about the ‘Swabian housewife’, a figure of legendary common sense and frugality who, when times are hard, balances the books by cutting her spending.*<sup>416</sup>

Which country's version of political union will end up being victorious? At their first meeting on the day after his election as French president in May 2017, Emmanuel Macron and Angela Merkel 'struck a consensual tone' when they agreed to draw up a roadmap of 'ambitious reforms' to EU treaties that would 'deepen the existing European Union and especially the Eurozone'. France has previously resisted treaty changes, and Wolfgang Schäuble has said that Macron's idea of a budget and finance minister for the EZ was unrealistic because it would require changes to EU treaties. Macron later said that French attitudes have changed: 'In the past, the subject of treaty change was a French taboo. It will no longer be the case'. In March 2018, Christine Lagarde, then head of the IMF and former French finance minister, backed Macron's call for greater fiscal and banking union among EZ member states in order to support a more economically integrated currency union.<sup>417</sup>

Nevertheless, beneath the surface lies an underlying tension in the Franco-German relationship because Macron is also asking Germany, behind the scenes, 'to pay for struggling states that resist reforms', although he wanted to reassure the Germans that the EZ will not 'develop into a "transfer union" in which Germany is asked to bankroll other states'.<sup>418</sup> He also said at the time that he did not support the idea of Eurobonds, which would allow EZ members to issue debt jointly, with weaker members benefiting from lower risk premiums thanks to Germany's creditworthiness. In 2017, he said: 'I have never defended [the idea of] Eurobonds or the mutualisation of existing debt in the Eurozone'.<sup>419</sup> Yet by 2020, during the height of COVID-19, when he wanted to show solidarity with the pandemic-stricken nations of southern Europe, he had changed his mind: 'We are all embarking on the unthinkable. . . That solidarity should come in the form of financial aid funded by mutualised debt'.<sup>420</sup> This has *always* been France's long-term goal.

This underlying tension became more pronounced following the Russian invasion of Ukraine, which exposed Germany's heavy dependence on Russian gas. Attention turned to supply chain security, and, in September 2022, the European Commission proposed new powers in the form of a new Single Market emergency instrument to protect supply chains in a crisis, granting itself and member states the right to redirect supply lines of key products in extreme circumstances. This was supported by Thierry Breton—himself a former French minister of the economy, finance, and industry—who is a strong believer in European 'strategic autonomy' and a champion of industrial alliances with large subsidies for important sectors, such as semiconductors and the mining of critical raw materials. However, the proposal was criticised as the latest step towards an increasingly interventionist model that promotes the role of the state in directing the activities of key industries. The Netherlands and Finland argued that the proposal appeared to be 'less about facilitating a well-functioning Single Market and more about steering industries in a non-crisis environment, to prepare for future unknown crises', while Eastern European countries said 'It is the state directing companies what to do. It reeks of the communist era of five-year plans'.<sup>421</sup>

As discussed earlier, Germany has been able to build up huge trade surpluses both within the EZ and internationally by benefiting from a lower euro exchange rate than the Deutschemark's rate would have been had there been no currency union.<sup>422</sup> Furthermore, Wolfgang Schäuble made it very clear that 'Germany has no plans to reduce its export surplus'. Indeed, the opposite was happening: the ECB's quantitative easing programme led to a weaker euro and a corresponding increase in Germany's trade surplus (to a peak of EUR 250 bn in 2016), enabling Germany to compete with China for having the world's largest trade surplus,<sup>423</sup> although, for reasons also discussed earlier, Germany's trade surplus may be lower than China's in the future.<sup>424</sup> The problem is that all this comes at a very high cost to the rest of the people of Europe—both economically and politically.

At the economic level, the combination of a single currency and persistent regional trade imbalances but no system of fiscal transfers—in the absence of the other OCA criteria holding—is not sustainable.<sup>425</sup> Yet there has been little sign of flexibility from Germany so far. The ECB's Draghi continually asked Schäuble to reduce his trade surplus, but his reply was always 'I haven't heard that the ECB is changing its monetary policy'.<sup>426</sup>

Despite Schäuble's intransigence, it is the unofficial transfers via Target2 that is keeping the euro—and the European economy—above water. This was Draghi's bitter-sweet revenge (*Schadenfreude*) on Schäuble, since most of the transfers are going to Italy.

At the political level, the European political establishment might well believe that the political gains of greater integration exceed the economic costs—as Feldstein conjectured<sup>427</sup>—but there is still a huge political cost to engineered crises<sup>428</sup> and games of 'destructive creationism'—and that is the loss of democracy. There is no evidence that the people of Europe want to be in a United States of Europe and certainly not one that is in reality as anti-democratic as the EU. While there is supposed to be 'double democracy' in the EU—represented by the European Council and the European Parliament<sup>429</sup>—the reality is that the EU is run by the bureaucrats of the European Commission who run rings around ministers from national governments.<sup>430</sup>

These bureaucrats are indeed openly contemptuous of the democratic wishes of the European people, as the former president of the European Commission Jean-Claude Juncker took every opportunity to make clear:

- 'I'm ready to be insulted as being insufficiently democratic'.
- 'If it's a Yes, we will say "on we go", and if it's a No, we will say "we continue"' (on the 2005 French referendum which failed to endorse the Commission proposal to introduce an EU constitution—only for the constitution to reappear in the Lisbon Treaty in 2009 which was approved without a referendum<sup>431</sup>).
- 'We decide on something, leave it lying around and wait and see what happens. If no one kicks up a fuss, because most people don't understand what has been decided, we continue step by step until there is no turning back'.
- 'Of course there will be transfers of sovereignty. But would I be intelligent to draw the attention of public opinion to this fact?' (on British calls for a referendum over the Lisbon Treaty).
- 'There can be no democratic choice against the European Treaties' (in 'Greece: The dangerous game', *Le Figaro*, 1 February 2015).<sup>432</sup>

Supporters of the euro who believe that the EZ can genuinely become an OCA can no longer escape from the recognition that this can only happen if there is full fiscal and political union. The first stage in this process began in August 2017, when Angela Merkel agreed to support Emmanuel Macron's proposals for an EZ budget of EUR 300–400 bn a year and a Brussels-based finance minister for the EZ, despite Schäuble's previous downplaying of the idea.<sup>433</sup> Macron has also made clear that he expects further significant moves towards completing the political infrastructure of economic and monetary union.<sup>434</sup>

Macron's position in the EU has been significantly strengthened as Germany's authority has been weakened following the war in Ukraine. Reinforcing points made above, one commentator notes that 'the sense of decline, and of an economy which no longer works as it should, is palpable. . . . A country once famous for discipline and punctiliousness has given way to one of growing self-doubt, ageing infrastructure, crushing bureaucracy, and underinvestment in new industries where even the trains no longer run on time. . . . Culturally and politically, Germany is finding it particularly hard to come to terms with the idea of a more service-based economy built around a digital future rather than a manufacturing past. . . . No doubt Germany will find a way, but as demonstrated by the rise of once-fringe political elements such as Alternative for Germany [AfD]—now regularly polling ahead of the ruling Social Democratic Party—it won't be a happy passage'.<sup>435</sup> AfD describes the EU as a 'failed project', particularly in respect of climate and immigration. It does not support the euro as a currency. Instead, it wishes to establish 'a federation of European nations, a new European economic and interest community that preserves the sovereignty of member states'.<sup>436</sup>

Macron has exploited these divisions to make himself in the words of one observer 'the most powerful leader in Europe': 'Paris's international trade policy is now ceded to a bigger club: the European Union. But rather than watering down the protectionist impulses

of the Élysée Palace, membership has allowed Emmanuel Macron to pursue the policies on a bigger stage. Only this time the French president has declared that it's not France first, but Europe—with Paris very much in the driver's seat. "The main source for EU protectionism is the Élysée Palace in Paris and Emmanuel Macron who represents a very Gaullist type of idea of political control over the economy," says Fredrik Erixon, director of the European Centre for International Political Economy (ECIPE) in Brussels. In the 2010s, Berlin was the centre of EU power, with Paris and London providing a counterbalance. Germany, with its close economic ties to China, and Britain, with its vibrant international financial sector, favoured open trade, while France was more focused on protecting its national champions. But with Britain now out of the EU and German power weakened as its economy struggles, France is exploiting a power vacuum to mould the EU in its image. In Macron's eyes, the bloc should focus on sovereignty above trade and relax EU restrictions to allow lavish support for domestic industries. . . . Macron's star has risen after he played a pivotal role brokering a deal on Europe's new leadership team in 2019 that placed Ursula Von der Leyen at its helm. . . . Erixon says: "The Commission led by Von der Leyen has sought to drive up the amount of money that is going to be given in industrial subsidies. This is something that has been called for by France for ages: a muscular industrial policy that is going to sprinkle a lot of cash on favoured industries." . . . Official figures show more than €650 bn of state aid has been doled out since March 2022, when the rules were relaxed to allow national governments to subsidise "the manufacturing of strategic equipment" such as solar panels, batteries and heat pumps, as well as the production of key components and related critical raw materials. Germany, desperate to support its industrial base, has been the biggest beneficiary, accounting for more than half of the subsidies doled out. Together with France, the two biggest economies in Europe account for almost 80% of all subsidies handed out so far'.<sup>437</sup>

Macron has also used the debate about EU enlargement to propose internal reforms that will take more powers away from member states. The EU is considering allowing the Balkan states and Ukraine to join. One senior European diplomat said: 'Brussels must admit and absorb the Balkans first. That way, they would gain some time as well to see if Ukraine is feasible'.<sup>438</sup> In September 2023, the report of the Franco-German Working Group on EU Institutional Reform (*Sailing on High Seas: Reforming and Enlarging the EU for the 21st Century*<sup>439</sup>) was published. It recommends the expansion of majority voting to almost all member state decisions, as well as the expansion of the EU's budget. It also wants to give the EU more powers to withhold funds from member states that breach EU law. If these proposals are implemented, it will limit the ability of Germany (and the other 'frugal' northern states) to block an expansion of EU-wide debt-financed spending—underwritten by Germany, of course.

In his 'state of the union' address to the European parliament in September 2017, Juncker had used Brexit as an opportunity to call for further steps towards political union with a single president—combining the presidencies of the European Commission and the European Council.<sup>440</sup> He also called for all member states: to adopt the euro; to have qualified majority voting, rather than unanimity, on foreign policy matters; and to have a single European army by 2025.<sup>441</sup> This view was supported by Macron in a speech at Sorbonne University in Paris in the same year, in which he also called for a bigger EU budget, a complete banking union and also a European army.<sup>442</sup>

The direction of travel within the EU is clear and has been for some time. Yet it is hard to see how a political union engineered along the lines proposed by Monnet, Juncker, and Verhofstadt will be very democratic and, therefore, how it will be sustainable in the long run. Further, as Fredrik Erixon, director of the ECIPE, notes: 'Europe is losing its focus on economic growth in pursuit of power and influence. Protectionism is even more problematic for the wider challenge of raising living standards. There is nowhere through[out] history where any country regulated their way to economic success. That's not a way to create more prosperity'.<sup>443</sup> Despite this obvious point, *the dirigist protectionist*

*model favoured by France is slowly but surely winning out against the ordoliberal model favoured by Germany.*

### 13. Why Is the Problem with Target2 So Little Known?

This is a question that is difficult to answer. It is clearly well known within the treasuries and central banks of Europe and amongst banking academics<sup>444</sup> and the odd lawyer.<sup>445</sup> But outside this small coterie, how many people have even heard of Target2?

Some journalists have obviously written about problems in the EZ, but very few have done this in the context of Target2. A notable exception is the pseudonymous ‘Tyler Durden’ who has been writing about Target2 since 2012 on the Zerohedge website.<sup>446</sup> Just a sprinkling of UK national newspaper journalists have written the occasional article about Target2, with examples being Izabella Kaminska at the *Financial Times*<sup>447</sup> and Liam Halligan and Ambrose Evans-Pritchard both at the *Daily Telegraph*.

Halligan (2012), as far back as 2012, wrote:<sup>448</sup>

*How much longer will Germany’s hard-working, inflation-averse population tolerate paying for other countries’ excesses? There is considerable anger across the Eurozone’s largest economy, even though most voters don’t know the half of it. Obscure data shows that under so-called Target2 operations, the ECB’s intra-Eurozone payments system, the Bundesbank is owed a mighty €620 bn by other member states. This stealth bail-out dwarfs German’s covert contributions to previous Eurozone rescues, which themselves provoked bitter public criticism.*

In 2017, Evans-Pritchard (2017c) wrote:<sup>449</sup>

*Vast liabilities are being switched quietly from private banks and investment funds onto the shoulders of taxpayers across southern Europe. It is a variant of the tragic episode in Greece, but this time on a far larger scale, and with systemic global implications.*

*There has been no democratic decision by any parliament to take on these fiscal debts, rapidly approaching €1 trillion. They are the unintended side-effect of quantitative easing by the European Central Bank, which has degenerated into a conduit for capital flight from the Club Med bloc to Germany, Luxembourg, and The Netherlands.*

*This ‘socialisation of risk’ is happening by stealth, a mechanical effect of the ECB’s Target2 payments system. If a political upset in France or Italy triggers an existential euro crisis over coming months, citizens from both the Eurozone’s debtor and creditor countries will discover to their horror what has been done to them.*

*... ‘Alarm bells are starting to ring again. Our flow data is picking up serious capital flight into German safe-haven assets. It feels like the build-up to the Eurozone crisis in 2011’, said Simon Derrick from BNY Mellon.*

*The Target2 system is designed to adjust accounts automatically between the branches of the ECB’s family of central banks, self-correcting with each ebbs and flow. In reality it has become a cloak for chronic one-way capital outflows.*

*Private investors sell their holdings of Italian or Portuguese sovereign debt to the ECB at a profit, and rotate the proceeds into mutual funds in Germany or Luxembourg. ‘What it basically shows is that monetary union is slowly disintegrating despite the best efforts of Mario Draghi’, said a former ECB governor.*

*The Banca d’Italia alone now owes a record €364 bn to the ECB<sup>450</sup>—22pc of GDP—and the figure keeps rising. Mediobanca estimates that €220 bn has left Italy since the ECB first launched QE. The outflows match the pace of ECB bond purchases almost euro for euro [as Figure 21 makes clear].*

*Professor Marcello Minenna from Milan’s Bocconi University said the implicit shift in private risk to the public sector—largely unreported in the Italian media—exposes the Italian central bank to insolvency if the euro breaks up or if Italy is forced out of monetary union. ‘Frankly, these sums are becoming unpayable’, he said.*

*The ECB argued for years that these Target2 imbalances were an accounting fiction that did not matter in a monetary union. Not any longer. Mario Draghi wrote a letter to Italian Euro-MPs in January warning them that the debts would have to be 'settled in full' if Italy left the euro and restored the lira.*

*This is a potent statement. Mr Draghi has written in black and white confirming that Target2 liabilities are deadly serious—as critics said all along—and revealed in a sense that Italy's public debt is significantly higher than officially declared. The Banca d'Italia has offsetting assets but these would be heavily devalued.*

*Spain's Target2 liabilities are €328 bn, almost 30pc of GDP. Portugal and Greece are both at €72 bn. All are either insolvent or dangerously close if these debts are crystallised.*

*Willem Buiter from Citigroup says central banks within the unfinished structure of the Eurozone are not really central banks at all. They are more like currency boards. They can go bust, and several are likely to do so. In short, they are 'not a credible counterparty' for the rest of the Eurosystem.*

*It is astonishing that the rating agencies still refuse to treat the contingent liabilities of Target2 as real debts even after the Draghi letter, and given the self-evident political risk. Perhaps they cannot do so since they are regulated by the EU authorities and are from time to time subjected to judicial harassment in countries that do not like their verdicts. Whatever the cause of such forbearance, it may come back to haunt them.*

*On the other side of the ledger, the German Bundesbank has built up Target2 credits of €796 bn. Luxembourg has credits of €187 bn, reflecting its role as a financial hub. This is roughly 350pc of the tiny Duchy's GDP, and fourteen times the annual budget.*

*So what happens if the euro fractures? We can assume that there would be a tidal wave of capital flows long before that moment arrived, pushing the Target2 imbalances towards €1.5 trillion. Mr Buiter says the ECB would have to cut off funding lines to 'irreparably insolvent' central banks in order to protect itself.*

*The chain-reaction would begin with a southern default to the ECB, which in turn would struggle to meet its Target2 obligations to the northern bloc, if it was still a functioning institution at that point. The ECB has no sovereign entity standing behind it. It is an orphan.*

*The central banks of Germany, Holland, and Luxembourg would lose some of their Target2 credits, yet they would have offsetting liabilities under enforceable legal contracts to banks operating in their financial centres. These liabilities occur because that is how the creditor central banks sterilise Target2 inflows.*

*In other words, the central bank of Luxembourg would suddenly owe 350 pc of GDP to private counter-parties, entailing debt issued under various legal terms and mostly denominated in euros. They could try printing Luxembourgish francs and see how that works.*

*Moody's, Standard & Poor's, and Fitch all rate Luxembourg a rock-solid AAA sovereign credit, of course, but that only demonstrates the pitfalls of intellectual and ideological capture.*

*It did not matter that the EMU edifice is built on sand as long as the project retained its aura of inevitability. It matters now.*

*... Whether Italy can survive the loss of the ECB shield is an open question. Mediobanca says the Italian treasury must raise or roll over €200 bn a year, and Frankfurt is essentially the only buyer.*

*Greece could be cowed into submission when it faced crisis. The country is small and psychologically vulnerable on the Balkan fringes, cheek by jowl with Turkey. The sums of money were too small to matter much in any case.*

*It is France and Italy that threaten to subject the euro experiment to its ordeal by fire. If the system breaks, the Target2 liabilities will become all too real and it will not stop there. Trillions of debt contracts will be called into question.*

*This is a greater threat to the City of London and the banking nexus of the Square Mile than the secondary matter of euro clearing, or any of the largely manageable headaches stemming from Brexit.*

#### 14. Implications for the United Kingdom

Although the UK is no longer a member of the EU and did not contribute to the European Stability Mechanism even when it was, it is clearly not immune from what is happening in Target2 and the EZ.

This is principally because of the UK government's contribution to the programmes established to resolve the EZ banking and sovereign debt crises:<sup>451</sup>

- It helped to bail out the Irish banking system as part of a EUR 85 bn rescue package involving the ECB and IMF that began in 2010.<sup>452</sup> The UK's contribution was GBP 7 bn. Included in this was a series of bilateral interest-bearing loans to the Irish government totalling GBP 3.2 bn that were given between 2010 and 2013 and matured between 2019 and 2021.<sup>453</sup> There was an additional GBP 10 bn provided to support the Dublin-headquartered Ulster Bank, a subsidiary of the Royal Bank of Scotland (RBS), which, despite its name, operates mainly in the Irish Republic, as part of the GBP 45.80 bn rescue of RBS in 2008. Similarly, Lloyds Bank transferred GBP 6.41 bn of its GBP 20.54 bn rescue package to its Irish operation, Bank of Scotland (Ireland), before dissolving the business. In both cases, the funds were used to write off billions of pounds of loans given to Irish commercial property developers and households during the 'Celtic Tiger' boom years.<sup>454</sup>
- It contributed EUR 3.6 bn to help bail out the Portuguese banking system as part of the EUR 78 bn ECB-IMF rescue package in 2011.<sup>455</sup>
- It increased its contributions to the IMF, thereby allowing the IMF to provide rescue loans to EZ states experiencing financial difficulties. The total contributions increased by EUR 200 bn, of which EUR 150 bn came from the various NCBs in the EZ, with the rest coming from other NCBs, including the Bank of England. The Bank of England's share was around 4.5% of the total. The IMF was involved in seven bank bailouts between 2010 and 2015 (Ireland, 2010; Greece, 2010, 2012, and 2015; Portugal, 2011; Spain, 2012; and Cyprus, 2012), and the total contribution of the UK was around EUR 4.5 bn.<sup>456,457</sup>
- Where a bailout creates a shortfall in funding for regular projects, this is filled by extra contributions from all EU members via the EU budget. The EU can use the EU budget directly to grant *ad hoc* financial assistance to an EZ state as a result of Article 122 of the Treaty on the Functioning of the European Union, which states that: 'Where a member state is in difficulties or is seriously threatened with severe difficulties caused by natural disasters or exceptional occurrences beyond its control, the Council... may grant, under certain conditions, Union financial assistance to the member state concerned'.<sup>458</sup> The UK would have contributed to such assistance while it was an EU member.
- If the euro collapses, the UK could, in an extreme case, be liable for up to EUR 200 bn despite leaving the EU, according to Bob Lyddon:<sup>459</sup>

*The [Brexit] Withdrawal Agreement has not distanced the UK from financial problems in the Eurozone.*

*The UK remains a shareholder in the ECB and the European Investment Bank (the 'EIB'), and can have extra capital called up for the next ten years at least: EUR 1.5 billion into the ECB and €35.7 billion into the EIB.*

*We could also lose the paid-in shareholdings in the ECB of €100 million and €3.5 billion in the EIB. That makes a potential maximum loss across the ECB and EIB of €37.1 billion.*

*The UK agreed to remain responsible for all of the EU's funds, facilities and guarantees established whilst the UK was a member.*

*The applicable terms are adverse. Firstly, losses at the EU level are the responsibility of member states on a joint-and-several liability basis, meaning that, if one member fails to pay, the payments of others are raised until the 'last man standing' pays everything.*

*While the UK's payments would normally be in the region of 12 percent of the whole—the relationship of the UK's Gross National Income ('GNI') to the EU's GNI<sup>460</sup>—they could escalate to 100 percent if no other country could pay.*

*Secondly, the UK's liability only ceases when the transactions underlying its liability have paid off. The liability has no end date where a transaction tracks back to an investment in equity, and 'evergreen' facilities can be redrawn over and over again.*

*There are three 'evergreen' facilities: The Balance of Payments Facility with a ceiling of €12 billion and nothing drawn at present.*

*Then the Macro Financial Assistance which appears to have no ceiling as it is a way of the EU joining in IMF bailout programmes for non-EU countries; about €6 billion appears to be outstanding, with €3 billion of that lent out in 2020 and 2021 alone.*

*Then there is the first Eurozone bailout facility, the European Financial Stabilisation Mechanism or EFSM: Ireland owes €15.6 billion and Portugal €14.25 billion out to 2042. €30.15 billion of the €60 billion ceiling remains available to be redrawn. The maximum loss on 'evergreens' is at least €78 billion, with no end date.*

*Next are the EU's first-loss guarantees to the EIB. Firstly for its loans outside the EU made before 2021, where the guarantee is for €61.7 billion and the loans against it €60.8 billion, running off around 2036.*

*Secondly the €16 billion first-loss guarantee for the InvestEU programme, where the total financed amount is over €600 billion and containing equity investments with no end date of over €16 billion. The maximum loss here is €77 billion, with €16 billion having no end date.*

*There is one fixed loan facility: Euratom, with a ceiling of €4 billion of which €3.67 billion is drawn and €0.33 billion must soon be drawn or expire, and loans can have a maturity out to 2031.*

*That is a total of potential liabilities through the EU of €159 billion, of which the UK's normal share, at 12 percent, would be €19 billion.*

*If one adds the potential losses through the shareholdings in the ECB and EIB of €37.1 billion, the range of losses is from €56.1 billion if all other member states can pay, up to €196.1 billion if none of them can.*

*These amounts are over and above the Brexit 'divorce bill', recently estimated as GBP 40 billion and payable out to 2057.*

Although the Bank of England—as a non-EZ NCB—will not be liable to fund any losses of the ECB related to the EZ,<sup>461</sup> the UK banking system is, nevertheless, exposed to the EZ banking system. UK banks have made significant loans to both Irish and French banks, and the French banks, in turn, have made substantial loans to Italian and Spanish banks. So, if any Italian and Spanish banks fail, this could have a negative impact on UK banks, not least by restricting their ability to raise finance in euros and other major currencies. The Bank of England has gone as far as to warn that a bank crisis in Italy could spark a doom loop in the UK: 'if financial strains were to spread across the euro area, there could be a material risk to UK financial stability'.<sup>462</sup> There would also be problems if an

EZ-headquartered bank, which had significant business dealings in London, encountered difficulties.

UK savers and investors with EZ bank accounts or asset holdings could face a haircut. Those with bank deposits above EUR 100,000 could be liable for an 8% haircut if the bank becomes insolvent.

UK households could also be affected in terms of savings and mortgage rates. If an EZ banking crisis affected UK banks, this could raise the interest rate at which UK banks could borrow money on the wholesale money markets, which would then lead to higher rates on new mortgages. On the other hand, the UK might be considered a safe haven for EZ depositors and investors, and this would help to reduce deposit and mortgage rates in the UK; it could also raise property prices, especially in London.

Finally, the value of the euro affects exporters to, importers from, and tourists visiting EZ countries. Studies have shown that an increase in the likelihood of the EZ breaking up results in the euro depreciating and its volatility increasing.<sup>463</sup>

## 15. Conclusions

The evidence is overwhelming that the Eurozone is not an Optimal Currency Area. The first two decades of its existence have shown that a common monetary policy has not stabilised its disparate economies. Further, there is insufficient wage flexibility and labour mobility to eliminate unemployment quickly, and insufficient price flexibility and capital mobility to remove intra-EZ trade imbalances quickly. Most significantly, the EZ has no official counter-cyclical stabilisation mechanism, e.g., a system of regional redistributions whereby regions with balance of payment surpluses redistribute them via fiscal transfers to regions with balance of payment deficits—as happens in other currency unions, such as the UK and US.

This brings us to Target2—a simple inter-central bank payment and bookkeeping system—which has become an unofficial channel for bailing out the euro. As Tyler Durden points out, the imbalances in Target2 are ‘a direct result of an unsustainable balance of payment system. [They] represent both capital flight and debts that can never be paid back’.<sup>464</sup> What is remarkable about this is that most people in Europe have never heard of Target2. Even more remarkable is that the whole future of the EZ and, indeed, the EU project itself depend on what is happening in Target2.

Yet Target2 has helped to create a whole range of moral hazards within the EZ, the key one being the lowering of credit standards when financially weak banks lend to financially weak customers for the purpose of conducting cross-border transactions (such as importing goods), as happened in the case of Banca Monte dei Paschi di Siena. This is because these loans can be converted using Target2 into ‘risk-free’ central bank loans.<sup>465</sup> In short, Target2 has become a giant credit card for EZ members that import more than they export to other members. But there are two significant differences compared with a normal credit card: neither the debt nor the interest that accrues on the debt ever needs to be repaid. In reality, Germany cannot prevent either the recycling of surpluses or the lowering of credit standards if it wants to maintain the euro.

How long the euro survives will depend on what happens in two countries.

The first country is Italy—given the significance of its position in both the EU and the EZ. As Figure 14 shows, Italy’s economy is in a sharp decline relative to other EU states—its per capita GDP is lower today than it was at beginning of the millennium. It also has the largest Target2 liabilities. If Italy decided to leave the EZ, then not only would it be unable to repay these debts—as Mario Draghi clearly knows—it would also most likely trigger both the end of the euro and the end of the EU project itself. Since Germany’s current political establishment is not prepared to accept this, it has no real alternative but to keep using Target2 to bail out Italy.<sup>466</sup>

Ireland and Portugal were (relatively) lucky—their financial crises came along early, and they were small enough to be bailed out in full<sup>467</sup> by Germany and the other core

countries. Greece was unlucky—its crisis came later, by which time Germany had lost patience<sup>468</sup> and Greece turned out to be expendable, as Yanis Varoufakis has made clear.

But Italy is a different story—it is too big to fail, but also too big to be saved. As of January 2021, Italian banks had around EUR 200 bn in non-performing loans.<sup>469</sup> More than 75% of these are loans to companies, and, because the banks do not have sufficient capital to absorb the losses, these loans cannot be written off.<sup>470</sup> Cumbersome corporate restructuring and insolvency procedures, long judicial processes, and tax rules all act to discourage rapid write-offs in Italy.<sup>471</sup> Italy sits at the top of the EZ ‘house of cards’ and it is the increasing weight of Italian Target2 debt since 2007 that could start to bring the ‘house of cards’ tumbling down.<sup>472</sup>

The second country is Germany which sits at the base of the EZ ‘house of cards’. Target2 has become a Ponzi scheme that is only sustainable if Germany keeps building up worthless credits from Italy. However, Germany’s position has weakened considerably in the last few years in two key ways. First, its political authority within the EU has weakened. In December 2021, it capitulated before the ECJ and the European Commission by formally recognising the primacy of EU law and the authority of the ECJ when it withdrew its case questioning the legality of the QE programme and agreed not to question the ECJ’s authority again. It has also been outplayed by France over the mutualisation of EU national debt. If France is victorious in this ongoing game, it implies that the national debts of EZ members will increasingly be assumed to have the ‘implicit support’ of Germany (in the words of S&P Global)—and this will inevitably lead to formal Target2 debt forgiveness. This will only work if Germany maintains its AAA credit rating. But how will that be possible if the huge national debts of the other EZ members are ‘implicitly’ added to Germany’s? Second, Germany’s economy has weakened considerably since the war in Ukraine and it may not recover its former role as the economic powerhouse of Europe for some time. This, in turn, will reduce the ability of the German economy to provide the ‘implicit support’.

For how long will S&P Global and the global financial markets accept Germany’s AAA status under these circumstances? Bob Lyddon argues that ‘Germany’s credit rating is all that stands between the euro and collapse’.<sup>473</sup> The survival of the euro depends on the permanent willingness of German taxpayers to bail out the rest of the EZ through Target2 and the mutualisation of EU national debt. At the present time, the vast majority of German taxpayers are not aware of Target2. But for how long can this blissful ignorance last? In addition, a new German political establishment might well emerge in the next few years and decide to put a stop to this Ponzi game. The base of the EZ ‘house of cards’ has never looked so unstable.

In the meantime, Italy is making the most of Keynes’ famous dictum: ‘If you owe your bank manager a thousand pounds, you are at his mercy. If you owe him a million pounds, he is at your mercy’.<sup>474</sup> But in Italy’s case, it does not owe its German piggybank a million pounds, it owes it EUR 684 bn—on which it pays no interest and which it will never actually repay.

Nobel laureate Joseph Stiglitz said that in 1992 the European Union made a ‘fatal decision’ in choosing ‘to adopt a single currency, without providing for the institutions that would make it work. . . No one had ever tried a monetary union on such a scale, among so many countries that were so disparate’.<sup>475</sup> Fast-forward to 2017, and Tyler Durden claims that ‘Italy is on ECB life support. Should Draghi halt QE asset purchases, demand for Italian bonds will plunge’—and as if to prove the point, capital flight from Italy (and Spain) to Germany increased in the early months of 2017.<sup>476</sup> Durden also believes that ‘The EU and the euro project have been an economic disaster for all participants, including Germany, which will eventually be forced to write off the hard-earned savings it has lent to the other EZ members. *We know, with absolute certainty, that the euro will self-destruct and the Eurozone will disintegrate*’.<sup>477</sup> Stiglitz is optimistic enough to believe that a more ‘flexible euro’, such as a Northern and Southern euro, can save the euro project.<sup>478</sup>

On 3 November 2019, Gyorgy Matolcsy, the Hungarian central bank governor, called for the EU to admit that the ‘euro was a mistake’. He said: ‘The time has come to seek a way out of the euro trap. There is a harmful dogma that the euro was the “normal” next step towards unifying western Europe. But the common European currency was not normal at all, because almost none of the preconditions were met’. He went on to say:

*Two decades after the euro’s launch, most of the necessary pillars of a successful global currency—a common state, a budget covering at least 15–20 per cent of the Eurozone’s total gross domestic product [as in the US], a Eurozone finance minister and a ministry to go with the post—are still missing.*

*We rarely admit the real roots of the ill-advised decision to create the common currency: it was a French snare. As Germany unified, François Mitterrand, then French president, feared growing German power and believed convincing the country to give up its Deutschmark would be enough to avoid a German Europe. The chancellor of the time, Helmut Kohl, gave in and considered the euro the ultimate price for a unified Germany.*

*They were both wrong. We now have a European Germany, not a German Europe, and the euro was unable to prevent the emergence of another strong German power.*

*... Most Eurozone countries fared better before the euro than they did with it. According to analysis by the Centre for European Policy,<sup>479</sup> there have been few winners and many losers in the first two decades of the euro.*

*... We need to work out how to free ourselves from this trap. Europeans must give up their risky fantasies of creating a power that rivals the US. Members of the Eurozone should be allowed to leave the currency zone in the coming decades, and those remaining should build a more sustainable global currency. Let’s celebrate the 30th anniversary in 2022 of the Maastricht treaty that spawned the euro by rewriting the pact.<sup>480</sup>*

Cesaratto (2013) argues that ‘Financial liberalisation, a relatively loose monetary policy and the provisional fading of devaluation risks generated ephemeral growth in some peripheral EZ countries sustained by capital flows from core countries. This has been followed by real exchange rate revaluation and deterioration of foreign accounts. As a result, external financing flows dried up and the previous stock of loans began to be repatriated. Target2 has played a fundamental role in avoiding a precipitous crisis. This distinguishes the European crisis from more traditional balance of payments crises. However, the presence of Target2 does not offset the absence of the financial crisis prevention and resolution mechanisms that are characteristic of fully fledged political and currency unions’.<sup>481</sup>

Europe’s political establishment dismisses all this as simply a misunderstanding of the real end game or the degree of patience that is required. The EZ crisis is just another crisis on the long and irreversible road to fiscal and political union, with Target2 as a convenient device to dampen the crisis—just as long as German taxpayers do not get to hear about it.<sup>482</sup>

But this time, they could have taken a leap too far. Dealing with the financial crisis in the EZ will not help in the long run if measures are not also taken to deal with the economic crisis, which, in turn, means dealing with the political crisis. French finance minister Bruno Le Maire has made it very clear what the corresponding implications are. He has said that it means fiscal union in the EU: ‘Either we get a Eurozone budget or there will eventually be no euro at all. If there was a new financial and economic crisis tomorrow, the Eurozone could not respond’.<sup>483</sup>

This, of course, will only work if there is also full political union, but Le Maire wants to go further and—echoing the views of Guy Verhofstadt—has called for Europe to become an ‘empire, like China, and the US [willing to deploy its full economic, monetary, technological, and cultural power on the world stage to confront the two great superpowers]. I am talking about a peaceful empire, based on the rule of law. I use the term to sharpen awareness that we are going into a world where power matters. Europe should no longer shrink from deploying its power’. This is completely fantastical—the EU’s real-world future is much more likely to be one of perpetual financial, economic, and political crises—than of empire

building—as the EU’s weak and divided response to another empire builder’s invasion of Ukraine has shown.<sup>484</sup>

To conclude, the answers to the four specific questions asked at the beginning are as follows:

- No, the Eurozone is not an Optimal Currency Area. This is because it does not satisfy the conditions for monetary union. These conditions can only be satisfied if the EZ adopts fiscal and political union by becoming a federal state.
- The euro can therefore survive only as long as Germany, in particular, continues—however reluctantly—to finance the balance of payment deficits of other EZ members, in particular, Italy and Spain. This requires it to both recycle its trade surpluses back into countries with trade deficits and to be the main recipient of capital flight from EZ states with weak and weakening banking systems.<sup>485</sup>
- Target2, the apparently innocuous EZ payments system, is critical to facilitating the payment flows between surplus and deficit countries. The Target2 credits of countries such as Germany almost exactly match the balance of payment deficits of countries such as Italy and Spain. Since these deficits can never be repaid, the euro can only survive if Germany agrees to mutualise EZ debts so that the EZ becomes a transfer union. This would also appear to be the only way of addressing the Bank for International Settlements’ general concerns about the failure of ‘surplus or creditor countries in limiting or correcting external imbalances . . . [which] can threaten financial stability in creditor as in debtor countries. Creditor countries therefore have a responsibility both for avoiding “overlending” and for devising cooperative solutions to excessive or prolonged imbalances’.<sup>486</sup> In addition, Target2 covers up the sub-sovereign status of EZ member state government bonds.
- Political union, together with common fiscal and monetary policies, is the only realistic way of saving the euro in the long term and avoiding further failed rescue packages.<sup>487</sup> This is, of course, what Europe’s political establishment wants and has been preparing for since the days of Jean Monnet, with modern day equivalents, such as Thierry Breton, Bruno Le Maire and Mario Draghi,<sup>488</sup> pressurising a weakened Germany<sup>489</sup> into accepting an EU-wide fiscal and borrowing policy underwritten by Germany. But it is not obvious that this is what the people of Europe—and especially those in Germany—want.<sup>490</sup> However, given the size of the Target2 imbalances, it is also conceivable that the EZ will not survive and will eventually break up; this becomes more likely if political support for the euro project, particularly in Germany, begins to wane.<sup>491</sup>

Target2 is indeed the silent bailout system that keeps the euro afloat—for now.

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## Appendix A. The Role of Banknotes in Target2<sup>492</sup>

Cross-border payments can also be made by drawing banknotes from banks in one Eurozone country and depositing them in another, and this is another source of intra-Eurosystem debts. Banks in each euro country obtain their banknotes from their NCB, and, to account for cross-border movements, each NCB is allocated a proportion of the total EZ-wide banknote issue outstanding at any time. If the value of banknotes issued by an

NCB exceeds its allocation, this excess is recorded as a Eurosystem liability; an NCB that has issued less than its allocation has a Eurosystem claim. In addition, these claims and liabilities can be changed by the actions of bank customers. To illustrate, if EUR 100 of banknotes is drawn in Greece and deposited in Germany, the total issue is unchanged, and the allocations are, therefore, unchanged, but Greece's Eurosystem liability rises by EUR 100, while Germany's claim rises by EUR 100.

An essential property of monetary union is that euro banknotes can be exchanged one-for-one irrespective of their country of issue. Since notes are issued by all national central banks in the euro area, this means that each NCB must accept notes issued by all others, at par. This gives rise to a second essential property: a euro bank deposit in one country has the same value as it would in any other country. To uphold this property, all NCBs must accept claims on all others that arise from cross-border financial flows.

Banknotes issued by NCBs are indistinguishable. While the serial code on each euro banknote contains a country letter—e.g., X refers to Germany and T denotes Ireland—this just identifies the NCB that commissioned the printing of the notes, which may or may not be the NCB that issued them. This is because notes are distributed around the NCBs between printing and issue; also, an NCB may reissue notes that it has redeemed and which had previously been issued by other NCBs. Notes drawn from a bank in a particular country may thus have any letter.

Each NCB is allocated a share of the total euro banknote issue outstanding at any time, weighted according to the country's population and GDP. The weight of each NCB's 'banknote allocation key' is the same as its 'capital key' (which sets the NCB's contribution to the capital of the ECB) multiplied by 92%, with the remaining 8% being allocated to the ECB as seigniorage. For example, the Bundesbank has a capital key of 21.4394%, a share of EZ NCB capital of 26.1494% and a banknote allocation key<sup>493</sup> of 24.0575% (as of 1 January 2023).<sup>494</sup>

On an NCB balance sheet, the liability 'banknotes in circulation' shows this allocated value; it is not the value of banknotes issued by that NCB. However, the net outstanding value of banknotes issued by an NCB must be recorded as a liability on its balance sheet. An NCB that has issued more notes than its allocation, therefore has a further entry on its balance sheet: 'liabilities related to the allocation of euro banknotes within the Eurosystem (net)'. When added to the NCB's allocation (the liability labelled 'banknotes in circulation'), this adjustment makes up the total banknote issue of that NCB—and it owes the amount of the adjustment to other NCBs. Conversely, where an NCB has issued fewer banknotes than its allocation, the difference is entered as an asset: 'claims related to the allocation of euro banknotes'.

This banknote adjustment for each NCB is a claim on, or a liability to, other NCBs in the same respect as Target2 claims. Intra-Eurosystem debts arising both from Target2 transactions and banknote movements bear gross interest at the main refinancing rate set by the ECB: in July 2011, it was 1.5%; between March 2016 and March 2022, it was 0.0%; in September 2023, it was 4.50%.<sup>495</sup> However, the net effective rate of interest is zero.<sup>496</sup>

The values of banknotes issued by Eurozone NCBs in June 2011 are shown in Table A1. There are two notable features of these data. First, the actual issues of notes by some NCBs differ substantially from their allocations, giving rise to large adjustments, i.e., intra-Eurosystem claims. Second, the total banknote issue in the EZ as a proportion of GDP is markedly larger than that in the US or the UK, despite the use of US dollar notes outside the US. A likely cause of this large demand for euro notes is the presence of high-value notes. Of the total euro banknote issue, 57% constitutes EUR 100, EUR 200, and EUR 500 notes (in December 2010), whereas it is the smaller denominations that are commonly used as a medium of exchange.

**Table A1.** Banknotes issued by central banks.

June 2011	EUR Billions			
	Issued	% of GDP	Allocated	Adjustment
Austria	−6.8	−2.3	21.6	28.4
Belgium	9.6	2.6	27.0	17.4
Cyprus	1.1	6.1	1.5	0.4
Estonia	0.4	2.4	2.1	1.7
Finland	10.8	5.7	13.9	3.1
France	83.9	4.2	158.3	74.4
Germany	374.0	14.5	210.9	−163.1
Greece	36.6	16.2	21.9	−14.8
Ireland	27.1	17.4	12.2	−14.9
Italy	140.9	8.9	139.2	−1.7
Luxembourg	69.4	158.4	1.9	−67.4
Malta	0.8	12.7	0.7	−0.1
Netherlands	19.9	3.3	44.8	24.9
Portugal	−0.3	−0.2	19.5	19.8
Slovakia	6.6	9.4	7.9	1.4
Slovenia	1.4	3.7	3.7	2.3
Spain	73.1	6.8	93.4	20.4
ECB	0.0		67.8	67.8
Total Eurozone	848.5	9.0	848.5	-----
US USD bn	985.8	6.7		
UK GBP bn	53.9	3.7		

Note: Negative adjustments indicate issues in excess of allocation. For instance, the Central Bank of Ireland has issued EUR 14.9 bn more banknotes than its allocation; it therefore owes this amount to other central banks. Source: NCB financial statements, IMF International Financial Statistics, John Whittaker (2011, Table 1) *Eurosystem Debts, Greece, and the Role of Banknotes*, Lancaster University Management School, November 14.

Table A2 shows the aggregated intra-Eurosystem net claims in June 2011. The inclusion of credits and debts arising from banknote flows can make a significant difference to the overall size of the net claims, compared with the Target2 positions alone. If an NCB increases its note issuance above its allocation, this reduces its Eurosystem net claim for a given level of Target2 net claims, since the increase in the notes results in an increase in the liabilities of the NCB.

To illustrate, as of June 2011, the German Bundesbank had issued EUR 163.1 bn more banknotes than its share which, against its EUR 336.5 bn Target2 claim, brought its total Eurosystem claim down to EUR 173.5 bn. Similarly, the NCB of Luxembourg had issued far more notes (EUR 69.4 bn) than its share (EUR 1.9 bn), but the difference (EUR 67.4 bn) is offset almost exactly by its Target2 claim (EUR 69.9 bn); around 98% of the Luxembourg note issue is in high-value notes.

Amongst the peripheral EZ countries, note issues in Ireland and Greece are also higher than their allocations. This adds to their Target2 debts and may reflect hoarding or cash transfers out of these countries via the banknote route. As an opposite example, the banknote issue in Portugal is approximately zero. The central bank attributes this to tourism, with visitors drawing notes in other EZ countries and spending them in Portugal (Annual Report, 2010, p. 280).

Although these debts are accounted for as lending by the ECB, the ECB itself is owned by the NCBs of EZ states. Hence, irrespective of which NCBs are actually holding the corresponding claims, exposure to these debts falls on the remaining 12 (non-peripheral) countries, in proportion to their shares in the capital of the ECB. It may be noted that, while Germany insists that its guarantee to the European Financial Stability Facility and its successor, the European Stability Mechanism, for supporting the peripheral countries cannot exceed EUR 211 bn, its exposure to the same countries via the Eurosystem (EUR 196.6 bn in September 2011, but, in principle, unlimited) is in addition to this figure.

**Table A2.** Intra-Eurosystem net claims.

June 2011	EUR Billions		
	Target2	Banknote Adjustment	Total
Austria	−35.1 <sup>e</sup>	28.4	−6.7
Belgium	−21.3	17.4	−3.9
Cyprus	−6.4	0.4	−6.0
Estonia	−0.2	1.7	1.5
Finland	6.0	3.1	9.1
France	−18.3	74.4	56.1
Germany	336.5	−163.1	173.5
Greece	−96.8	−14.8	−111.6
Ireland	−129.5	−14.9	−144.4
Italy	6.0	−1.7	4.3
Luxembourg	69.9	−67.4	2.5
Malta	−1.9	−0.1	−2.0
Netherlands	20.5	24.9	45.5
Portugal	−57.3	19.8	−37.5
Slovakia	−13.4	1.4	−12.1
Slovenia	−2.0	2.3	0.4
Spain	−45.4	20.4	−25.0
ECB	−11.6 <sup>r</sup>	67.8	56.2

Note: Negative numbers indicate amounts owed to other central banks; an NCB with a negative banknote adjustment has issued a greater value of banknotes than its allocation; *e* = estimate; *r* = residual. Source: NCB financial statements, IMF International Financial Statistics, John Whittaker (2011, Table 2) *Eurosystem Debts, Greece, and the Role of Banknotes*, Lancaster University Management School, 14 November.

## Appendix B. Capital Subscription to the European Central Bank, 1 January 2023

Table A3 shows the EZ NCBs' contributions to the ECB's capital, while Table A4 shows the same figures for the non-EZ NCBs.

**Table A3.** Eurozone NCBs' contributions to the ECB's capital (1 January 2023).

National Central Bank	Capital Key (%)	Paid-Up Capital (EUR)	Share of Eurozone NCB Capital (%)
Nationale Bank van België/Banque Nationale de Belgique (Belgium)	2.9630	320,744,959.47	3.6139
Deutsche Bundesbank (Germany)	21.4394	2,320,816,565.68	26.1494
Eesti Pank (Estonia)	0.2291	24,800,091.20	0.2794
Central Bank of Ireland (Ireland)	1.3772	149,081,997.36	1.6798
Bank of Greece (Greece)	2.0117	217,766,667.22	2.4536
Banco de España (Spain)	9.6981	1,049,820,010.62	11.8287
Banque de France (France)	16.6108	1,798,120,274.32	20.2600
Hrvatska Narodna Banka (Croatia)	0.6595	71,390,921.62	0.8044
Banca d'Italia (Italy)	13.8165	1,495,637,101.77	16.8518
Central Bank of Cyprus (Cyprus)	0.1750	18,943,762.37	0.2134
Latvijas Banka (Latvia)	0.3169	34,304,447.40	0.3865
Lietuvos bankas (Lithuania)	0.4707	50,953,308.28	0.5741
Banque centrale du Luxembourg (Luxembourg)	0.2679	29,000,193.94	0.3268
Central Bank of Malta (Malta)	0.0853	9,233,731.03	0.1040
De Nederlandsche Bank (The Netherlands)	4.7662	515,941,486.95	5.8133
Oesterreichische Nationalbank (Austria)	2.3804	257,678,468.28	2.9033
Banco de Portugal (Portugal)	1.9035	206,054,009.57	2.3217
Banka Slovenije (Slovenia)	0.3916	42,390,727.68	0.4776
Národná banka Slovenska (Slovakia)	0.9314	100,824,115.85	1.1360
Suomen Pankki—Finlands Bank (Finland)	1.4939	161,714,780.61	1.8221
Total <sup>1</sup>	81.9881	8,875,217,621.22	100

Source: <https://www.ecb.europa.eu/ecb/orga/capital/html/index.en.html> (accessed on 13 February 2023). Note:  
<sup>1</sup> Owing to rounding, the total may not correspond to the sum of all figures shown.

**Table A4.** Non-Eurozone NCBs' contributions to the ECB's capital (1 January 2023).

National Central Bank	Capital Key (%)	Paid-Up Capital (EUR)
Българска народна банка (Bulgarian National Bank) (Bulgaria)	0.9832	3,991,180.11
Česká národní banka (Czech Republic)	1.8794	7,629,194.36
Danmarks Nationalbank (Denmark)	1.7591	7,140,851.23
Magyar Nemzeti Bank (Hungary)	1.5488	6,287,164.11
Narodowy Bank Polski (Poland)	6.0335	24,492,255.06
Banca Națională a României (Romania)	2.8289	11,483,573.44
Sveriges Riksbank (Sweden)	2.9790	12,092,886.02
Total <sup>1</sup>	18.0119	73,117,104.33

Source: <https://www.ecb.europa.eu/ecb/orga/capital/html/index.en.html> (accessed on 13 February 2023). Note: <sup>1</sup> Owing to rounding, the total may not correspond to the sum of all figures shown. Memo: While the UK was an EU member, its capital key was quoted as 13.6743%, although its actual capital key as a non-Eurozone member (used to calculate the Bank of England's contribution to ECB capital) was 3.75% of this value (after 29 December 2010).

### Appendix C. List of Acronyms

AIFMD	Alternative Investment Fund Managers Directive
AT1 bonds	Additional Tier 1 bonds
ATS	Austrian schilling
BEF	Belgian franc
BIS	Bank for International Settlements
BoG	Bank of Greece
BoP	Balance of payments
BRRD	Bank Recovery and Resolution Directive
CAGR	Compound annual growth rate

CCP	Central counterparty or central clearing counterparty (i.e., clearing house)
CEO	Chief executive officer
CF	Cohesion Fund
CoCo bond	Contingent convertible bond
CPI	Consumer price index
CRA	Credit rating agency
CRD IV	Capital Requirements Directive IV
CRR	Capital Requirements Regulation
DEM	Deutschemark
EAFRD	European Agricultural Fund for Rural Development
EAPP	Expanded Asset Purchase Programme
EBA	European Banking Authority
EBF	European Banking Federation
EBU	European Banking Union
ECAF	Eurosystem Credit Assessment Framework
ECB	European Central Bank
ECHR	European Convention on Human Rights
ECIPE	European Centre for International Political Economy
ECJ	European Court of Justice (more formally known as the Court of Justice of the European Union (CJEU))
EDP	Excessive Deficit Procedure
EEC	European Economic Community
EDIS	European Deposit Insurance Scheme
EFSF	European Financial Stability Facility
EFSM	European Financial Stabilisation Mechanism
EIB	European Investment Bank
EIOPA	European Insurance and Occupational Pensions Authority
EIP	Excessive Imbalance Procedure
ELA	Emergency Liquidity Assistance
EMFF	European Maritime and Fisheries Fund
EMIR	European Market Infrastructure Regulation
EMU	Economic and Monetary Union
EPU	European Payments Union
ERDF	European Regional Development Fund
ERM	Exchange Rate Mechanism
ESA	European Supervisory Authority
ESF	European Social Fund
ESFS	European System of Financial Supervision
ESG	environmental, social and governance
ESM	European Stability Mechanism
ESMA	European Securities and Markets Authority
ESP	Spanish peseta
ESRB	European Systemic Risk Board
EU	European Union
EU27	The 27 member states of the EU following the departure of the UK on 31 January 2020.
EZ	Eurozone
Fed	Federal Reserve Bank
FIM	Finnish markka
FIT	financial infrastructure and technology company
FSB	Financial Stability Board
FRF	French franc
GDP	Gross domestic product
QE	Quantitative easing
GFC	Global Financial Crisis
GNI	Gross national income
ICU	International Clearing Union

IE£	Irish pound
IMF	International Monetary Fund
ITL	Italian lira
LCH	London Clearing House
LDI	Liability driven investing
M&A	Mergers and acquisitions
MFF	Multiannual Financial Framework
MFI	Monetary financial institution
MiFID II	Markets in Financial Instruments Directive II
MIP	Macroeconomic Imbalance Procedure
MPS	Banca Monte dei Paschi di Siena
MREL	Minimum requirement for own funds and eligible liabilities
NCB	National central bank
NLG	Dutch guilder
NPL	Non-performing loan
OCA	Optimal Currency Area
OECD	Organisation for Economic Cooperation and Development
OMFIF	Official Monetary and Financial Institutions Forum
OMT	Outright Monetary Transactions
PPP	Purchasing power parity
PRA	Prudential Regulation Authority
PTE	Portuguese escudos
PSE	Public sector entity
PSPP	Public Sector Purchase Programme
QE	Quantitative easing
QT	Quantitative tightening
RRF	Recovery and Resilience Facility
SGP	Stability and Growth Pact
SMP	Securities Markets Programme
SRB	Single Resolution Board
SRF	Single Resolution Fund
SRM	Single Resolution Mechanism
SSM	Single Supervisory Mechanism
SURE	Support to mitigate Unemployment Risks in an Emergency
T2	Target2
Target2	Trans-European Automated Real-time Gross Settlement Express Transfer System
TFEU	Treaty on the Functioning of the European Union
TLAC	Total Loss Absorbing Capacity
TLTRO	Targeted Longer-Term Refinancing Operations
TPI	Transmission Protection Instrument
UCITS	Undertakings for Collective Instrument in Transferable Securities
WTO	World Trade Organisation
ZLB	Zero lower bound

## Notes

- <sup>1</sup> Or the European Economic Community (EEC) as it was then.
- <sup>2</sup> Trans-European Automated Real-time Gross Settlement Express Transfer System.
- <sup>3</sup> The Eurozone constitutes the subset of EU states that use the euro: Austria, Belgium, Croatia (since 1 January 2023), Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia, and Spain.
- <sup>4</sup> Each national central bank is an independent system operator, and the systems are thus subject to national legislation.
- <sup>5</sup> Non-euro countries can also participate in the Target2 system. However, these countries are not allowed to build up balances.
- <sup>6</sup> We offer the following two definitions of systemic risk:
  - [Besar et al. \(2011, para. 5.9.1\)](#): ‘A systemic risk materialises when an initial disturbance is transmitted through the network of interconnections that link firms, households and financial institutions with each other, leading, as a result, to either a breakdown or degradation of these networks’.

- A joint report issued by the [Financial Stability Board et al. \(2009\)](#), defines systemic risk as the ‘disruption of the flow of financial services, caused by an institution or by a part of the financial system, that could have an adverse effect on the real economy’.

7 See: <https://www.ecb.europa.eu/paym/t2s/about/html/index.en.html> (accessed on 19 June 2017).

8 It should be made clear from the outset that this paper primarily concerns how effectively Target2 supports the operation of the euro in the EZ when member states are unable to adjust the terms of trade between themselves in nominal terms. It is not concerned with the technical details of how Target2 itself operates.  
9 (Mundell 1960).

10 In a single economic area, there can only ever be one currency and one (risk-free) interest rate—and not multiple currencies with multiple (risk-free) interest rates—as was pointed out a long time ago by, for example, (Congdon 1992).

11 I use the terms balance of payment surpluses and deficits as a convenient shorthand for surpluses and deficits in the trade and financial flow accounts, recognising that there must be a full payment ‘balance’ across all accounts.  
12 (McKinnon 1963).

13 (Mongelli 2008).

14 For the benefit of non-economists, ‘endogenous’ means originating or developing from within a system. So, the phrase ‘the endogenous effect of currency union’ means that the very existence of the currency union could encourage the OCA criteria to develop and ultimately be satisfied, even if they were not operating effectively prior to its introduction or during the first few years of operation.

15 (Emerson et al. 1992; Frankel and Rose 1998).

16 (Keynes 1942). Proposals for an International Currency (or Clearing) Union. 11 February, Paras 28 and 29. Reproduced in J. K. Horsefield, ed. 1969. Part I: Before Bretton Woods—The Keynes Plan.

17 (HM Treasury 2003).

18 As laid out in the Humphrey–Hawkins Full Employment and Balanced Growth Act 1978.

19 Currency Unions: Europe vs. the United States, James Tobin Policy Options, Institute for Research on Public Policy, 1 May 2001. Available online: <http://policyoptions.irpp.org/magazines/one-world-one-money/currency-unions-europe-vs-the-united-states/> (accessed on 19 June 2017).

20 (Blanchard and Katz 1992).

21 (McMorrow 1996).

22 (Bayoumi and Eichengreen 1992). This study found that macroeconomic supply and demand shocks are ‘significantly more idiosyncratic across [EU] countries than across US regions. . . [EU] countries also exhibit a slower response to [these] shocks than US regions’.

23 This capital flowed in the belief that it was safe against the peripheral countries abandoning the euro. It dried up when the markets became concerned that some countries might abandon or be forced to abandon the euro, in which case their euro-denominated debts would be redenominated in their new currency, which is likely to depreciate against the euro and be more volatile. This is called redenomination risk.

24 Global Financial Crisis—2007 (August)—2008.

25 (Fingleton et al. 2015).

26 (Pasimeni 2014).

27 They can be fined 0.5% of their GDP if they do so.

28 These were also two of the ‘convergence criteria’ that member states had to satisfy before they could adopt the euro.

29 Bulgaria, Czech Republic, Denmark, Hungary, Poland, Romania, and Sweden.

30 See: [https://ec.europa.eu/info/funding-tenders/european-structural-and-investment-funds\\_en](https://ec.europa.eu/info/funding-tenders/european-structural-and-investment-funds_en) (accessed on 18 June 2017).

31 In 2011, the Eurozone states introduced a Euro-Plus Pact to deal with the weaknesses of the SGP. Three of its key aims are to foster competitiveness, to foster employment, and to contribute to the sustainability of public finances. Available online: [https://en.wikipedia.org/wiki/Euro\\_Plus\\_Pact](https://en.wikipedia.org/wiki/Euro_Plus_Pact) (accessed on 27 June 2017).

32 The Single Market was introduced in 1993, following the Single European Act 1987. It is the internal market of the EU’s Customs Union. The Customs Union imposes the Common External Tariff on imports coming into the EU, while there are no tariffs on trade between member states. The purpose of the European Single Market is to reduce and eliminate non-tariff barriers—such as differential regulations and restrictive practices—on trade between member states.

33 (Eichengreen 1991).

34 (Drèze and Bean 1990; Layard et al. 1991; Kenen 1995; Goodhart 1995).

35 This hostility dates back to the origins of the European Economic Community (the forerunner of the EU), which began with a conference held at the Berlin School of Economics in 1942. See (Blake 2021a).

- 36 See: [https://ec.europa.eu/info/business-economy-euro/banking-and-finance/financial-supervision-and-risk-management/european-system-financial-supervision\\_en](https://ec.europa.eu/info/business-economy-euro/banking-and-finance/financial-supervision-and-risk-management/european-system-financial-supervision_en) (accessed on 27 June 2019).
- 37 The ESM was set up in 2012 to replace two emergency funding programmes, the European Financial Stability Facility and the European Financial Stabilisation Mechanism, which both became operational in 2010. However, both these programmes continue in existence so that they can manage the bailouts in Ireland, Portugal, and Greece. In 2023, the ESM was given an additional function, namely to provide a new safety net of last resort to the Eurozone banking system, by providing loans to the Single Resolution Fund (SRF) which are then used to bail out insolvent banks. See: Bob Lyddon (2023) New task bolted on to European Stability Mechanism, 25 October, available online: <https://en.irefeurope.org/publications/online-articles/article/new-task-bolted-on-to-european-stability-mechanism-with-how-much-extra-risk/> (accessed on 29 October 2023); <https://www.srb.europa.eu/en/content/single-resolution-fund> (accessed on 15 February 2018).
- 38 Technical features of Outright Monetary Transactions, European Central Bank, 6 September 2012. Available online: [https://www.ecb.europa.eu/press/pr/date/2012/html/pr120906\\_1.en.html](https://www.ecb.europa.eu/press/pr/date/2012/html/pr120906_1.en.html) (accessed on 8 April 2017).
- 39 Hugo Dixon. 2016. EU enters brave new world of bank bail-ins. *Reuters*, January 4. Available online: <http://blogs.reuters.com/hugo-dixon/2016/01/04/eu-enters-brave-new-world-of-bank-bail-ins/> (accessed on 9 April 2017).
- 40 *ECB Monthly Bulletin*, June 2010. Available online: [https://www.ecb.europa.eu/pub/pdf/other/mb201006\\_focus01.en.pdf?2b5c64d483a41a019fd461f595a36b46](https://www.ecb.europa.eu/pub/pdf/other/mb201006_focus01.en.pdf?2b5c64d483a41a019fd461f595a36b46) (accessed on 10 April 2017).
- 41 The Euromarket pioneer who was Chairman of the Securities Association, Deputy Chairman of the Stock Exchange, and Chairman of Merrill Lynch Europe, the Middle East, and Africa during and after the 1986 Big Bang. The Euromarket was the name given the international securities market that was established in Europe by global investment banks in the 1960s. The name fell into disuse when the euro currency started in 1999.
- 42 (Yassukovich 2017).
- 43 (Slovik and Courneade 2011).
- 44 (Brunsdon 2016).
- 45 Available online: <https://home.treasury.gov/system/files/136/archive-documents/g20-st-andrews--draft-communicue-071109--15001.pdf> (accessed on 23 May 2017).
- 46 European equity research and advisory service costs have been estimated to equal USD 1.35 bn, which can be compared with USD 2.9 bn in cash equity commissions in the year June 2016–June 2017. See: Samuel Agini. 2017. Mifid II will spark USD 1.3 bn-a-year research battle. *Financial News*, August 23.
- 47 David Ricketts. 2017. BlackRock's Fink voices concern over Mifid II. *Financial News*, October 12.
- 48 According to governance solution provider Glass Lewis: *Proxy advisory firms provide institutional investors with research and data, as well as recommendations on management and shareholder proxy proposals that are voted on at an organisation's annual and special meetings. . . Areas that proxy advisory firms support include:*
- Environment, social, and governance (ESG)
  - Proxy voting
  - Proxy research
  - Executive compensation models
  - Board diversity.
- 49 Neil Scarth. 2022. MiFID II: A threat to European sustainability?, Special Report. *IPE*, March 4. Available online: <https://www.ipe.com/special-reports/mifid-ii-a-threat-to-european-sustainability/10058323.article> (accessed on 10 June 2022).
- 50 Simon Jessop and Vikram Subhedar. 2017. Brokers, funds add up research bill before new EU rules. *Reuters*, May 5. A more recent study found that there was significant drop in analyst coverage on the UK Main Market which led to a deterioration in market liquidity; see: Fu et al. 2023.
- 51 Lucy McNulty. 2017. Will others follow Brevan and Tudor's regulatory route? *Financial News*, August 21.
- 52 Attracta Mooney. 2017. €2.5 bn cost of Mifid II rattles asset managers. *FTfm*, January 27; Carlo Svaluto Moreolo. 2017. Briefing: MiFID II—The birth of a market. *IPE Magazine*, July/August.
- 53 David Wighton. 2018. City on the defensive as regulation tilts playing field for Wall Street. *Financial News*, April 30; Paul Clarke. 2018. Morgan Stanley says EU banks are losing ground as MiFID II bites. *Financial News*, April 30.
- 54 See: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021L0338&from=EN> (accessed on 7 March 2022).
- 55 Philip Georgiadis. 2016. MPs to review Solvency II. *Financial News*, September 13.
- 56 (House of Commons Treasury Committee 2017).
- 57 See: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1118359/Consultation\\_Response\\_-\\_Review\\_of\\_Solvency\\_II\\_.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1118359/Consultation_Response_-_Review_of_Solvency_II_.pdf) (accessed on 7 February 2023).
- 58 The risk margin reflects the potential cost of transferring insurance obligations to a third party should an insurer fail. It is the difference between the technical provisions (the transfer value) and the Best Estimate Liabilities (BELs). It is calculated in Solvency II using the 'cost-of-capital method' as an insurer's baseline solvency capital requirement (SCR) for unhedgeable risks multiplied

by the cost of capital at 6% and discounted at current interest rates. Unhedgeable risks are risks that cannot be hedged or easily transferred to a third party due to the absence of a deep and liquid market. A current example is longevity risk. The risk margin does not include credit and market risk, since compensation for the uncertainty arising from these risks is already considered to be adequately reflected in the BELs. See: <https://www.risk.net/definition/risk-margin> (accessed on 10 February 2023).

- 59 The matching adjustment provides insurers with capital relief for holding specific long-term assets that match the cash flows of a designated portfolio of life or annuity insurance and reinsurance obligations. It permits insurers to discount their liability cash flows at a higher rate than the risk-free rate, resulting in a lower liability value and hence lower regulatory capital. The higher discount rate is intended to reflect the illiquidity premium in the return on the long-term assets held, and it is calculated as the difference between the spread on these assets above the risk-free rate and the ‘fundamental spread’ or credit risk premium (i.e., the expected cost of default and downgrade of these assets). See: <https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/publication/2022/solvency-ii-review-matching-adjustment-and-reforms-to-the-fundamental-spread> (accessed on 10 February 2023).
- 60 David Ricketts. 2017. US fund managers jittery over post-Brexit delegation. *Financial News*, August 21.
- 61 Susanna Rust. 2017. UK sets up asset management taskforce in Brexit-fuelled action plan. *IPE*, October 2.
- 62 Chris Cummings. 2022. A word of caution on the AIFMD review. *Funds Europe*, January/February.
- 63 Lucy McNulty. 2017. Rating agencies plan Brexit moves as watchdog ups demands. *Financial News*, 9 October; Nick Reeve. 2017. ESMA: Hard Brexit would pose ‘significant stability risks’. *IPE*, October 10. The issue of CCPs is discussed later in this article.
- 64 Samuel Agini. 2017. LSE’s clearing boss eyes New York amid Brexit row—The US, rather than Germany, could win the battle over clearing after Brexit. *Financial News*, October 25.
- 65 David Whitehouse. 2022. Depth and liquidity will determine who wins clearing business. *Funds Europe*, January/February.
- 66 Carlo Svaluto Moreolo. 2022. EC proposes EMIR amendments to make EU clearing more attractive. *IPE*, December 7. Available online: <https://www.ipe.com/news/ec-proposes-emir-amendments-to-make-eu-clearing-more-attractive/10063900.article> (accessed on 4 February 2023).
- 67 Dutch Pension Group Warns Proposal on Derivatives Could Hurt Pension Funds’ Returns. *Pension Policy International*, 14 April 2023. Available online: <https://www.pensionpolicyinternational.com/dutch-pension-group-warns-proposal-on-derivatives-could-hurt-pension-funds-returns/> (accessed on 14 April 2023).
- 68 Reverse solicitation involves a customer initiating contact with a product or service provider and not in response to any form of approach or marketing by the provider.
- 69 Recital 70 of AIFMD stipulates that ‘This Directive should not affect the current situation, whereby a professional investor established in the European Union may invest in AIFs on its own initiative, irrespective of where the AIFM and/or the AIF is established’. See Reverse Solicitation, Lexology, 12 May 2015. Available online: <https://www.lexology.com/library/detail.aspx?g=abdbb29b-2a35-4f29-a4da-686aef7dd17e> (accessed on 29 November 2017).
- 70 (Shearman and Sterling 2017).
- 71 Lucy McNulty. 2017. EU wants to supercharge its top financial regulator. *Financial News*, September 25.
- 72 As previously mentioned, borrowing from banks and insurers has long been the preferred financing model on the European continent.
- 73 James Shotter and Thomas Hale. 2017. Larry Fink calls for Europe to bolster its capital markets: ‘Excessive reliance’ on banks and insurers to fund growth hobbling region’s economy. *Financial Times*, January 17.
- 74 William Wright and Panagiotis Asimakopoulos. 2017. *A Decade of Change in Capital Markets*. New Financial, October. Europe’s share of global equity trading, M&A activity, IPOs, stock-market value, assets under management, and hedge fund assets have fallen by between 25% and 50% since 2007. In 2006, 14 of the 20 largest banks in the world were European, with Europe accounting for 58% of global banking assets. By 2017, the share was 32%, and only eight European banks were in the top 20. The total assets of the largest European banks have dropped by more than a quarter in real terms, while the assets of banks from the rest of the world have more than doubled. Revenues for European investment banks have halved in real terms, which is twice the size of the fall in US investment banks. Their share of global revenues is down from 45% to around a third, with no European bank among the top five with respect to revenues in 2017. Sources: William Wright. 2017. The decline and fall of European capital markets. *Financial News*, 18 October); Christian Edelmann. 2022. Tackling the value gap. Available online: <https://www.oliverwyman.com/our-expertise/insights/2022/sep/tackling-the-value-gap-eurofi.html> (accessed on 8 December 2022).
- 75 Christian Edelmann. 2022. Longer-term, European banks need to challenge their core business models. *Financial News*, 23 August 2022. Available online: <https://www.fnlonon.com/articles/europes-banks-must-reform-to-combat-the-rise-of-challengers-20220823> (accessed on 8 December 2022).
- 76 Securitisation is the process of pooling portfolios of loans and then selling tranches to investors.
- 77 See: <https://www.telegraph.co.uk/business/2022/11/27/brussels-accused-damaging-eu-competitiveness-blocs-banks/> (accessed on 28 November 2022).

- 78 MiFID II contains 1.4 million paragraphs. See: <https://www.finance-monthly.com/2018/06/whats-still-to-be-done-for-mifid-ii/> (accessed on 17 September 2022).
- 79 The impact of the COVID-19 pandemic, which began at the start of 2020, has been excluded from the analysis.
- 80 In some Mediterranean countries, the youth unemployment rate exceeded 50%, e.g., Spain with 53% and Greece with 52%. See: <https://www.weforum.org/agenda/2015/08/which-countries-have-the-highest-rates-of-youth-unemployment/> (accessed on 20 April 2022).
- 81 (Lyddon 2023). Lyddon argues that the true national debts of EU member states are much larger than the official measure reported by Eurostat, namely, 'General government gross debt'. Excluded from this measure are 'shadow debts' (such as those of the EU itself, e.g., drawings under the EUR 750 billion Coronavirus Recovery Fund, and those incurred by member state central banks within the Target2 payment system) and 'contingent liabilities' (which are principally guarantees, such as payments of additional capital to the European Investment Bank should it be required or recapitalising the European Central Bank should it experience losses on its programmes). At the end 2021, Eurostat recorded that the EU's 'General government gross debt' was EUR 13.0 trn, which was 90% of the EU GDP of EUR 14.5 trn. Lyddon estimates that shadow debts of EUR 6.4 trn and contingent liabilities of EUR 3.8 trn failed to be registered. EU public sector debt, including the shadow debts, was EUR 19.4 trn or 134% of EU GDP. If EU public sector contingent liabilities are also included, the total liability rose to EUR 23.2 trn or 160% of GDP. This means that at the end of 2021, Greece's true government debt-to-GDP ratio was 337.1%, while Italy's was 258.4%, France's was 178.0%, and Germany's was 130.5%.
- 82 (Whittaker and Connolly 2003).
- 83 (Kenen 1969; Krugman 1991).
- 84 (Akiba and Iida 2009; Tilford 2017).
- 85 Available online: <https://tradingeconomics.com/greece/gdp> (accessed on 25 September 2017).
- 86 (Tilford 2017).
- 87 (Pellegrino and Zingales 2017).
- 88 See: <https://www.oecd.org/els/public-pensions/PAG2021-country-profile-Italy.pdf> (accessed on 17 March 2023). This compares with an OECD average of 7.7%.
- 89 There was a great deal of hostility toward this increase, and, in 2018, the government introduced a scheme, known as 'quota 100', that allowed people to draw a pension starting at the age of 62 if they had contributed for 38 years—the sum of the two figures yielding the '100' in the scheme's name. In late 2021, the Draghi government introduced 'quota 102', which raised the minimum retirement age by two years to 64 but only during 2022. See Giuseppe Fonte and Gavin Jones. 2022. Italy makes another attempt at pension reform as debt worries mount. *BusinessLive*, February 17. Available online: <https://www.businesslive.co.za/bd/world/europe/2022-02-17-italy-makes-another-attempt-at-pension-reform-as-debt-worries-mount> (accessed on 17 March 2023).
- 90 Jack Allen-Reynolds of Capital Economics quoted in Tim Wallace. 2022. Eurozone rocked as Italy's technocrats lose their grip on power. *Daily Telegraph*, July 15. Available online: <https://www.telegraph.co.uk/business/2022/07/15/eurozone-rocked-italys-technocrats-lose-grip-power> (accessed on 19 March 2023).
- 91 *FT Newsletters*, 8 June 2023.
- 92 (Krugman et al. 2012).
- 93 (Bun and Klaassen 2002, 2007; Micco et al. 2003; Baldwin et al. 2005). The last of these articles argues that 'Existing studies on the impact of the euro on goods trade report increments between 5% and 40%. These estimates are based on standard panel gravity models for the level of trade. We show that the residuals from these models exhibit upwards trends over time for the euro countries, and that this leads to an upward bias in the estimated euro effect. To correct for that, we extend the standard model by including a time trend that may have different effects across country-pairs. This results in an estimated euro impact of only 3%'.
- 94 (Burrage 2017a, 2017b, 2017c).
- 95 Wolfgang Münchau. 2015. Would it actually matter if we left the EU? *Financial Times*, June 18.
- 96 The UK, in particular, saw little economic benefit from the European Single Market: 'UK goods exports to the 11 fellow founding members of the Single Market have grown over the years 1993–2015 at a compound annual growth rate (CAGR) of just 1.0%. This compares unfavourably with the mean growth rate of the goods exports of Canada, Japan, Singapore and the US and 10 other non-member countries trading with the same 11 founding members under WTO rules, that had a CAGR of 1.93%, which is almost twice as high. It also compares unfavourably with UK goods exports to the 111 countries with which it trades under WTO rules. These have grown over the same 23 years nearly three times faster, at a CAGR of 2.88%' (Burrage 2017c).
- 97 (El-Agraa and Ardy 2011).
- 98 (International Monetary Fund 2017). In July 2023, the IMF criticised the EU for failing to address its 'long downward trend' in labour productivity compared with the US. Its chief economist, Pierre-Olivier Gourinchas, said the recent disappointments in European growth were not hard to explain (quoted in *Financial Times Europe Express: Europe's sickly economy*, 12 October 2023).
- 99 Quantitative easing is an unconventional form of monetary policy wherein a central bank creates new money electronically to buy financial assets such as government bonds. This will raise the prices of these financial assets and lower their yields. The hope is

that the resulting increase in financial wealth and the lower returns on savings will lead to an increase in private sector spending in the economy. See: <http://www.bankofengland.co.uk/monetarypolicy/pages/qe/default.aspx> (accessed on 26 June 2022).

100 The problems with implementing QE in the Eurozone are discussed Section 10.

101 Britain and Europe: The Political and Economic Repercussions of the Crisis, British Academy Conference, 23 June 2015. Available online: <http://ukandeu.ac.uk/explainers/britain-and-europe-the-political-and-economic-repercussions-of-the-crisis> (accessed on 16 May 2016).

102 (Mongelli 2008).

103 Productivity is defined as real value added per working hour. Source: Table 1 of (Elstner et al. 2018).

104 It is important to note that while EZ member states can no longer alter their nominal exchange rates with other member states, their real exchange rates will change when wages and prices change at a different rate from that of other member states. Deficit states could restore competitiveness by reducing wages and prices (or, at least, the growth rates in wages and prices) relative to surplus countries.

105 UK trade is particularly badly affected. The euro is undervalued against sterling on a purchasing power parity (PPP) basis by between 15.2% and 20%. As a consequence, the UK has almost always run a trade deficit with the EU over the period following the introduction of the euro. In 2019, the UK ratio of exports to imports with the EU was only 79%. Had the euro been correctly valued, then EZ exports to the UK in 2018 would have been between GBP 67.2 bn and GBP 88.4 bn lower. See (Blake 2021b).

106 Part of the surplus in recent years is, as previously mentioned, due to the weakness of the Italian economy.

107 See, e.g., (Dellepiane et al. 2013).

108 The Great Recession ended in 2012. See: <https://www.investopedia.com/terms/e/european-sovereign-debt-crisis.asp> (accessed on 13 March 2018).

109 See: <https://www.investopedia.com/terms/e/european-sovereign-debt-crisis.asp> (accessed on 13 March 2018).

110 See, e.g., (Reynolds et al. 2020).

111 The 'no bailout clause' was enshrined in Articles 123 and 125 of the Treaty on the Functioning of the European Union (which replaced the Treaty of Rome).

112 (Norris and Byrne 2015).

113 Dominic Clark. 2020. Managing euro zone sovereign risk in the face of the pandemic. *IPE*, August 21. Available online: <https://www.ipe.com/viewpoint-managing-euro-zone-sovereign-risk-in-the-face-of-the-pandemic/10047379.article> (accessed on 2 October 2021).

114 *The Times*, 19 November 1997.

115 (Feldstein 1992). This view is also shared by (Goodhart 1998).

116 See: <https://www.ecb.europa.eu/paym/pdf/target/current/targetoverview.pdf> (accessed on 18 May 2021).

117 Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain.

118 (Amato et al. 2016).

119 The world's oldest bank, which was founded in 1472.

120 Adapted from John Whittaker. 2016. *Eurosystem Debts do Matter*. Lancaster: Lancaster University Management School, 1 February (Equation (1)). This equation is valid if there is no banknote adjustment; otherwise, the final term in the equation is replaced by: Eurosystem liability of Banca d'Italia = Target2 liability of Banca d'Italia less the banknote adjustment. If Banca d'Italia has issued a lower value of banknotes than its allocation, this reduces its Eurosystem liability to the ECB (and vice versa). The role of banknotes is discussed in Appendix A, but for ease of understanding, we will assume that there has been no (zero) banknote adjustment in the main body of the paper, implying that the Eurosystem liability of Banca d'Italia is equal to its Target2 liability.

121 Adapted from John Whittaker. 2016. *Eurosystem Debts do Matter*. Lancaster: Lancaster University Management School, 1 February (Equation (2)).

122 The redemption of an Italian government bond held by other Eurozone national central banks and the ECB will lead to an identical increase in the Target2 liability of Banca d'Italia, with no net change in Italian national indebtedness to other Eurozone governments.

123 The public sector balance of payments deficit = net redemptions (of government bonds) + interest (on government bonds). These are the first two items on the right-hand side of Equation (2).

124 Martina Cecioni and Giuseppe Ferrero. 2012. *Determinants of Target2 Imbalances*. Banca d'Italia Occasional Papers, No. 136, September, p.22. Available online: [https://www.bancaditalia.it/pubblicazioni/qef/2012-0136/QEF\\_136.pdf](https://www.bancaditalia.it/pubblicazioni/qef/2012-0136/QEF_136.pdf) (accessed on 1 April 2018).

125 (Amato et al. 2016).

126 Or as an anonymous referee put it: 'An increase in Target2 liabilities is recorded in the balance of payments as a capital inflow. Thus, the increase in liabilities cannot be accompanied by a capital account deficit, but must be accompanied by a capital account surplus. If instead there were a capital inflow (e.g., in the form of portfolio investments), the Target liabilities would be reduced,

but the capital account surplus would remain at an unchanged level. A country like Ireland, which has a current account surplus, must export capital in order to balance its balance of payments. However, if a country has a Target liability, then it must export a total of the sum of the current account surplus and the Target liability in capital in order for the balance of payments to be balanced. However, since all capital transfers that are processed via commercial banks flow through the Target2 system, part of the capital must have been exported elsewhere’.

127 Adapted from John Whittaker. 2016. *Eurosystem Debts do Matter*. Lancaster: Lancaster University Management School, 1 February (Equation (3)).

128 (Schollmeyer 2019).

129 In other words, one cannot pay off a loan by borrowing the money to do so from the person to whom one owes the money; this will not change one’s net liability. Central bank money is government debt, so it cannot be used to pay off another debt of the government.

130 Or as Erler and Hohberger (2016, pp. 494–95) put it—given the balance of payments identity in a fixed exchange rate regime, Current account + Capital account + Changes in foreign exchange reserves = 0—‘In the EMU, the foreign reserves are replaced by Target2 balances due to the loss of autonomous monetary policy and the abandonment of national currencies. . . . In a fixed exchange rate regime without corresponding net private capital outflows, the central bank of a current account surplus economy has to accumulate foreign exchange reserves to avoid appreciation pressure on the nominal exchange rate, thereby increasing the monetary base. In the case of the EMU, the accumulation of foreign reserves is replaced by creating Target2 claims vis-à-vis the deficit countries to substitute for private capital flows. The central bank of a deficit country can incur as much Target2 liabilities as long as the banks of the deficit country provide sufficiently good collateral. Since the standard of eligible collateral can be lowered by the ECB, there are *de facto* no limits for Target2 liabilities and claims. As long as trade is financed by private capital flows, Target2 does not play an important role’. The authors go on to say (FN7) that ‘the emergence of Target2 balances is linked to structural imbalances/heterogeneities—approximated by over- or undervaluation of real exchange rates—within the euro area’. See (Erler and Hohberger 2016).

131 Or, equivalently, keeps rolling over its loan with the bank without any real intention of repaying it—a practice known as ‘evergreening’ or ‘zombie lending’ (see, e.g., Steinkamp et al. (2017) who show that greater evergreening accompanies higher growth of NCB-credit and Target2-liabilities; and (Acharya et al. 2023)).

132 ‘Sovereign debt in the euro area: too safe or too risky?’, Keynote address by Benoît Cœuré, member of the Executive Board of the ECB, at Harvard University’s Minda de Gunzburg Center for European Studies in Cambridge MA, 3 November 2016. Available online: <https://www.ecb.europa.eu/press/key/date/2016/html/sp161103.en.html> (accessed on 22 January 2023).

133 A euphemism for interest and loan repayments not being made.

134 See Figure 21 below.

135 A number of commentators argue that Target2 debt should be added to normal public debt, e.g., (Reinhart 2018).

136 (Whittaker 2016).

137 Available online: <http://www.eurocrisismonitor.com/> (accessed on 16 February 2023); Available online: [https://www.ecb.europa.eu/stats/policy\\_and\\_exchange\\_rates/target\\_balances/html/index.en.html](https://www.ecb.europa.eu/stats/policy_and_exchange_rates/target_balances/html/index.en.html) (accessed on 16 February 2023).

138 It has since returned but only on a fully collateralised basis, and it is now less expensive for the banking system to use Target2.

139 Part of the reason why Italian residents moved funds out of Italy was the increase in taxes that the Italian government was obliged to impose in exchange for EU financial support in 2010–2011. The government was required to tighten fiscal policy, which it did through ‘fiscal consolidations’, that is, mainly by increasing taxes and cutting public investment rather than reducing current government spending. Available online: <https://www.ft.com/content/a5fae994-3f99-47d2-9a78-27a1420ce4bb> (accessed on 23 January 2023).

140 To reiterate, capital flight is a private financial outflow that increases Italy’s balance of payments deficit and hence its Target2 liability via Equation (2).

141 One of the earliest studies of capital flight was that conducted by (Garber 1999).

142 Euro redenomination risk is the risk that a euro asset will be redenominated into a devalued legacy currency after a partial or total euro breakup. See, e.g., (De Santis 2015).

143 See also: [https://www.ecb.europa.eu/stats/policy\\_and\\_exchange\\_rates/target\\_balances/html/index.en.html](https://www.ecb.europa.eu/stats/policy_and_exchange_rates/target_balances/html/index.en.html) (accessed on 16 February 2023).

144 QE is discussed in more depth in Section 10.

145 Strictly speaking, the APP started in October 2014 ‘to support the monetary policy transmission mechanism and provide the amount of policy accommodation needed to ensure price stability’. The QE programme that was started in March 2015 was implemented using the Extended Asset Purchase Programme (EAPP). The other components of the APP are the Corporate Sector Purchase Programme (CSPP), the Public Sector Purchase Programme (PSPP), the Asset-Backed Securities Purchase Programme (ABSPP), and the Third Covered Bond Purchase Programme (CBPP3). Available online: <https://www.europarl.europa.eu/EPRS/S/EPRS-Briefing-548976-The-ECBs-EAPP-FINAL.pdf> (accessed on 23 January 2023).

- 146 Figures as of April 2022. Available online: <https://www.ecb.europa.eu/mopo/implement/app/html/index.en.html> (accessed on 23 January 2023).
- 147 The capital of the ECB comes from the national central banks (NCBs) of all EU member states and amounted to EUR 10,825,007,069.61 as of January 2023. The NCBs' shares in this capital are calculated using a key that reflects the respective country's share in the total population and the gross domestic product of the EU. These two determinants have equal weighting. Available online: <https://www.ecb.europa.eu/ecb/orga/capital/html/index.en.html> (accessed on 23 January 2023). See Appendix B.
- 148 Later, we show that the capital key shares are routinely being violated in the ECB's QE programme.
- 149 Minenna et al. (2018, p. 149) notes the impact of non-residents on Target2: 'according to the QE engagement rules, Eurozone national central banks acquire government securities from both domestic and foreign entities. When the Bank of Italy, for example, buys an Italian government bond from a German enterprise, liquidity flows directly into the German financial system and is negatively/positively accounted for in the T2 balance of the Bank of Italy/Bundesbank. Moreover, the Bundesbank (or the Dutch and Luxembourg central banks) also intermediates between the operations of banks outside the euro area that tend to use [their] local subsidiaries to make purchases (for example, a British bank involved in purchasing Italian government bonds passing through its German subsidiaries). The European Central Bank (2016) reports that, at the aggregate level, 80 percent of all purchases were made through cross-border operations of national central banks with foreign entities, while approximately 50 percent of securities purchases within the QE involved residents outside the euro area, thus fueling the growth of T2 balances in Germany, the Netherlands, and Luxembourg'.
- 150 See: [https://www.ecb.europa.eu/pub/financial-stability/fsr/focus/2017/pdf/ecb~2a0e42e52f.fsrbox201705\\_04.pdf](https://www.ecb.europa.eu/pub/financial-stability/fsr/focus/2017/pdf/ecb~2a0e42e52f.fsrbox201705_04.pdf) (accessed on 6 January 2018).
- 151 See the ECB's *ELA Procedures*. Available online: [https://www.ecb.europa.eu/pub/pdf/other/201402\\_elaprocedures.en.pdf](https://www.ecb.europa.eu/pub/pdf/other/201402_elaprocedures.en.pdf) (accessed on 8 January 2017).
- 152 Despite the Eurosystem Credit Assessment Framework (ECAF). See: <https://www.ecb.europa.eu/paym/coll/risk/ecaf/html/index.en.html> (accessed on 20 May 2020). See also (Whelan 2015; Whittaker 2016). A referee made the following point: 'The distinction between liquidity provided by the ECB and liquidity provided directly by the national central bank is important. The latter is called Emergency Liquidity Assistance. Any defaults on loans drawn down via Emergency Liquidity Assistance must be borne solely by the national central banks concerned. Only the losses of the ECB, but not the losses of individual central banks (within the framework of Emergency Liquidity Assistance) are distributed according to the capital key'.
- 153 (Minenna et al. 2018).
- 154 (Febrero et al. 2018).
- 155 This matter is discussed in more detail below.
- 156 This is discussed in detail in Section 10.4.
- 157 See: <https://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/novel-coronavirus-2019-ncov> (accessed on 27 March 2023).
- 158 It was intended 'to counter the serious risks to the monetary policy transmission mechanism and the outlook for the euro area posed by the coronavirus (COVID-19) outbreak'. Available online: <https://www.ecb.europa.eu/mopo/implement/pepp/html/index.en.html> (accessed on 27 March 2023).
- 159 See: [https://ec.europa.eu/info/strategy/recovery-plan-europe\\_en](https://ec.europa.eu/info/strategy/recovery-plan-europe_en) (accessed on 27 March 2023).
- 160 See: <http://sdw.ecb.europa.eu/reports.do?node=1000004859> (accessed on 27 March 2023); [https://en.wikipedia.org/wiki/List\\_of\\_sovereign\\_states\\_in\\_Europe\\_by\\_GDP\\_\(nominal\)](https://en.wikipedia.org/wiki/List_of_sovereign_states_in_Europe_by_GDP_(nominal)) (accessed on 27 March 2023).
- 161 This is because the net effective rate of interest on Target2 credits and debits is zero due to pooling and redistribution. Sinn (2019) points out that Target2 balances 'bear an effective rate of interest and even compound interest' which is a 'weighted average of (1) the main refinancing rate, (2) the term deposit rate and (3) the deposit facility rate, where the weights depend on the magnitudes of the countries involved as given by the paid-in capital keys as well as on the extents to which the international liquidity shifts as measured by the Target . . . balances involve changes in the stocks of monetary assets and/or minimum reserve requirements (1), changes in the amount of term deposits (2), and changes in excess liquidity (3)'. However, he also points out that 'Target balances formally imply interest payments among the NCBs during a year which is then nullified by the pooling and redistribution of all NCB interest income by the end of the year'. This is confirmed by a careful examination of NCB accounts, see, e.g., the Deutsche Bundesbank *Annual Report 2022* (pp. 62–64; <https://www.bundesbank.de/resource/blob/905558/ad932e0cc62044f541770fa9905be6a/mL/2022-annual-report-data.pdf>) and the Banco de España *Annual Accounts 2022* (p. 65; [https://www.bde.es/f/webbe/SES/Secciones/Publicaciones/PublicacionesAnuales/Cuentas\\_anuales\\_del\\_BdE/2022/Fil/es/BE\\_CuentasAnuales\\_2022\\_en.pdf](https://www.bde.es/f/webbe/SES/Secciones/Publicaciones/PublicacionesAnuales/Cuentas_anuales_del_BdE/2022/Fil/es/BE_CuentasAnuales_2022_en.pdf)). In a private communication dated 5 September 2023, John Whittaker states that on page 65 of the Banco de España *Annual Accounts 2022* 'it shows that the bank paid out €2.771 bn interest on its negative T2 balance during 2022 then received it all back in the pooling process (a small complication: the pooling receipt for this item was actually €3,020. The difference is Spain's share of income from the ECB's negative T2 balance. The ECB is not part of the pool so it does not get its interest payment back). As confirmation, one can trace the relevant flows—the interest receipt and then its replacement by the receipt of the pooling share—through the Banca de España P&L account'.
- 162 President emeritus at the Ifo Institute and Professor at the University of Munich.

- 163 (Sinn 2011a, 2011b, 2012, 2014, 2016).
- 164 See: <https://en.wikipedia.org/wiki/TARGET2> (accessed on 27 March 2017).
- 165 (Auer 2014).
- 166 (Eichengreen et al. 2015).
- 167 (Keynes 1971).
- 168 An anonymous referee made the following remark: ‘the permanent “leak” of liquidity towards the deficit countries—the transfer union—seems to me much more deleterious for the surplus countries and for the European project as a whole than a fee on their positive balances to motivate greater trade spending the other way’.
- 169 (Bindseil et al. 2012).
- 170 (Broughton 2002).
- 171 The MIP is a procedure intended to broaden the surveillance of economic policies of the EU member states to include a detailed and formal framework in order to prevent and correct excessive imbalances and to help the EU member states affected to establish corrective action plans before divergences become entrenched. The MIP is based on Article 121(6) of the Treaty on the Functioning of the European Union. The first step of this surveillance procedure of the EU is the Alert Mechanism Report. The MIP has a preventive and a corrective arm. The latter is made operational by the excessive imbalance procedure. Available online: <https://www.ecb.europa.eu/services/glossary/html/glossm.en.html#438> (accessed on 7 July 2017).
- 172 These are total deficits and surpluses, not Target2 deficits and surpluses.
- 173 See also (Hristov et al. 2020).
- 174 (Bindseil and König 2012).
- 175 Some market-based proposals have been made to reduce Target2 liabilities, including the introduction of a market for debt or transfer rights, and the introduction of short-term government instruments called European Standard Bills (suggested by an anonymous referee).
- 176 (Febrero and Uxó 2013).
- 177 An anonymous referee went further than this and argued that Sinn and Wollmershäuser’s claim that Target2 imbalances are loans granted by the Eurosystem, which are funded with German savings, ‘could better be described as credit money *issuance* backed by German productivity’ on the grounds that in ‘the debate surrounding the credit theory vs. the intermediation theory of banking, . . . the intermediation theory has by now been discredited (see, e.g., by Werner (2014))’.
- 178 (Whelan 2012).
- 179 That is trade credit or vendor financing.
- 180 Peter Spiegel. 2015. Tsipras letter to Merkel: the annotated text. *Financial Times*, March 22.
- 181 By contrast, the UK government can borrow directly from the Bank of England using ‘Ways and Means Advances’.
- 182 (Whittaker 2011).
- 183 The banks that engage in this practice across the Eurozone also tend to engage in derivatives and other activities, thereby adding to the riskiness of international financial markets.
- 184 Archaic term for feed or maintain.
- 185 (Durden 2012).
- 186 John Whittaker has pointed out in a private communication that even with banking union, monetary union is not obviously sustainable.
- 187 See: <https://www.bankingsupervision.europa.eu/about/thessm/html/index.en.html> (accessed on 15 February 2018).
- 188 See: [https://ec.europa.eu/info/business-economy-euro/banking-and-finance/banking-union/single-resolution-mechanism\\_en](https://ec.europa.eu/info/business-economy-euro/banking-and-finance/banking-union/single-resolution-mechanism_en) (accessed on 15 February 2018).
- 189 See: <https://www.srb.europa.eu/en/content/single-resolution-fund> (accessed on 15 February 2018).
- 190 William Rhodes. 2016. Eurozone must complete banking union to avert crisis. *Financial Times*, 28 July; Hugo Dixon. 2016. EU enters brave new world of bank bail-ins. *Reuters*, January 4. Available online: <http://blogs.reuters.com/hugo-dixon/2016/01/04/eu-enters-brave-new-world-of-bank-bail-ins/> (accessed on 17 February 2018).
- 191 See: [https://ec.europa.eu/info/business-economy-euro/banking-and-finance/financial-supervision-and-risk-management/managing-risks-banks-and-financial-institutions/bank-recovery-and-resolution\\_en](https://ec.europa.eu/info/business-economy-euro/banking-and-finance/financial-supervision-and-risk-management/managing-risks-banks-and-financial-institutions/bank-recovery-and-resolution_en) (accessed on 15 February 2018).
- 192 See: [https://ec.europa.eu/info/business-economy-euro/banking-and-finance/financial-supervision-and-risk-management/managing-risks-banks-and-financial-institutions/bank-recovery-and-resolution\\_en](https://ec.europa.eu/info/business-economy-euro/banking-and-finance/financial-supervision-and-risk-management/managing-risks-banks-and-financial-institutions/bank-recovery-and-resolution_en) (accessed on 15 February 2018).
- 193 The total cost of the state bailout of Banca Monte dei Paschi di Siena has been estimated to be EUR 9 bn (Legorano 2017). In August 2017, the European Commission agreed that the Italian government should take a 70% stake in MPS in exchange for an injection of EUR 5.4 bn.
- 194 Italy’s second largest bank, which received a government loan of EUR 5.2 bn to maintain its capital ratios, while the bad assets were put into a ‘bad bank’ backed by a EUR 12 bn state guarantee.

- 195 (Kyriakopoulou 2017).
- 196 Target2 flows into Germany cause German banks to acquire large amounts of reserve deposits at the Bundesbank, which, at the time, earned a negative 0.4%. The banks would like to lend these out at positive interest but, collectively, they are stuck with these reserve balances. Available online: [https://www.ecb.europa.eu/stats/policy\\_and\\_exchange\\_rates/key\\_ecb\\_interest\\_rates/html/index.en.html](https://www.ecb.europa.eu/stats/policy_and_exchange_rates/key_ecb_interest_rates/html/index.en.html) (accessed on 15 March 2018).
- 197 As previously mentioned, to deal with this, Bindseil et al. (2012, p. 92) proposed that excess funds in surplus countries could be shipped back to the deficit countries by lending to their banks.
- 198 Reported in (Beck 2016).
- 199 (Westermann 2016).
- 200 Capital Requirements Regulation (CRR) of CRD IV—575/2013.
- 201 European Systemic Risk Board Report on the Regulatory Treatment of Sovereign Exposures (Section 1.3.1 Risk weights for sovereign assets), March 2015.
- 202 In practice, credit-rating agencies frequently change the credit rating applied to EU government bonds. For example, on 13 February 2012, Moody's Investors Service adjusted the sovereign debt ratings of nine EU countries in order to reflect their susceptibility to the growing financial and macroeconomic risks emanating from the euro area crisis and how these risks exacerbate the affected countries' own specific challenges:
- Austria: outlook on Aaa rating changed to negative;
  - France: outlook on Aaa rating changed to negative;
  - Italy: downgraded to A3 from A2 (negative outlook);
  - Malta: downgraded to A3 from A2 (negative outlook);
  - Portugal: downgraded to Ba3 from Ba2 (negative outlook);
  - Slovakia: downgraded to A2 from A1 (negative outlook);
  - Slovenia: downgraded to A2 from A1 (negative outlook);
  - Spain: downgraded to A3 from A1 (negative outlook);
  - United Kingdom: outlook on Aaa rating changed to negative.
- (Source: [https://www.moodys.com/research/Moodys-adjusts-ratings-of-9-European-sovereigns-to-capture-downside--PR\\_237716](https://www.moodys.com/research/Moodys-adjusts-ratings-of-9-European-sovereigns-to-capture-downside--PR_237716) (accessed on 27 March 2016)).
- 203 The process of clearing euro-denominated derivative transactions.
- 204 See: <https://www.zawya.com/en/opinion/markets-insights/frankfurt-stirs-up-euro-clearing-battle-with-london-ylv6blv> (accessed on 27 March 2017).
- 205 Quoted in Alex Hawkes. 2017. 'London must lose euro trading': On eve of crucial Brexit talks, continental bankers close ranks threatening 83,000 jobs in City. *Financial Mail on Sunday*, June 17.
- 206 (Reynolds et al. 2020).
- 207 Some authors classify the debts of Eurozone regional and municipal governments as sub-sovereign debt, e.g., (Ioannou 2023). However, Reynolds et al. (2020, Figure 1) would classify them as sub-sub-sovereign debt.
- 208 However, proposals have been made to make the ECB a lender of last resort, see, e.g., Chmielewski and Sławiński (2019).
- 209 'Public sector security purchases and monetary dominance in a monetary union without a fiscal union', speech by Peter Praet, member of the Executive Board of the ECB, at the Conference 'The ECB and Its Watchers XVI, Contribution to the Panel on Low-interest-rate Policy and Non-standard Monetary Policy Measures: Effectiveness and Challenges', Frankfurt am Main, 11 March 2015; [https://www.ecb.europa.eu/press/key/date/2015/html/sp150311\\_1.en.html](https://www.ecb.europa.eu/press/key/date/2015/html/sp150311_1.en.html) (accessed on 12 April 2018).
- 210 All this has implications for the credit ratings of entities within the EZ from national governments downwards and the interrelationships between them, e.g., between the ratings of banks with significant non-performing loans and sovereign ratings. For a discussion of credit ratings in the EZ, see, e.g., (Boumparis et al. 2019; Baum et al. 2016; Altdörfer et al. 2019).
- 211 (Andreeva et al. 2019).
- 212 Cross-border bank mergers in Europe (I): Why are they not here yet? *Garrigues Viewpoint*, 17 November 2020.
- 213 Andrea Enria, head of supervision at the ECB, has criticised the lack of cross-border competition in banking across the EZ: 'If you have more competition, if you have a more integrated market, that will be much more beneficial for customers of banks, both depositors and borrowers' (quoted in Noonan and Arnold 2023). (Reynolds et al. 2020). In 2017, NPLs accounted for 5% of total loans across the EZ as a whole, while in some peripheral states, the ratio was as high as 10%. See (Fraser 2017).
- 214 See: <https://www.bankingsupervision.europa.eu/press/speeches/date/2019/html/ssm.sp190614~bee1d0f29c.en.html> (accessed on 23 April 2023).
- 215 See: <https://www.bankingsupervision.europa.eu/press/pr/date/2021/html/ssm.pr211006~a12ec7f0fd.en.html> (accessed on 23 April 2018).
- 216 Carlo Svaluto Moreolo. 2018. Non-performing loans: A market in full swing in Europe. *IPE*, September. Available online: <https://www.ipe.com/non-performing-loans-a-market-in-full-swing-in-europe/10026454.article> (accessed on 20 April 2021).

- 217 (Reynolds et al. 2020).
- 218 Now Basel III: International regulatory framework for banks. Available online: <https://www.bis.org/bcbs/basel3.htm> (accessed on 23 April 2023).
- 219 See, e.g., (Blake 2022).
- 220 This is because of the contingent nature of the guarantees. Even though it is almost certain that the guarantees will be called in, the small probability that they will not be called allows the guaranteed amounts to be excluded from being counted as part of national debt under public sector accounting rules.
- 221 Although no single member state can set the euro interest rate, collectively, the larger core member states do so because of the size of their capital keys relative to the peripheral states.
- 222 Bob Lyddon, private communication, 11 May 2021.
- 223 This is explained in Reynolds et al. (2020, pp. 38–39).
- 224 This is explained in Reynolds et al. (2020, pp. 102–4).
- 225 A spillover is ‘an economic event in one context that occurs because of something else in a seemingly unrelated context’. Available online: [https://en.wikipedia.org/wiki/Spillover\\_\(economics\)](https://en.wikipedia.org/wiki/Spillover_(economics)) (accessed on 25 June 2022).
- 226 For a theoretical model of a doom loop, see (Farhi and Tirole 2018).
- 227 Stephen Morris and Patrick Jenkins. 2018. Policymakers urge action on EU sovereign debt ‘doom loop’. *Financial Times*, December 23. Available online: <https://www.ft.com/content/9089d910-02c3-11e9-99df-6183d3002ee1> (accessed on 26 June 2022).
- 228 (Arnold 2021).
- 229 French banks were the biggest users of TLTRO with an exposure of around EUR 500 bn in April 2022, followed by Italian and German banks. At Deutsche Bank, the EUR 44.7 bn of TLTRO borrowing was equivalent to 9% of its EUR 481 bn loan book. Available online: <https://www.ft.com/content/5ce8f458-8a59-4789-820a-8c59ed67f416> (accessed on 25 June 2022).
- 230 See: <https://www.amlintelligence.com/2021/01/commerzbank-identified-major-money-laundering-risks-at-wirecard-months-before-collapse/>; <https://www.omfif.org/2019/04/the-fall-of-german-banking/> (accessed on 25 June 2022).
- 231 See: <https://www.bloomberg.com/news/articles/2016-06-30/deutsche-bank-may-be-top-contributor-to-systemic-risk-imf-says> (accessed on 26 June 2022).
- 232 See: <https://www.fnlondon.com/articles/deutsches-investment-bank-slips-to-a-10-year-low-in-emea-20181218> (accessed on 25 June 2022).
- 233 See: <https://www.fnlondon.com/articles/deutsche-bank-lost-1-6bn-on-badly-timed-bond-bet-20190221> (accessed on 25 June 2022).
- 234 See: <https://www.ft.com/content/94f979d8-a0a2-11e9-974c-ad1c6ab5efd1> (accessed on 25 June 2022). Deutsche Bank’s woes over the last decade are covered in Olaf Storbeck. 2022. Deutsche Bank looks to escape a decade of scandal and strife. *Financial Times*, May 17. Available online: <https://www.ft.com/content/06158598-daa0-4560-b072-a57bcbdb7697c> (accessed on 25 June 2022).
- 235 Sophie Perryer. 2019. Deutsche Bank’s fall from grace: how one of the world’s largest lenders got into hot water. *World Finance*, October 17. Available online: <https://www.worldfinance.com/banking/deutsche-banks-fall-from-grace-how-one-of-the-worlds-largest-lenders-got-into-hot-water> (accessed on 20 June 2021).
- 236 See: <https://www.ft.com/content/105409c8-2582-11e9-8ce6-5db4543da632> (accessed on 25 April 2021).
- 237 Stephen Morris and Patrick Jenkins. 2018. Policymakers urge action on EU sovereign debt ‘doom loop’. *Financial Times*, December 23. Available online: <https://www.ft.com/content/9089d910-02c3-11e9-99df-6183d3002ee1> (accessed on 26 June 2022).
- 238 (Basel Committee on Banking Supervision 2017).
- 239 (Alogoskoufis and Langfield 2019).
- 240 An anonymous referee pointed out that a positive capital charge would be analogous to the ‘tax’ on credit balances in Keynes’s International Clearing Union proposal. In the former case, the intention is to minimise the capital requirements on banks; in the latter, the intention is to encourage international trade.
- 241 Olaf Scholz. 2019. Germany will consider EU-wide bank deposit reinsurance. *Financial Times*, November 5. Available online: <https://www.ft.com/content/82624c98-ff14-11e9-a530-16c6c29e70ca> (accessed on 20 June 2022).
- 242 Isabel Schnabel. 2018. Europe’s banking union lacks the key element of deposit insurance. *Financial Times*, August 28. Available online: <https://www.ft.com/content/4a3d048a-a9fb-11e8-8253-48106866cd8a> (accessed on 20 June 2022).
- 243 Tobias Tröger. 2022. A European banking union has failed to live up to the promise: The EU has been left with a fragmented market, despite the positive noise around the banking union project. *Financial News*, April 8. Available online: <https://www.fnlondon.com/articles/a-european-banking-union-has-failed-to-live-up-to-the-promise-20220408> (accessed on 26 June 2022).
- 244 (Guarascio and Strupczewski 2021).
- 245 Ambrose Evans-Pritchard. 2018. Recession risk leaves EU acutely vulnerable to a British Brexit walk-out. *Daily Telegraph*, December 12. Available online: <https://www.telegraph.co.uk/business/2018/12/12/recession-risk-leaves-eu-acutely-vulnerable-to-british-brexite-walk/> (accessed on 26 June 2022).

- 246 See: [https://www.bis.org/publ/qtrpdf/r\\_qa1009.pdf](https://www.bis.org/publ/qtrpdf/r_qa1009.pdf) (accessed on 20 June 2020).
- 247 (Steil and Walker 2015).
- 248 See: <https://www.telegraph.co.uk/business/2022/02/28/italy-frances-banks-vulnerable-russian-meltdown> (accessed on 28 June 2022).
- 249 *Financial Times Europe Express*, 17 March 2022.
- 250 See: <https://www.fnlondon.com/articles/societe-generale-faces-e3-1bn-hit-on-sale-of-rosbank-stake-as-it-quits-russia-20220411> (accessed on 26 May 2022).
- 251 (Lynn 2022).
- 252 See: <https://www.telegraph.co.uk/business/2022/03/10/russian-debt-default-would-mean-world> (accessed on 8 June 2022).
- 253 Deutsche Bank analyst Eric Heymann quoted in Louis Ashworth. 2022. German gas rationing could cause 'structural damage', Deutsche Bank warns. *Daily Telegraph*, April 3. Available online: <https://www.telegraph.co.uk/business/2022/04/03/german-gas-plans-could-cause-structural-damage-industrial-position/> (accessed on 26 June 2022).
- 254 See: <https://www.ft.com/content/0717e4b8-3b69-4b3c-9ba8-bd9d62707f2d> (accessed on 8 February 2023).
- 255 See: <https://www.aa.com.tr/en/economy/ukraine-war-drained-over-106b-from-german-economy-says-expert/2825589> (accessed on 8 May 2023).
- 256 See: <https://www.european-rubber-journal.com/article/2091765/basf-green-lights-new-10bn-petrochemical-project-in-china> (accessed on 18 May 2023).
- 257 Sam Fleming. 2022. Europe wakes up to collateral damage from US-China rivalry. *FT Europe Express*, October 29; Guy Chazan and Yuan Yang. 2022. Germany struggles with its dependency on China. *Financial Times*, November 1. Available online: <https://www.ft.com/content/be082c77-1f9c-409f-86e8-eeb2bd9d1418> (accessed on 9 February 2023).
- 258 Helen Cahill, Matt Oliver, James Warrington, and Giulia Bottaro. 2022. Germany seizes control of Gazprom unit to protect supplies. *Daily Telegraph*, April 4. Available online: <https://www.telegraph.co.uk/business/2022/04/04/ftse-100-markets-live-news-energy-bills-russian-gas/> (accessed on 10 February 2023).
- 259 See: <https://www.investopedia.com/what-happened-to-silicon-valley-bank-7368676> (accessed on 12 June 2023); <https://www.investopedia.com/what-happened-to-signature-bank-7370710> (accessed on 12 June 2023); <https://www.investopedia.com/what-happened-at-credit-suisse-and-why-did-it-collapse-7369825> (accessed on 12 June 2023).
- 260 See: <https://www.cnbc.com/2023/03/21/what-are-credit-suisse-at-1-bonds-or-cocos-and-why-do-they-matter.html> (accessed on 12 June 2023).
- 261 (Warner 2023b).
- 262 Steve Goldstein. 2023. Deutsche Bank shares slump as bank sector concern resumes: Deutsche Bank's AT1 bonds have tumbled in value after Switzerland wiped out Credit Suisse's securities in the deal for it to be taken over by UBS. *Financial News*, March 24. Available online: <https://www.fnlondon.com/articles/deutsche-bank-shares-slump-as-bank-sector-concern-resumes-20230324> (accessed on 12 May 2023); Simon Foy and Matt Oliver. 2023. How Deutsche Bank caught fire as Europe's banking turmoil spreads. *Daily Telegraph*, March 24. Available online: <https://www.telegraph.co.uk/business/2023/03/24/how-deutsche-bank-caught-fire-europes-banking-crisis-spreads> (accessed on 12 May 2023).
- 263 Simon Foy. 2023. IMF urges 'vigilance' as it warns over increased financial stability risks. *Daily Telegraph*, March 26. Available online: <https://www.telegraph.co.uk/business/2023/03/26/imf-urges-vigilance-warns-increased-financial-stability-risks> (accessed on 12 June 2023).
- 264 Andreas Dombret. 2023. Time to revisit bank regulation. *Financial Times*, April 28. Available online: <https://www.fnlondon.com/articles/time-to-revisit-bank-regulation-20230428> (accessed on 12 June 2023).
- 265 (Evans-Pritchard 2023b).
- 266 The Financial Stability Board is an international body that monitors and makes recommendations about the global financial system. It was established after the G20 London summit in April 2009 in response to the GFC. Available online: <https://www.fsb.org/> (accessed on 12 August 2022).
- 267 Sarah Breeden. 2022. Risks from leverage: How did a small corner of the pensions industry threaten financial stability? *Bank of England Speech*, November 7. Available online: <https://www.bankofengland.co.uk/-/media/boe/files/speech/2022/november/sarah-breeden-speech-at-isdaima.pdf> (accessed on 12 June 2023).
- 268 (Evans-Pritchard 2023a).
- 269 See: <https://www.ecb.europa.eu/pub/financial-stability/fsr/html/ecb.fsr202305-65f8cb74d7.en.html> (accessed on 12 June 2023); See: <https://www.investmentweek.co.uk/news/4116842/ecb-weaknesses-shadow-banking-increase-spillover-risk-european-banking-sector> (accessed on 12 June 2023).
- 270 (Skouralis 2021).
- 271 (Durden 2012).
- 272 (Fahrholz and Freytag 2011).

- 273 (Abad et al. 2013).
- 274 (Barredo-Zuriarrain et al. 2017).
- 275 Quoted in: ECB in ‘panic’, say former chief economist Jürgen Stark. *Daily Telegraph*, 22 September 2012.
- 276 Quoted in Ambrose Evans-Pritchard. 2016. Euro ‘house of cards’ to collapse, warns ECB prophet. *Daily Telegraph*, October 16.
- 277 Quoted in Eshe Nelson. 2018. After €2.6 trillion, Europe’s massive stimulus program ends at an awkward time. *Quartz*, December 13. Available online: <https://qz.com/1494539/europes-massive-stimulus-program-ends> (accessed on 29 August 2022).
- 278 If all the ECB’s refinancing operations (which are intended ‘to steer interest rates, to manage the amount of liquidity in the financial system and to signal our monetary policy stance’) are taken into account, then the total balances of the ECB’s asset-side programmes were equal to EUR 7.1 trn as of April 2022. Available online: <https://www.ecb.europa.eu/mopo/implement/omo/html/index.en.html> (accessed on 7 November 2022). These refinancing operations have been described as the ‘Eurosystem’s “hidden” lending to banks’ (see Box 1).
- 279 Forbearance is permitted and encouraged by the European Banking Authority and the ECB. The *Supervision Newsletter* of 17 May 2023 provides a somewhat anodyne description of the potential risks: ‘Forbearance measures aim to return borrowers to a sustainable repayment path. Therefore, banks’ forbearance processes should clearly focus on providing sustainable solutions to viable distressed clients. Consecutive non-sustainable solutions or measures targeting non-viable debtors should be avoided as they only delay taking appropriate action and ultimately lead to higher-than necessary losses for banks and the economy’. Available online: [https://www.bankingsupervision.europa.eu/press/publications/newsletter/2023/html/ssm.nl230517\\_1.en.html?](https://www.bankingsupervision.europa.eu/press/publications/newsletter/2023/html/ssm.nl230517_1.en.html?) (accessed on 9 June 2023).
- 280 Bob Lyddon (2023) expands on this. In Chapter 4.iv, he brackets ‘forbearance’ with ‘restructuring’ and non-performing loan securitisation as the three techniques used to massage the reported non-performing loans. In Chapter 4.v, he describes the implementation of ‘advanced internal-ratings-based methodologies’ to minimise the capital tied up by both the performing and non-performing loans, resulting in the EU banking system appearing to be better capitalised than it actually is. See (Lyddon 2023).
- 281 This is a slight exaggeration. Table A3 in Appendix B shows that Germany’s capital key in the ECB (26.15%) is 55% greater than Italy’s (16.85%) rather than double. However, Varoufakis’s point remains valid.
- 282 See Table A3 in Appendix B.
- 283 Quoted in *Investment Week*, 17 May 2017.
- 284 This would appear to be the first recognition by the ECB that not all Eurozone government bonds are in fact ‘risk-free’.
- 285 Ben Robinson. 2017. QE challenged by bond limits, *OMFIF*, August 11. Available online: [https://www.omfif.org/analysis/commentary/2017/august/qe-challenged-by-bond-limits/?utm\\_source=OMFIFweeklyupdate](https://www.omfif.org/analysis/commentary/2017/august/qe-challenged-by-bond-limits/?utm_source=OMFIFweeklyupdate) (accessed on 10 July 2017).
- 286 Reduced from EUR 80 bn to EUR 60 bn a month in April 2017.
- 287 See: <https://www.ecb.europa.eu/mopo/implement/omt/html/index.en.html> (accessed on 11 July 2017).
- 288 Tom Eckett. 2017. ‘A potential sea change event’: ECB to halve €60 bn bond buying programme. *Investment Week*, October 26.
- 289 Quoted in (Evans-Pritchard 2017a).
- 290 (Evans-Pritchard 2017b).
- 291 Claire Jones. 2018. Eurozone growth hits slowest pace in 18 months. *Financial Times*, May 2.
- 292 (Varoufakis 2021).
- 293 See: <https://www.ecb.europa.eu/pub/financial-stability/fsr/html/index.en.html> (accessed on 10 January 2022).
- 294 See: <https://www.ft.com/content/e1c2615d-3cca-4f75-8c23-f632784cb39c> (accessed on 10 January 2022).
- 295 See, e.g., (Reynolds et al. 2020).
- 296 Thomas Fazi. 2022. How Mario Draghi Broke Italy: A Crisis Is Brewing on the Streets of Europe. *UnHerd*, July 25. Available online: <https://unherd.com/2022/07/how-mario-draghi-broke-italy> (accessed on 21 May 2023). Fazi adds: ‘[Member states] have little choice but to go along with what Brussels and Frankfurt say, and if they do not play ball, the ECB is always ready to turn up the heat. At that point, if the government does not back down, the ECB will engineer a full-blown financial crisis (think Italy in 2011 or Greece in 2015)—which usually leads the political parties to turn to EU-backed technocrats to fix a problem the EU created in the first place. Yet even if the government yields, the growing tension between the requirements of the external constraint and the demands of citizens, which the parties lack the tools to remedy, leads them to turn to technocrats to resolve the impasse, by having them implement the measures the parties do not want to take responsibility for. Then, at a certain point, usually as new elections approach, political parties feel the need to re-legitimise themselves in the eyes of voters and thus put the technocratic genie back into the lamp—until the next crisis, which sets a new cycle in motion’.
- 297 Martin Arnold and Amy Kazmin. 2022. What crisis? Inflation and EU funds help Italy’s debt to ‘fall like a rock’. *Financial Times*, June 16. Available online: <https://www.ft.com/content/f63b8aa4-9dd4-4287-b834-124e828a44e9> (accessed on 18 June 2022); Matthew Lynn. 2022. Mario Draghi’s €200 bn Italian gamble has failed. *Daily Telegraph*, July 15. Available online: <https://www.telegraph.co.uk/business/2022/07/15/mario-draghis-200bn-italian-gamble-has-failed> (accessed on 18 July 2022).
- 298 Although it continued to reinvest the proceeds of maturing bonds. Available online: <https://www.ft.com/content/acbd0a17-762e-4551-b87c-24d101c80195> (accessed on 22 May 2023).

- 299 See: <https://www.ft.com/content/4667f92c-2237-4a3c-8d91-9884531d363d> (accessed on 23 May 2023).
- 300 See: <https://www.bankofengland.co.uk/monetary-policy-summary-and-minutes/2021/december-2021> (accessed on 21 May 2022).
- 301 It was raised to 5.25% in August 2023. Available online: <https://www.bankofengland.co.uk/explainers/why-are-interest-rates-in-the-uk-going-up> (accessed on 26 August 2023).
- 302 See: <https://stats.oecd.org/index.aspx?queryid=82187> (accessed on 26 August 2023).
- 303 See: <https://committees.parliament.uk/committee/158/treasury-committee/news/185837/mps-launch-inquiry-on-impact-of-bank-of-englands-quantitative-tightening> (accessed on 21 May 2023).
- 304 See: <https://www.cnn.com/2022/05/04/fed-raises-rates-by-half-a-percentage-point-the-biggest-hike-in-two-decades-to-fight-inflation.html> (accessed on 21 May 2023).
- 305 It was raised to 5.25–5.50% in July 2023. Available online: <https://www.bankrate.com/rates/interest-rates/federal-funds-rate/> (accessed on 21 September 2023).
- 306 See: <https://stats.oecd.org/index.aspx?queryid=82187> (accessed on 25 May 2023).
- 307 The US does not face this problem because it has increased the extraction of shale gas. Available online: <https://www.ft.com/content/84e228a9-9e97-4445-9527-2b7ed80283a7> (accessed on 29 May 2023).
- 308 See: <https://www.telegraph.co.uk/business/2022/04/29/eurozone-growth-slows-crawl-russian-invasion-takes-toll> (accessed on 1 May 2022).
- 309 See: <https://stats.oecd.org/index.aspx?queryid=82187> (accessed on 21 May 2023).
- 310 See: <https://www.investmentweek.co.uk/news/4059114/eurozone-inflation-jumps-record-economic-growth-slows> (accessed on 20 June 2023).
- 311 The interest rate applied in the regular lending operations conducted by the Eurosystem to provide liquidity to the banking system.
- 312 The interest rate on overnight credit provided by the Eurosystem to banks.
- 313 The interest rate banks receive for depositing money overnight with the Eurosystem.
- 314 See: <https://www.ecb.europa.eu/press/pr/date/2022/html/ecb.mp220721~53e5bdd317.en.html> (accessed on 20 June 2022).
- 315 See: <https://www.ecb.europa.eu/press/pr/date/2022/html/ecb.mp220908~c1b6839378.en.html> (accessed on 20 June 2023).
- 316 Available online: [https://www.ecb.europa.eu/stats/policy\\_and\\_exchange\\_rates/key\\_ecb\\_interest\\_rates/html/index.en.html](https://www.ecb.europa.eu/stats/policy_and_exchange_rates/key_ecb_interest_rates/html/index.en.html) (accessed on 23 September 2023).
- 317 See: [https://www.ecb.europa.eu/stats/policy\\_and\\_exchange\\_rates/key\\_ecb\\_interest\\_rates/html/index.en.html](https://www.ecb.europa.eu/stats/policy_and_exchange_rates/key_ecb_interest_rates/html/index.en.html) (accessed on 26 August 2023).
- 318 Eshe Nelson and Melissa Eddy. 2023. European Central Bank raises rates again but markets see an end to escalation. *New York Times*, February 2. Available online: <https://www.nytimes.com/2023/02/02/business/european-central-bank-interest-rates.html> (accessed on 20 June 2023).
- 319 See: <https://www.ft.com/content/d177b829-ef19-48a1-8c80-53d352018b84> (accessed on 20 June 2023).
- 320 See: <https://www.ft.com/content/4e35220e-7f18-47d1-9269-48f8920a5d2d> (accessed on 20 June 2023).
- 321 However, this is lower than the near 500 basis point spread over Bunds that Italian government bonds reached during the 2012 sovereign debt crisis. Available online: <https://www.ft.com/content/9a6499a5-42e9-45be-a400-92ba4d3c384f> (accessed on 20 June 2023).
- 322 They typically lie in the range of 30–40 basis points and can be as low as 5 basis points. See: Jolien Van Den Ende. 2022. Swap spreads at stress levels. *IPE*, May 24. Available online: <https://www.ipe.com/viewpoint-swap-spreads-at-stress-levels/10060052.article> (accessed on 20 June 2023).
- 323 See: <https://www.ft.com/content/47078564-6605-47c2-a9ad-c403df273697> (accessed on 20 June 2023).
- 324 Up from 127% during the EZ debt crisis that occurred a decade before.
- 325 See: <https://www.ft.com/content/bb7634bf-f449-4850-a043-9dde6d7fe926> (accessed on 20 June 2023).
- 326 It has also been called an ‘anti-spread’ or ‘anti-fragmentation instrument’ because it is designed to counter any fragmentation of the EZ bond market resulting from the sell-off of one member state’s government bonds, which would widen the yield spread against German Bunds.
- 327 See: <https://www.ecb.europa.eu/press/pr/date/2022/html/ecb.pr220721~973e6e7273.en.html> (accessed on 20 June 2023).
- 328 ECB president Christine Lagarde said that the instrument needs ‘sufficient safeguards to preserve the impetus of member states towards a sound fiscal policy’. Available online: <https://www.ft.com/content/9a6499a5-42e9-45be-a400-92ba4d3c384f> (accessed on 20 June 2023).
- 329 In short, sustainable public finances.
- 330 The RRF is a temporary recovery instrument. It allows the Commission to raise funds to help member states implement reforms and investments that are in line with the EU’s priorities and that address the challenges identified in country-specific recommendations under the European Semester framework of economic and social policy coordination. It provides EUR

- 723.8 billion (in current prices) in loans (EUR 385.8 billion) and grants (EUR 338 billion) for that purpose. Available online: [https://commission.europa.eu/business-economy-euro/economic-recovery/recovery-and-resilience-facility\\_en](https://commission.europa.eu/business-economy-euro/economic-recovery/recovery-and-resilience-facility_en) (accessed on 20 June 2023).
- 331 See: <https://www.telegraph.co.uk/business/2022/06/14/eurozone-debt-crisis-part-two-looms-view> (accessed on 16 August 2022).
- 332 Martin Arnold. 2022. Bundesbank boss warns against ‘fatal’ assumptions in ECB crisis tool. *Financial Times*, July 4. Available online: <https://www.ft.com/content/5bb8c116-bc64-4d28-a26e-9bb7aada6751> (accessed on 6 August 2022).
- 333 Quoted in *FT Europe Express*, 8 September 2022.
- 334 (Evans-Pritchard 2022a).
- 335 Ambrose Evans-Pritchard. 2022. Bond tremors hit Italy as Eurozone risk returns with a vengeance: Italian political risk is back on the table, just as the ECB debt shield disappears. *Daily Telegraph*, May 8. Available online: <https://www.telegraph.co.uk/business/2022/05/08/bond-tremors-hit-italy-eurozone-risk-returns-vengeance> (accessed on 4 September 2022).
- 336 Ambrose Evans-Pritchard. 2022. The world’s financial system is entering dangerous waters again, warns guru of the Lehman crisis. *Daily Telegraph*, May 23. Available online: <https://www.telegraph.co.uk/business/2022/05/23/worlds-financial-system-entering-dangerous-waters-warns-guru> (accessed on 4 September 2022).
- 337 See: <https://www.bbc.co.uk/news/world-europe-65279818> (accessed on 18 June 2023).
- 338 (Lynn 2023a).
- 339 Ambrose Evans-Pritchard. 2022. Emmanuel Macron’s ‘grand bargain’ with Germany lies in tatters. *Daily Telegraph*, July 1. Available online: <https://www.telegraph.co.uk/business/2022/07/01/emmanuel-macrons-grand-bargain-germany-lies-tatters2> (accessed on 4 September 2022).
- 340 See: <https://www.nytimes.com/2023/06/04/business/france-fitch-debt-rating.html>? (accessed on 18 June 2023).
- 341 Ben McWilliams, Giovanni Sgaravatti, Simone Tagliapietra, and Georg Zachmann. 2022. A grand bargain to steer through the European Union’s energy crisis. *Bruegel*, September 6. Available online: <https://www.bruegel.org/policy-brief/grand-bargain-steer-through-european-unions-energy-crisis> (accessed on 1 June 2023).
- 342 Valentina Pop. 2022. Energy crisis revives EU common borrowing discussion. *Financial Times Europe Express Newsletter*, September 6.
- 343 See: <https://www.ft.com/content/dde19dbd-80fe-4bda-95a8-55cf38ebfa82> (accessed on 20 June 2023).
- 344 *Financial Times Europe Express*, 5 October 2022
- 345 SURE (Support to Mitigate Unemployment Risks in an Emergency) provided loans for member states to pay unemployment benefits of those who lost jobs during the pandemic. Available online: [https://economy-finance.ec.europa.eu/eu-financial-assistance/sure\\_en](https://economy-finance.ec.europa.eu/eu-financial-assistance/sure_en) (accessed on 18 June 2023).
- 346 (Evans-Pritchard 2022b).
- 347 *Financial Times Europe Express*, 3 October 2022.
- 348 Henry Foy. 2023. EU plans to finance weapons for Ukraine via its own budget: Funding model would replicate commission’s COVID-19 vaccine purchase agreements. *Financial Times*, February 21. Available online: <https://www.ft.com/content/430869d0-7281-44ff-90dd-de8d1dd0edc> (accessed on 18 June 2023).
- 349 Jan-Philipp Hein. 2023. Do not be fooled: Germany’s U-turn on sending tanks to Ukraine is a reluctant one. *Guardian*, January 26. Available online: <https://www.theguardian.com/commentisfree/2023/jan/26/germany-u-turn-tanks-ukraine-reluctant-olaf-scholz> (accessed on 19 June 2023).
- 350 *Financial Times Newsletter*, 5 June 2023.
- 351 Outlined in European Commission. 2022. *Communication on Orientations for a Reform of the EU Economic Governance Framework*, COM. 2022. 583 final (<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52022DC0583> (accessed on 19 June 2023)). The Commission’s proposal on debt is part of a wider plan to reform the fiscal rules of the SGP in the face of a number of challenges, namely, very high public debt-to-GDP ratios following the financial, sovereign debt, and pandemic crises; fiscal rules that are not coherent with and do not incentivise investment in economic growth, sustainability, and energy and defence security; a pro-cyclical bias of fiscal policy arising from the failure to build fiscal buffers in good economic conditions, resulting in pro-cyclical fiscal tightening in bad economic conditions, leaving monetary policy as the main tool for achieving macroeconomic stabilisation; past revisions of the Stability and Growth Pact and the evolution of its interpretation that have made the fiscal rules complex; and a lack of national ownership of the EU fiscal rules and low enforcement. See also (Friis et al. 2022).
- 352 *Financial Times Newsletter*, 11 April 2023; Sam Fleming, Guy Chazan, Leila Abboud, and Amy Kazmin. 2023. EU reforms of fiscal rules hit resistance among big capitals: Germany clashes with Paris and Rome on whether new approach offers member states too much discretion, *Financial Times*, April 26. Available online: <https://www.ft.com/content/913966b4-0a1f-47f2-b06a-9d5ce7b52644> (accessed on 19 June 2023). As of September 2023, there is no EU-wide agreement on reforming the Stability and Growth Pact. See: *Financial Times Europe Express Newsletter*, 18 September 2023.
- 353 (Warner 2023d). As evidence of this lack of respect for the 3% Maastricht limit on the budget deficit, see Figure 41 below.

- 354 Ambrose Evans-Pritchard. 2022. Italy's crisis comes at an excruciating moment for the Eurozone. *Daily Telegraph*, July 19. Available online: <https://www.telegraph.co.uk/business/2022/07/19/italys-crisis-comes-excruciating-moment-eurozone> (accessed on 19 August 2022).
- 355 Warning of the European Systemic Risk Board of 22 September 2022 on Vulnerabilities in the Union Financial System (ESRB/2022/7). Available online: [https://www.esrb.europa.eu/pub/pdf/warnings/esrb.warning220929\\_on\\_vulnerabilities\\_union\\_financial\\_system~6ae5572939.en.pdf](https://www.esrb.europa.eu/pub/pdf/warnings/esrb.warning220929_on_vulnerabilities_union_financial_system~6ae5572939.en.pdf) (accessed on 16 June 2023).
- 356 (Evans-Pritchard 2022b).
- 357 See: <https://www.ecb.europa.eu/pub/financial-stability/fsr/html/ecb.fsr202211~6383d08c21.en.html#toc2> (accessed on 20 June 2023).
- 358 Quoted in Martin Arnold. 2022. 'Living in a fantasy': euro's founding father rebukes ECB over inflation response. *Financial Times*, April 13. Available online: <https://www.ft.com/content/145b6795-2d21-48c6-984b-4b05d121ba16> (accessed on 19 June 2022).
- 359 See: <https://www.euronews.com/2023/06/08/europes-economy-enters-technical-recession-as-households-struggle-with-cost-of-living-crisis> (accessed on 20 June 2023).
- 360 Quoted in (Arnold and McDougall 2023).
- 361 *Financial Times Newsletter*, 24 October 2023; see also <https://www.ft.com/content/2cab86d-abc1-4d48-93d5-4ff1bdb3f422> (accessed 29 October 2023).
- 362 (Lynn 2023b).
- 363 Quoted in Ambrose Evans-Pritchard. 2023. Europe is already in producer price deflation and a deepening credit crunch. *Daily Telegraph*, June 13.
- 364 See: <https://www.ft.com/content/a28fe5d6-3beb-4794-b49c-aff4fabc0cd7> (accessed on 19 June 2023).
- 365 See: [https://www.bde.es/f/webbde/GAP/Secciones/SalaPrensa/ComunicadosBCE/NotasInformativasBCE/22/presbce2022\\_137en.pdf](https://www.bde.es/f/webbde/GAP/Secciones/SalaPrensa/ComunicadosBCE/NotasInformativasBCE/22/presbce2022_137en.pdf) (accessed on 29 June 2023).
- 366 See: [https://www.ecb.europa.eu/mopo/implement/omo/pdf/Indicative\\_calendar\\_for\\_TLTRO\\_III\\_voluntary\\_early\\_repayments\\_as\\_of\\_27\\_October\\_2022.en.pdf](https://www.ecb.europa.eu/mopo/implement/omo/pdf/Indicative_calendar_for_TLTRO_III_voluntary_early_repayments_as_of_27_October_2022.en.pdf) (accessed on 17 June 2023).
- 367 Eshe Nelson and Melissa Eddy. 2023. European Central Bank raises rates again but markets see an end to escalation. *New York Times*, February 2. Available online: <https://www.nytimes.com/2023/02/02/business/european-central-bank-interest-rates.html> (accessed on 19 June 2023).
- 368 *Financial Times Europe Express*, 26 October 2022. Available online: <https://www.ft.com/content/a28fe5d6-3beb-4794-b49c-aff4fabc0cd7>
- 369 Martin Arnold and Barney Jopson. 2023. EU bankruptcy filings jump to 8-year high as pandemic aid ends, *Financial Times*, February 17. Available online: <https://www.ft.com/content/c90c3556-3218-47ff-aeda-3f23af217c11> (accessed on 20 June 2023).
- 370 See: <https://www.ecb.europa.eu/press/pr/date/2023/html/ecb.pr230131~9ee4d2aea9.en.html> (accessed on 20 June 2023).
- 371 See: [https://www.ecb.europa.eu/stats/ecb\\_surveys/bank\\_lending\\_survey/html/ecb.blssurvey2023q2~6d340c8db6.en.html#toc5](https://www.ecb.europa.eu/stats/ecb_surveys/bank_lending_survey/html/ecb.blssurvey2023q2~6d340c8db6.en.html#toc5) (accessed on 20 July 2023).
- 372 (Evans-Pritchard 2022d; Arnold 2023).
- 373 Sarah Bell, Michael Chui, Tamara Gomes, Paul Moser-Boehm, and Albert Pierres Tejada. 2023. Why are central banks reporting losses? *BIS Bulletin No 68*, February 7. Available online: <https://www.bis.org/publ/bisbull68.pdf> (accessed on 20 June 2023).
- 374 (Warner 2023a).
- 375 (Lyddon 2023).
- 376 Quoted in (Chan 2023b).
- 377 Quoted in (Evans-Pritchard 2023c).
- 378 (Evans-Pritchard 2022c).
- 379 (Warner 2023a). Andrea Enria, head of supervision at the ECB, goes further and argues that, far from moving closer to Banking Union, 'the increasing fragmentation of Europe's banking system is a "faultline" that heightens financial vulnerability and saddles everyone with higher costs. The banking market of the 20-country Eurozone was becoming more and more segmented along national lines' (quoted in Noonan and Arnold 2023).
- 380 He is the author of (Tooze 2018).
- 381 Draghi resigned as Italian Prime Minister on the same day that the TPI was launched by the ECB (21 July 2022) after losing a vote of confidence in the Italian Parliament. Available online: <https://www.bbc.com/news/world-europe-62249050> (accessed on 27 July 2022).
- 382 Quoted in Ambrose Evans-Pritchard. 2022. The world's financial system is entering dangerous waters again, warns guru of the Lehman crisis. *Daily Telegraph*, May 23. Available online: <https://www.telegraph.co.uk/business/2022/05/23/worlds-financial-system-entering-dangerous-waters-warns-guru/> (accessed on 28 July 2022).
- 383 Quoted in (Arnold 2022).

- 384 Figures as of April 2022. Available online: <https://www.ecb.europa.eu/mopo/implement/app/html/index.en.html> (accessed on 27 July 2022).
- 385 ECB decisions on the Public Sector Purchase Programme exceed EU competences, Press Release No. 32/2020 of 05 May 2020. Available online: <https://www.bundesverfassungsgericht.de/SharedDocs/Pressemitteilungen/EN/2020/bvg20-032.html> (accessed on 7 July 2021).
- 386 See: <https://simplestudying.com/costa-2/> (accessed on 27 June 2017).
- 387 'The Commission has decided today to close the infringement procedure against Germany concerning the judgment of the German Constitutional Court of 5 May 2020, related to the Public Sector Asset Purchase Programme ('PSPP') of the European Central Bank. The Commission considers it appropriate to close the infringement, for three reasons. First, in its reply to the letter of formal notice, Germany has provided very strong commitments. In particular, Germany has formally declared that it affirms and recognises the principles of autonomy, primacy, effectiveness and uniform application of Union law as well as the values laid down in Article 2 TEU, including in particular the rule of law. Second, Germany explicitly recognises the authority of the Court of Justice of the European Union, whose decisions are final and binding. It also considers that the legality of acts of Union institutions cannot be made subject to the examination of constitutional complaints before German courts but can only be reviewed by the Court of Justice. Third, the German government, explicitly referring to its duty of loyal cooperation enshrined in the Treaties, commits to use all the means at its disposal to avoid, in the future, a repetition of an 'ultra vires' finding, and take an active role in that regard', European Commission. 2021. December infringements package: key decisions, December 2. Available online: [https://ec.europa.eu/commission/presscorner/detail/en/inf\\_21\\_6201](https://ec.europa.eu/commission/presscorner/detail/en/inf_21_6201) (accessed on 17 January 2022).
- 388 Jorge Liboreiro. 2021. Brussels begins legal action against Germany over controversial ECB ruling. *Euronews*, October 4. Available online: <https://www.euronews.com/my-europe/2021/06/09/brussels-begins-legal-action-against-germany-over-controversial-ecb-ruling> (accessed on 18 January 2022).
- 389 European Central Bank. 2013. Target Balances and Monetary Operations. *Monthly Bulletin*, Issue 5, May, pp. 103–14.
- 390 (Whittaker 2016). See also (Whittaker and Connolly 2003).
- 391 A country is forced out of a currency union when it is denied credit and liquidity by other members, which would be the equivalent, in the case of the euro, to being thrown out of Target2. By contrast, a country is forced out of a fixed exchange rate regime when it runs out of the foreign exchange reserves needed to support the exchange rate at the fixed level.
- 392 See: <https://www.bbc.co.uk/news/world-europe-33905686> (accessed on 7 June 2017).
- 393 *Hellenic Republic Public Debt Bulletin*, June 2017.
- 394 (Varoufakis 2017).
- 395 (Whittaker 2016).
- 396 See Equations (2) and (3) above.
- 397 See: <https://www.youtube.com/watch?v=hMBI50FXDps&t=423s> (accessed on 27 June 2017). This would be achieved by using a programme of Outright Monetary Transactions involving the purchase of government bonds in unlimited quantities. But before this can happen, a country must have agreed a rescue package from the European Stability Mechanism (i.e., the EZ financial assistance fund), involving economic reforms, including possible debt restructuring. Available online: <https://www.ft.com/content/7b9f7761-4b7a-4707-9252-d639ab9c3aee> (accessed on 27 June 2017).
- 398 Any country leaving euro zone must settle bill first: ECB's Draghi. *Reuters*, 20 January 2017. Available online: <http://uk.reuters.com/article/us-ecb-eurozone-idUKKBN1542KL> (accessed on 30 August 2022).
- 399 The group of Eurozone finance ministers.
- 400 Tim Worstall. 2017. Greece Can Never Pay Its Debts. So Why Not Admit It? *CAPX*, May 2. Available online: <https://capx.co/yet-another-eurofudge-will-prolong-greeces-suffering/?omhide=true> (accessed on 27 June 2017).
- 401 These spreads had disappeared between 1999 and 2007. See (Amato et al. 2016).
- 402 'Optimal Currency Area Revisited', Pierre Werner Lecture by Yves Mersch, Governor of the Central Bank of Luxembourg, at the European Institute, Florence, 26 October 2011.
- 403 (De Grauwe 2006).
- 404 (Mongelli 2008).
- 405 (Pasimeni 2014).
- 406 A former UK finance minister.
- 407 (Congdon 1997).
- 408 (Crafts 2014).
- 409 This is why Varoufakis called COVID-19 a 'wasted crisis'.
- 410 Quoted in John Lanchester. 2016. The Failure of the Euro. *CAPX*, October 24. Available online: <http://capx.co/external/the-failure-of-the-euro/> (accessed on 27 October 2017).
- 411 John Lanchester. 2016. The Failure of the Euro. *CAPX*, October 24. Available online: <http://capx.co/external/the-failure-of-the-euro/> (accessed on 27 October 2017).

- 412 (Verhofstadt 2017). See also Guy Verhofstadt. 2006. *The United States of Europe*, Federal Trust. At a speech at the London School of Economics on 28 September 2017, Guy Verhofstadt went further and called for the EU to turn itself into an empire: ‘The world of tomorrow is a world of empires, and only a united Europe will play a role of significance’. Available online: <http://www.lse.ac.uk/Events/2017/09/20170928t1830vLSE/the-future-of-europe> (accessed on 27 October 2017).
- 413 (Oltermann 2017).
- 414 (Brunnermeier et al. 2016).
- 415 Ordoliberalism—ordered liberalism—is the German variant of social liberalism that emphasises the role of the state in ensuring that the free market produces results close to its theoretical potential and thus helps to prevent powerful private interests—particularly those stemming from abroad—from undermining competition. It relies heavily on rules and independent institutions, such as an independent central bank, to achieve these outcomes. It also results in Germany being strongly protectionist with respect to its domestic economy. As Juliet Samuel points out: ‘Germany has consistently shown that it has a wide definition of strategic economic assets and it will support action to protect them. The high structural barriers to hostile takeovers and the continued dominance of family ownership are also signs of a society ill at ease with the whims of footloose global capital. . . . Moreover, despite its rhetoric about free movement and European solidarity, Germany assiduously protects its population from intense labour market competition. All sorts of jobs, from plumbing to construction, are protected by the need to take long, rigorous, German-language vocational courses’. This protectionism can extend to collusion in key industries: *Spielgel* reported that Daimler, BMW, Volkswagen, Porsche, and Audi operated a secret technology cartel for 20 years in which they collude on what technology they offer their customers; in October 2017, BMW’s Munich headquarters was raided for evidence. Sources: <https://en.wikipedia.org/wiki/Ordoliberalism>; <https://mainlymacro.blogspot.fr/2014/01/ordoliberalism-neoliberalism-and.html>; Juliet Samuel. 2017. Berlin reveals true colours. . . , *Daily Telegraph*, 14 July; Justin Huggler. 2017. German carmakers’ ‘cartel’, *Daily Telegraph*, July 22; and Alan Tovey. 2017. Anti-trust watchdog searches BMW’s HQ, *Daily Telegraph*, October 21. See also Blake (2021a) for an analysis of how significantly the principles of ordoliberalism have penetrated into today’s EU.
- 416 Review by John Lanchester. 2016. The Failure of the Euro. *CAPX*, October 24. Available online: <http://capx.co/external/the-failure-of-the-euro> (accessed on 27 October 2017).
- 417 Anna Isaac. 2018. IMF boss backs French calls for closer integration in the Eurozone. *Daily Telegraph*, March 27.
- 418 A mechanism for fiscal transfers was introduced in 2011 as part of the Macroeconomic Imbalance Procedure but has not yet been applied.
- 419 Reported in Paul Carrel and Michel Rose. 2017. Merkel and Macron agree to draw up roadmap to deeper EU integration. *Reuters*, 15 May 2017. Available online: <http://in.reuters.com/article/germany-france-leaders-roadmap-idINKCN18B28T> (accessed on 27 October 2017).
- 420 Victor Mallet and Roula Khalaf. 2020. FT Interview: Emmanuel Macron says it is time to think the unthinkable. *Financial Times*, April 16. Available online: <https://www.ft.com/content/3ea8d790-7fd1-11ea-8fdb-7ec06edeeef84> (accessed on 27 May 2021).
- 421 Why free traders are on the defensive in the European Commission. *FT Europe Express*, 20 September 2022.
- 422 Similar behaviour by China to keep its currency artificially low against the dollar—in order to build up a huge trade surplus vis-à-vis the US—is known as currency manipulation in the US.
- 423 Germany’s Schäuble blames ECB for German export surplus. *Reuters*, 9 September 2016. Available online: <http://www.reuters.com/article/germany-exports-idUSL8N1BL1GE> (accessed on 7 May 2017); <https://tradingeconomics.com/germany/balance-of-trade> (accessed on 7 May 2017).
- 424 See, e.g., (Lynn 2023b).
- 425 This is now widely recognised, even in Germany. See, e.g., (Warner 2017; Bootle 2017a; Nonhoff 2017). Nonhoff was at the time a research assistant at the German Bundestag.
- 426 Germany’s Schäuble blames ECB for German export surplus. *Reuters*, 9 September 2016. Available online: <http://www.reuters.com/article/germany-exports-idUSL8N1BL1GE> (accessed on 7 July 2021).
- 427 (Feldstein 1992).
- 428 If a crisis is predictable, then it is difficult to avoid the conclusion that the crisis was engineered, unless those who sowed the seeds of the crisis were completely incompetent or did not care, as was the case in the GFC. See (Blake 2022).
- 429 Belgian historian David Van Reybrouck, in his 2016 book *Against Elections: The Case for Democracy* (Van Reybrouck 2016), describes the European Parliament as little better than one of the ‘councils of the people’ in the interwar colonial empires of Belgium, Holland, Britain, or France—with the real power resting with a distant imperial executive.
- 430 This was well illustrated in an interview with former UK government minister Kenneth Baker conducted by Peter Hennessy on BBC Radio 4’s *Reflections* programme on 23 August 2016. Lord Baker reported that it is common for European Commission civil servants to come up with proposals that are rejected by ministers from national governments only to return with a virtually identical set of proposals a few months later when these ministers have moved on to other responsibilities. Available online: <http://www.bbc.co.uk/programmes/b07pgvjg> (accessed on 7 April 2018).
- 431 See, e.g., <https://guides.law.columbia.edu/c.php?g=1221803&p=9087251> (accessed on 28 June 2021).

- 432 Jean-Claude Juncker's most outrageous political quotations. *Daily Telegraph*, 15 July 2014; Marian L Tupy. 2017. Why sovereignty  
433 matters. CAPX, August 3.
- 434 Guy Chazan. 2017. Merkel backs Macron's vision for Eurozone reform: German chancellor endorses proposal for single currency  
435 area finance minister. *Financial Times*, August 29.
- 436 David Marsh. 2017. Problems beyond Merkel Victory. *OMFIF*, September 5. Available online: [https://www.omfif.org/analysis/commentary/2017/september/problems-beyond-merkel-victory/?utm\\_source=omfifweeklyupdate](https://www.omfif.org/analysis/commentary/2017/september/problems-beyond-merkel-victory/?utm_source=omfifweeklyupdate) (accessed on 8 April  
437 2018). Angela Merkel's reliance on the Free Democrat Party after the German general election on 24 September 2017 put further  
438 talk of fiscal union on hold. Its leader, Christian Lindner, said his party would not tolerate any drift towards a fiscal transfer  
439 union and demanded that holders of EZ sovereign debt should suffer sobering losses before there can be any further rescues for  
440 governments in trouble (reported in [Evans-Pritchard 2017a](#)).  
441 ([Warner 2023c](#)).
- 442 Germany's far-right AfD derides EU as 'failed project'. *DW.com*, 6 August 2023. Available online: [https://www.msn.com/en-gb/  
443 news/world/germany-s-far-right-afd-derides-eu-as-failed-project/ar-AA1eRSaK](https://www.msn.com/en-gb/news/world/germany-s-far-right-afd-derides-eu-as-failed-project/ar-AA1eRSaK) (accessed on 25 September 2023).  
444 ([Chan 2023a](#)).
- 445 *Financial Times Europe Express*, 27 September 2023. At the same time that this was happening, Robert Fico and his pro-Putin Smer  
446 party won the largest share of votes in an election in Slovakia, potentially undermining EU unity in supporting Ukraine in its  
447 war against Russia. On 25 October 2023, Fico formed a coalition government with the Hlas and Slovak National parties and  
448 immediately announced a halt to military aid to Ukraine (see, e.g., ([Cohen 2023](#)), [https://en.wikipedia.org/wiki/Robert\\_Fico](https://en.wikipedia.org/wiki/Robert_Fico)  
449 (accessed on 28 October 2023), and <https://www.politico.eu/article/slovakia-robert-fico-announce-halt-military-aid-ukraine>  
450 (accessed on 28 October 2023)). One can only wonder what the consequences of this would be if an EU army and a common  
451 EU defence policy were in place at this time. Equally, one can only wonder what this will do for the European Commission's  
452 plans to bring Ukraine into the EU. The Commission estimates that Ukraine would be entitled to EUR 186 bn under the common  
453 EU budget after accession, which would turn 'many' existing member states into net payers for the first time (see [Henry Foy](#)  
454 ([2023](#)) EU estimates Ukraine entitled to €186bn after accession, *Financial Times*, 4 October). However, Jean-Claude Juncker, the  
455 former European Commission president, said that Ukraine is not ready to join the EU because it is 'corrupt at all levels of society'  
456 (quoted in [Crisp 2023](#)).  
457 ([Franco-German Working Group on EU Institutional Reform 2023](#)).
- 458 He added: 'Europe would be easier to understand if one captain was steering the ship'.  
459 See: [http://europa.eu/rapid/press-release\\_SPEECH-17-3165\\_en.htm](http://europa.eu/rapid/press-release_SPEECH-17-3165_en.htm) (accessed on 7 April 2023).  
460 ([Chan 2023a](#)).
- 461 Quoted in ([Chan 2023a](#)).
- 462 Such as: Hans-Werner Sinn; Karl Whelan of University College Dublin, who presented 'Target2 and the Euro Crisis' at the Bank  
463 of England on 26 June 2012 (<http://www.karlwhelan.com/Presentations/Whelan-BoE.pdf> (accessed on 7 April 2018)) and who  
464 wrote both 'All You Wanted to Know About Target2 But Were Afraid to Ask', 19 November 2012. ([https://www.forbes.com/sites/  
465 karlwhelan/2012/11/19/all-you-wanted-to-know-about-target2-but-were-afraid-to-ask/#31a00c5a4605](https://www.forbes.com/sites/karlwhelan/2012/11/19/all-you-wanted-to-know-about-target2-but-were-afraid-to-ask/#31a00c5a4605) (accessed on 7 April  
466 2018)) and 'Target2 and Central Bank Balance Sheets' ([Whelan 2014](#)); and Frank Westermann and Sven Steinkamp, who run the  
467 Euro Crisis Monitor at the Institute of Empirical Economic Research of Osnabrück University.
- 468 For example, German lawyer Gunnar Beck is fully aware that: 'under the so-called Target2 payments system operated by the  
469 ECB, Germany's balance-of-payments surplus with the Eurozone is financed not by the transfer of foreign-currency reserves,  
470 gold or other near-liquid assets, but by an open-ended overdraft facility granted by the Bundesbank. Under this peculiar system,  
471 the exporter is paid not by the importing country but by Germany's central bank, which itself never receives payment. Rather, a  
472 credit note is issued by the importing country's central bank, which it has no obligation ever to pay' ([Beck 2016](#)).
- 473 For example: ([Durdin 2012, 2016a, 2016b, 2016c, 2016d, 2017a, 2017b, 2017c, 2017d, 2017e, 2017f](#)).
- 474 Izabella Kaminska. 2017. So turns out Target2 imbalances in 2012 WERE a big deal. *Financial Times*, 6 March 2017.
- 475 Liam Halligan. 2012. IMF allows Eurozone to stay in its fantasy world. *Daily Telegraph*, April 21; Liam Halligan and Gerard Lyons  
476 also cover Target2 in their book *Clean Brexit: Why Leaving the EU Still Makes Sense—Building a Post-Brexit Economy for All* ([Halligan  
477 and Lyons 2017](#)).  
478 ([Evans-Pritchard 2017c](#)).
- 479 As of December 2016.
- 480 What does the Eurozone debt crisis mean for the UK? *BBC News*, 9 December 2011.
- 481 See: [https://en.wikipedia.org/wiki/European\\_Financial\\_Stability\\_Facility](https://en.wikipedia.org/wiki/European_Financial_Stability_Facility) (accessed on 17 April 2018).  
482 <http://www.thejournal.ie/ireland-interest-repayment-to-britain-1120288-Oct2013> (accessed on 18 April 2018); Telegraph View.  
483 2013. Ireland bail-out: Britain pays the price of the euro's failure. *Daily Telegraph*, November 22.
- 484 Philip Aldrick. 2013. British taxpayers funded Ireland's £14 bn bail-out. *Daily Telegraph*, January 19; Sam Coates. 2013. Irish  
485 bailout costs British taxpayers an extra £10 bn. *The Times*, June 10.

- 455 See: [http://www.bbc.co.uk/blogs/thereporters/robertpeston/2011/04/what\\_is\\_the\\_uks\\_contribution\\_t.html](http://www.bbc.co.uk/blogs/thereporters/robertpeston/2011/04/what_is_the_uks_contribution_t.html) (accessed on 17 April 2018); [https://en.wikipedia.org/wiki/European\\_Financial\\_Stability\\_Facility](https://en.wikipedia.org/wiki/European_Financial_Stability_Facility) (accessed on 17 April 2018).
- 456 See: <http://www.bbc.com/news/uk-politics-eu-referendum-36456277> (accessed on 19 April 2018).
- 457 In 2011, the EU agreed that the UK and other non-Eurozone EU states should not be part of any future Eurozone bailouts. In 2012, the Eurozone established the European Stability Mechanism for the purpose of bailing out only Eurozone countries, with the liability for this falling only on other Eurozone members. In July 2015, when the third Greek bailout was agreed, Greece was also given a short-term bridging loan of EUR 7 bn from the European Financial Stability Mechanism, which can provide loans to any EU country experiencing financial difficulties. This was confirmed by qualified majority voting, which the UK could not veto. The fund is financed by borrowing against the EU budget as collateral. The UK was liable for around EUR 855m of the loan through its share in the EU budget. However, the UK government agreed to a deal with the EU under which the ECB would cover any liabilities that would have fallen to the UK or other non-Eurozone states. This meant that the UK and other non-Eurozone states were exempted from any risk of losing money in this emergency loan to Greece. See: <http://www.bbc.com/news/uk-politics-33556085> (accessed on 29 April 2018).
- 458 See: <https://fullfact.org/europe/will-uk-pay-future-eurozone-bailouts/> (accessed on 29 April 2018).
- 459 Bob Lyddon. 2022. Eurozone in meltdown and COLLAPSE could cost Britain up to £200 billion—despite Brexit. *Daily Express*, July 13. Available online: <https://www.express.co.uk/comment/expresscomment/1640038/Eurozone-meltdown-collapse-cost-UK-billions-despite-Brexit> (accessed on 26 July 2022).
- 460 Which determines the size of the capital key.
- 461 See: <https://www.ecb.europa.eu/ecb/orga/capital/html/index.en.html> (accessed on 26 July 2022).
- 462 (Chandler-Wilde 2018).
- 463 See, e.g., (Eichler 2012).
- 464 (Durden 2017g).
- 465 As Tyler Durden (2017g) points out: ‘If you think Italy can pay German and other creditors a record €432.5 bn, you are in Fantasyland’.
- 466 Paul Lever, a former British ambassador to Germany, confirms Germany’s strong desire to protect the EU at all costs (Lever 2017).
- 467 Of course, they still took big hits in terms of GDP, wages, and unemployment.
- 468 As well as not liking the fact that tax evasion is high in Greece, especially amongst the highest paid.
- 469 See: <https://www.fitchratings.com/research/banks/italian-banks-npls-under-control-in-2021-helped-by-disposals-23-02-2021> (accessed on 26 July 2022).
- 470 So the loans are continuously evergreened. Nevertheless, Italian banks have managed to reduce some of their NPLs ‘through a mix of securitisations with state guarantees, portfolio sales and transfers to AMCO (the asset management company owned by the Italian state’). Available online: <https://www.fitchratings.com/research/banks/italian-banks-npls-under-control-in-2021-helped-by-disposals-23-02-2021> (accessed on 26 July 2022).
- 471 Philip Molyneux. 2016. Will Italy’s failing banks trigger financial collapse across Europe? *Guardian*, November 28.
- 472 As Tyler Durden (2017g) also points out: ‘It is no coincidence that Target2 imbalances are on the rise as faith in banks collapses. Target2 is a measure of capital flight despite the ECB’s assurances’.
- 473 Bob Lyddon adds: ‘Germany’s credit rating is all that stands between the euro and collapse. . . German support for other [Eurozone member national debt, including that in Target2] to sustain the euro is a “House of Cards” which could collapse at any moment. If Germany was responsible for such a massive amount of debt, its credit rating should be nearer to the CCC level—junk with a very high risk of loss. . . Germany enjoys a AAA rating because the rating agencies in one breath consider it in isolation, and in the next breath they wheel in Germany’s implicit support to justify maintaining inflated ratings for other Eurozone member states, without adding that member state’s debts onto Germany’s and adjusting Germany’s rating downwards’. Quoted in (Maddox 2023).
- 474 Quoted in Foreign News: Whose Mercy? Time Inc., New York, 17 February 1947.
- 475 (Stiglitz 2016).
- 476 (Durden 2017d).
- 477 (Durden 2016d).
- 478 (Stiglitz 2016).
- 479 (Gasparotti and Kullas 2019).
- 480 (Matolcsy 2019).
- 481 (Cesaratto 2013).
- 482 See (Bootle 2017b).
- 483 Quoted in Ambrose Evans-Pritchard. 2018. France calls for EU ‘empire’ and warns of euro break-up in next crisis. *Daily Telegraph*, November 12. Available online: <https://www.telegraph.co.uk/business/2018/11/12/france-calls-eu-empire-warns-euro-break-up-next-crisis> (accessed on 29 April 2019).

- 484 See, e.g., Ben Wright. 2022. Germany's cowardice over Russian gas makes a mockery of Eurozone solidarity: The EU's largest economy is fast losing moral authority. *Daily Telegraph*, April 14. Available online: <https://www.telegraph.co.uk/business/2022/04/14/germanys-cowardice-russian-gas-makes-mockery-eurozone-solidarity> (accessed on 26 July 2022).
- 485 An anonymous referee said that 'I think [your] paper provides enough ammunition to bring home the point that the fact that not even the dogged German resistance to a transfer union is able to prevent a *de facto* transfer union from emerging through the Target2 mechanism ought to convince even market fundamentalists that something is missing from the current picture. Why then not acknowledge that "we are all in this together" ("European UNION") and acknowledge explicitly the wisdom of sharing the burden of economic interdependence equally, or at least proportionally. Such a shift in perspective might help unlock the currently frozen process towards a true European unification'.
- 486 (Turner 2013).
- 487 One possible historical model for this is the political union of England and Scotland in 1707. This followed the failure of the catastrophic Darien scheme that bankrupted Scotland's establishment. The English government offered to bail out the Kingdom of Scotland in exchange for political union. See [https://en.wikipedia.org/wiki/Darien\\_scheme](https://en.wikipedia.org/wiki/Darien_scheme) (accessed on 8 April 2018).
- 488 See: Mario Draghi on the path to fiscal union in the euro zone—It will require new rules and more pooled sovereignty, says the former head of the ECB. *Economist*, 6 September 2023. Draghi called for deeper fiscal integration within the EZ to deal with common challenges like climate change. Available online: <https://www.economist.com/by-invitation/2023/09/06/mario-draghi-on-the-path-to-fiscal-union-in-the-euro-zone> (accessed on 8 September 2023).
- 489 Some argue that the moral leadership of the EU has shifted from Germany to Poland following Germany's vacillation over the Russian invasion of Ukraine. See, e.g., (Francis 2023; Natrass 2023). However, Polish support for Ukraine may be waning, at least temporarily. Ukrainian foodstuffs that can no longer be exported to traditional markets due to the war have instead been exported to Poland and other eastern European countries. This has caused prices to fall, upsetting farmers in these countries. Poland put unilateral curbs on Ukrainian foodstuff imports in defiance of EU rules and later said it would stop future arms sales to Poland, with the Polish president Andrzej Duda describing Ukraine as 'like a drowning person clinging to anything available'. See (Barber 2023). Again this has implications for the European Commission's plans to bring Ukraine into the EU.
- 490 Between December 2016 and February 2017, Chatham House surveyed two groups of people across ten EU countries: a representative sample of 10,000 members of the public and a sample of over 1800 of Europe's 'elite', individuals in positions of influence from politics, the media, business, and civil society at local, regional, national and European levels. The results revealed a continental split along three lines. First, there is a divide between elites and the public. While there is an alignment between the two groups regarding their attitudes toward EU solidarity, EU democracy, and a sense of European identity, the data show an important divide in terms of general attitudes, beliefs, and life experiences. The elite are more likely to experience the benefits of EU integration and are more liberal and optimistic. Meanwhile, there is 'simmering discontent' within the public, large sections of whom view the EU in negative terms, want to see it return some powers to member states, and feel anxious over the effects of immigration. Only 34% of the public feel they have benefited from the EU, which can be compared with 71% of the elite. The majority of the public (54%) think their country was a better place to live 20 years ago (Raines et al. 2017).
- 491 Jacki Davis of the European Policy Centre reported the following: 'It is no exaggeration to say that people in this town [Brussels]—who believe passionately in what they have built over the last 60 years—really do believe that the whole project is under threat now' (interviewed by (Adler 2017)). Adler also interviewed Guy Verhofstadt and put it to him that he was the only person left in Brussels who still believed in a Unites States of Europe. His reaction was surprisingly sheepish.
- 492 This section draws heavily on (Whittaker 2011, 2016).
- 493 The 'banknote allocation key' denotes the percentages that result from taking into account the ECB's share in the total euro banknote issue and applying the subscribed capital key (rounded to the nearest multiple of 0.0005 of a percentage point) to the NCBs' share in this total. See: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022D2546> (accessed on 23 September 2023).
- 494 Table A3 in Appendix B. See: [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02010D0029\(01\)-20200201&rid=9](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02010D0029(01)-20200201&rid=9) (Annex 1) (accessed on 18 February 2023).
- 495 See: <http://www.euribor-rates.eu/ecb-refinancing-rate.asp> (accessed on 2 October 2023).
- 496 For reasons explained in Note 161.

## References

- Abad, José, Axel Löffler, Gunther Schnabl, and Holger Zemanek. 2013. Fiscal Divergence, Current Account Divergence and TARGET2 Imbalances in the EMU. *Intereconomics* 48: 51–58. [CrossRef]
- Acharya, Viral V., Matteo Crosignani, Tim Eisert, and Christian Eufinger. 2023. *Zombie Credit and (Dis-)Inflation: Evidence from Europe*. Available online: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3562737](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3562737) (accessed on 23 January 2023).
- Adler, Katya. 2017. After Brexit: The Battle for Europe. *BBC2*, February 9.
- Akiba, Hiroya, and Yukihiro Iida. 2009. Monetary Unions and Endogeneity of the OCA Criteria. *Global Economic Review* 38: 101–16. [CrossRef]

- Alogoskoufis, Spyros, and Sam Langfield. 2019. *Regulating the Doom Loop*. ECB Working Paper Series No. 2313. Frankfurt: European Central Bank. Available online: <https://www.ecb.europa.eu/pub/pdf/scpwps/ecb.wp2313~1dd5617151.en.pdf> (accessed on 26 June 2022).
- Altdörfer, Marc, Carlos A. De las Salas Vega, Andre Guettler, and Gunter Löffler. 2019. The Case for a European Rating Agency: Evidence from the Eurozone Sovereign Debt Crisis. *Journal of International Financial Markets* 58: 1–18. [CrossRef]
- Alves, Pana, Antonio Millaruelo, and Ana Del-Río. 2018. The Increase in Target balances in the Euro Area since 2015. *Banco de España Economic Bulletin* 4/2018. Analytical Articles 5, December. Available online: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3304557](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3304557) (accessed on 5 August 2019).
- Amato, Massimo, and Luca Fantacci. 2012. *The End of Finance*. Cambridge: Polity Press.
- Amato, Massimo, Luca Fantacci, Dimitri B. Papadimitriou, and Gennaro Zezza. 2016. Going Forward from B to A? Proposals for the Eurozone Crisis. *Economies* 4: 18. [CrossRef]
- Andreeva, Desislava, Maciej Grodzicki, Csaba Mór, and Alessio Reghezza. 2019. Euro Area Bank Profitability: Where Can Consolidation Help? *Financial Stability Review*. November. Available online: [https://www.ecb.europa.eu/pub/financial-stability/fsr/special/html/ecb.fsrart201911\\_01~81377050be.en.html](https://www.ecb.europa.eu/pub/financial-stability/fsr/special/html/ecb.fsrart201911_01~81377050be.en.html) (accessed on 5 December 2019).
- Arnold, Martin. 2021. Italian and French banks revive ‘doom loop’ fears with bond buying: Exposure to own countries’ sovereign debt reawakens concern over faultline in Europe’s monetary union. *Financial Times*. April 6. Available online: <https://www.ft.com/content/fde7833a-8283-45b8-97ae-9104e1c974cd> (accessed on 25 August 2022).
- Arnold, Martin. 2022. ‘Living in a fantasy’: Euro’s founding father rebukes ECB over inflation response. *Financial Times*. April 13. Available online: <https://www.ft.com/content/145b6795-2d21-48c6-984b-4b05d121ba16> (accessed on 27 May 2022).
- Arnold, Martin, and Mary McDougall. 2023. ECB raises interest rates to all-time high. *Financial Times*, September 14.
- Arnold, Martin. 2023. ECB warns of ‘early signs of stress’ at eurozone banks as default rates rise. *Financial Times*, November 22.
- Auer, Raphael A. 2014. What Drives Target2 Balances? Evidence from a Panel Analysis. *Economic Policy* 29: 139–97. [CrossRef]
- Auer, Raphael, and Bilyana Bogdanova. 2017. What is Driving the Renewed Increase in Target2 Balances? *Bank for International Settlements Quarterly Report*. March, Box A. Available online: [www.bis.org/publ/qtrpdf/r\\_qt1703a.htm](http://www.bis.org/publ/qtrpdf/r_qt1703a.htm) (accessed on 20 July 2022).
- Baldwin, Richard, Skudelny Frauke, and Daria Taglioni. 2005. *Trade Effects of the Euro: Evidence from Sectoral Data*. ECB Working Paper Series No. 446. Frankfurt: European Central Bank.
- Barber, Tony. 2023. A tug of war in Poland and Slovakia. *Financial Times Europe Express Newsletter*, September 23.
- Barredo-Zuriarrain, Juan, Ricardo Molero-Simarro, and Alejandro Quesada-Solana. 2017. Euro-dependence—A Peripheral Look Beyond the Monetary Union: A Proposal of Reform of the Target2. *Review of Radical Political Economics* 49: 375–93. [CrossRef]
- Basel Committee on Banking Supervision. 2017. *The Regulatory Treatment of Sovereign Exposures*. Discussion Paper. Basel: Basel Committee on Banking Supervision. Available online: <https://www.bis.org/bcbs/publ/d425.pdf> (accessed on 25 May 2019).
- Baum, Christopher F., Dorothea Schäfer, and Andreas Stephan. 2016. Credit Rating Agency Downgrades and the Eurozone Sovereign Debt Crises. *Journal of Financial Stability* 24: 117–31. [CrossRef]
- Bayoumi, Tamim, and Barry Eichengreen. 1992. *Shocking Aspects of European Monetary Unification*. NBER Working Paper No. 3949. Cambridge, MA: National Bureau of Economic Research.
- Beck, Gunnar. 2016. Germany discovers some home truths about Brexit. *Wall Street Journal*, September 14.
- Besar, Dwityapoetra, Philip Booth, Ka Kei Chan, Alistair K. L. Milne, and John Pickles. 2011. Systemic Risk in Financial Services. *British Actuarial Journal* 16: 195–300. [CrossRef]
- Bindseil, Ulrich, and Philipp König. 2012. Target2 and the European Sovereign Debt Crisis. *Kredit und Kapital* 45: 135–74. [CrossRef]
- Bindseil, Ulrich, Philippine Cour-Thimann, and Philipp König. 2012. Target2 and Cross-Border Interbank Payments During the Financial Crisis. *Special Issue CESifo Forum* 2012: 83–92. [CrossRef]
- Blake, David. 2021a. Striking Similarities: The Origins of the European Economic Community. *Advances in Politics and Economics* 4: 2021.
- Blake, David. 2021b. The UK Is the Eurozone’s Dumping Ground. *Review of Economics and Finance* 19: 124–41. Available online: [https://refpress.org/wp-content/uploads/2021/07/David-Blake\\_REF.pdf](https://refpress.org/wp-content/uploads/2021/07/David-Blake_REF.pdf) (accessed on 28 July 2022). [CrossRef]
- Blake, David. 2022. The Great Game Will Never End: Why the Global Financial Crisis is Bound to be Repeated. *Journal of Risk and Financial Management* 15: 245. [CrossRef]
- Blanchard, Olivier J., and Lawrence F. Katz. 1992. Regional Evolutions. *Brookings Papers on Economic Activity* 1: 1–75. [CrossRef]
- Bootle, Roger. 2017a. Trump is correct—German surplus is bad news for everybody. *Daily Telegraph*, June 4.
- Bootle, Roger. 2017b. Germany faces an uneasy future as the Eurozone’s magic money tree. *Daily Telegraph*, June 12.
- Boumparis, Periklis, Costas Milas, and Theodore Panagiotidis. 2019. Non-Performing Loans and Sovereign Credit Ratings. *International Review of Financial Analysis* 64: 301–14. [CrossRef]
- Brosens, Teunis. 2020. Bank Non-Performing Loans in 2021: The Calm before the Storm. *ING*. October 30. Available online: <https://think.ing.com/articles/bank-non-performing-loans-the-silence-before-the-storm> (accessed on 10 January 2022).
- Broughton, James M. 2002. *Why White, Not Keynes? Inventing the Post-War International Monetary System*. IMF Working Paper WP/02/52. Washington, DC: International Monetary Fund, p. 16. Available online: <https://www.imf.org/external/pubs/ft/wp/2002/wp0252.pdf> (accessed on 2 March 2023).

- Brunnermeier, Markus K., Harold James, and Jean-Pierre Landau. 2016. *The Euro and the Battle of Ideas*. Princeton: Princeton University Press.
- Brunsdon, Jim. 2016. Hammond clashes with brussels over new bank oversight rules. *Financial Times*, December 7.
- Bun, Maurice J. G., and Franc J. G. M. Klaassen. 2002. *Has the Euro Increased Trade?* Tinbergen Institute Discussion Paper No. 02-108/2. Amsterdam: University of Amsterdam.
- Bun, Maurice J. G., and Franc J. G. M. Klaassen. 2007. The Euro Effect on Trade is not as Large as Commonly Thought. *Oxford Bulletin of Economics and Statistics* 69: 473–96. [CrossRef]
- Burrage, Michael. 2017a. *It's Quite OK to Walk Away: A review of the UK's Brexit Options with the Help of Seven International Databases*. London: Civitas.
- Burrage, Michael. 2017b. The Single Market promised much, but delivered little. *CAPX*, April 27.
- Burrage, Michael. 2017c. The disadvantages of Single Market membership remain as clear as ever. *BrexitCentral*, July 16.
- Cecchetti, Stephen G., Robert N. McCauley, and Patrick M. McGuire. 2012. *Interpreting Target2 Balances*. Bank for International Settlements Working Papers No. 393, December. Available online: <https://www.bis.org/publ/work393.pdf> (accessed on 10 January 2019).
- Cecioni, Martina, and Giuseppe Ferrero. 2012. *Determinants of Target2 Imbalances*. Banca d'Italia Occasional Papers, No. 136, September. Available online: [https://www.bancaditalia.it/pubblicazioni/qef/2012-0136/QEF\\_136.pdf](https://www.bancaditalia.it/pubblicazioni/qef/2012-0136/QEF_136.pdf) (accessed on 1 April 2018).
- Cesaratto, Sergio. 2013. The Implications of Target2 in the European Balance of Payments Crisis and Beyond. *European Journal of Economics and Economic Policies: Intervention* 10: 359–82. [CrossRef]
- Chan, Szu Ping. 2023a. How Emmanuel Macron became the most powerful leader in Europe. *Daily Telegraph*. September 3. Available online: <https://www.telegraph.co.uk/business/2023/09/03/emmanuel-macron-most-powerful-leader-european-union> (accessed on 4 September 2023).
- Chan, Szu Ping. 2023b. World at 'tipping point' following government debt binges, says HSBC boss. *Daily Telegraph*. October 24. Available online: <https://www.telegraph.co.uk/business/2023/10/24/world-tipping-point-government-debt-binges-hsbc-boss> (accessed on 30 October 2023).
- Chandler-Wilde, Helen. 2018. Bank crisis in Italy may spark 'Doom Loop' for UK, warns Bank of England. *Daily Telegraph*. December 2. Available online: <https://www.telegraph.co.uk/business/2018/12/02/bank-crisis-italy-may-spark-doom-loop-uk-warns-bank-england/> (accessed on 29 April 2021).
- Chmielewski, Tomasz, and Andrzej Sławiński. 2019. Lessons from TARGET2 Imbalances: The Case for the ECB being a Lender of Last Resort. *Economics and Business Review* 5: 48–63. [CrossRef]
- Clemens, Jobst, Martin Handig, and Robert Holzfeind. 2012. Understanding TARGET 2: The Eurosystem's Euro Payment System from an Economic and Balance Sheet Perspective. *Monetary Policy & the Economy Q* 1: 81–91.
- Cohen, Robert. 2023. Unease in the West as Slovakia appears set to join the Putin sympathizers: The front-runner in the parliamentary vote has pledged "not to send a single cartridge" to neighboring Ukraine, a sign of the flagging European support for a victim of Russian aggression. *New York Times*. October 1. Available online: <https://www.nytimes.com/2023/10/01/world/europe/slovakia-election-fico-ukraine.html> (accessed on 2 October 2023).
- Congdon, Tim. 1992. The logistical requirements of a single European currency. *Gerrard & National Monthly Economic Review*, June.
- Congdon, Tim. 1997. Why the Euro Will Fail. In *The Euro*. Edited by Paul Temperton. Chichester: John Wiley & Sons, pp. 77–95.
- Crafts, Nicholas. 2014. What Does the 1930s' Experience Tell Us about the Future of the Eurozone? *Journal of Common Market Studies* 52: 713–27. [CrossRef]
- Crisp, James. 2023. Ukraine too corrupt to join EU, says Jean-Claude Juncker. *Daily Telegraph*, October 5.
- De Grauwe, Paul. 2006. Flaws in the Design of the Eurosystem? *International Finance* 9: 137–44. [CrossRef]
- De Santis, Roberto A. 2015. *A Measure of Redenomination Risk*. ECB Working Paper Series No. 1785. Frankfurt: European Central Bank. Available online: <https://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp1785.en.pdf> (accessed on 9 October 2018).
- Dellepiane, Sebastian, Niamh Hardiman, and Jon Las Heras. 2013. *Building on Easy Money: The Political Economy of Housing Bubbles in Ireland and Spain*. University of Strathclyde Discussion Paper, September. Available online: [https://strathprints.strath.ac.uk/48832/1/15cd51a5\\_d078\\_4e3c\\_835d\\_694c142fb824.pdf](https://strathprints.strath.ac.uk/48832/1/15cd51a5_d078_4e3c_835d_694c142fb824.pdf) (accessed on 12 May 2018).
- Drèze, Jacques, and Charles Bean. 1990. Europe's Unemployment Problem: Introduction and Synthesis. In *Europe's Unemployment Problem*. Edited by Jacques Drèze and Charles Bean. Cambridge, MA: MIT Press.
- Durden, Tyler. 2012. Is Target2 a Less Than Thinly Veiled Bailout for Europe's Periphery? *Zerohedge*. June 19. Available online: <http://www.zerohedge.com/news/guest-post-target2-less-thinly-veiled-bailout-europes-periphery> (accessed on 29 June 2017).
- Durden, Tyler. 2016a. The TARGET2 Chart Shows A Breakdown Of The Central Bank Narrative. *Zerohedge*. June 30. Available online: <http://www.zerohedge.com/news/2016-06-30/target2-chart-shows-breakdown-central-bank-narrative> (accessed on 7 April 2018).
- Durden, Tyler. 2016b. Italy Funding Panic? Target2 Liabilities Unexpectedly Soar To Record High. *Zerohedge*. September 7. Available online: <http://www.zerohedge.com/news/2016-09-07/italy-funding-panic-target2-liabilities-unexpectedly-soar-record-high> (accessed on 7 April 2018).
- Durden, Tyler. 2016c. TARGET2 Shows Europe's Banking Crisis Is Escalating Again (Fast). *Zerohedge*. October 4. Available online: <http://www.zerohedge.com/news/2016-10-03/target2-shows-europes-banking-crisis-escalating-again-fast> (accessed on 7 April 2018).

- Durden, Tyler. 2016d. Why Europe Must End In Tears. *Zerohedge*. December 10. Available online: <http://www.zerohedge.com/news/2016-12-10/why-europe-must-end-tears> (accessed on 7 April 2018).
- Durden, Tyler. 2017a. In Stunning Admission, Draghi Says A Country Can Leave Eurozone But Must “Settle Bill First”. *Zerohedge*. January 21. Available online: <http://www.zerohedge.com/news/2017-01-21/stunning-admission-draghi-says-country-can-leave-eurozone-must-settle-its-bill-first?page=1> (accessed on 7 April 2018).
- Durden, Tyler. 2017b. The European Debt Bomb Fuse Is Lit! Target2 Imbalances Hit Crisis Levels. *Zerohedge*. February 26. Available online: <http://www.zerohedge.com/news/2017-02-26/european-debt-bomb-fuse-lit-target2-imbalances-hit-crisis-levels> (accessed on 7 April 2018).
- Durden, Tyler. 2017c. BIS Admits TARGET2 Is A Stealth Bailout Of Europe’s Periphery. *Zerohedge*. March 6. Available online: <http://www.zerohedge.com/news/2017-03-06/bis-admits-target2-stealth-bailout-europes-periphery> (accessed on 7 April 2018).
- Durden, Tyler. 2017d. Eurozone Capital Flight Intensifies—Target2 Imbalances Widen Again. *Zerohedge*. March 6. Available online: <http://www.zerohedge.com/news/2017-03-06/eurozone-capital-flight-intensifies-target2-imbalances-widen-again> (accessed on 7 April 2018).
- Durden, Tyler. 2017e. Target2 & Secret Bailouts: Will Germany be Forced into Fiscal Union with Rest of Eurozone? *Zerohedge*. April 24. Available online: <http://www.zerohedge.com/news/2017-04-23/target2-secret-bailouts-will-germany-be-forced-fiscal-union-rest-eurozone> (accessed on 7 April 2018).
- Durden, Tyler. 2017f. The ECB’s Target2 Lies—Exposing the Real Capital Flight from Italy & Spain. *Zerohedge*. September 25. Available online: <http://www.zerohedge.com/news/2017-09-24/ecbs-target2-lies-exposing-real-capital-flight-italy-spain> (accessed on 7 April 2018).
- Durden, Tyler. 2017g. Italy Target2 Imbalance Hits Record €432.5 Billion as Dwindling Trust in Banks Plunges. *Zerohedge*. November 7. Available online: <http://www.zerohedge.com/news/2017-11-06/italy-target2-imbalance-hits-record-%E2%82%AC4325-billion-dwindling-trust-banks-plunges> (accessed on 29 April 2018).
- Eichengreen, Barry. 1991. *Is Europe an Optimum Currency Area?* NBER Working Paper No. 3579. Available online: <http://www.nber.org/papers/w3579> (accessed on 21 February 2017).
- Eichengreen, Barry, Arnaud Mehl, Livia Chitu, and Gary Richardson. 2015. Mutual Assistance between Federal Reserve Banks: 1913–60 as Prolegomena to the TARGET2 Debate. *Journal of Economic History* 75: 621–59. [CrossRef]
- Eichler, Stefan. 2012. The Impact of Banking and Sovereign Debt Crisis Risk in the Eurozone on the Euro/US Dollar Exchange Rate. *Applied Financial Economics* 22: 1215–32. [CrossRef]
- El-Agraa, Ali M., and Brian Ardy. 2011. *The European Union: Economics and Policies*. Cambridge: Cambridge University Press.
- Elstner, Steffen, Lars P. Feld, and Christoph M. Schmidt. 2018. *The German Productivity Paradox—Facts and Explanations*. Ruhr Economic Papers No. 767. Essen: RWI—Leibniz-Institut für Wirtschaftsforschung. Available online: [http://www.rwi-essen.de/media/content/pages/publikationen/ruhr-economic-papers/rep\\_18\\_767.pdf](http://www.rwi-essen.de/media/content/pages/publikationen/ruhr-economic-papers/rep_18_767.pdf) (accessed on 25 February 2017).
- Emerson, Michael, Daniel Gros, Alexander Italianer, Jean Pisani-Ferry, and Horst Reichenbach. 1992. *One Market, One Money: An Evaluation of the Potential Benefits and Costs of Forming an Economic and Monetary Union*. Oxford: Oxford University Press.
- Erler, Alexander, and Stefan Hohberger. 2016. Target2: How Costly is Buying Time? *CESifo Economic Studies* 62: 491–505. [CrossRef]
- European Central Bank. 2016. Target Balances and the Asset Purchase Programme. Available online: [https://www.ecb.europa.eu/press/pr/pdf/other/eb201607\\_box02.en.pdf](https://www.ecb.europa.eu/press/pr/pdf/other/eb201607_box02.en.pdf) (accessed on 20 June 2020).
- Evans-Pritchard, Ambrose. 2017a. German Court threatens QE as plans die for euro fiscal union. *Daily Telegraph*, October 17.
- Evans-Pritchard, Ambrose. 2017b. Germany risks havoc of boom and bust. *Daily Telegraph*, November 25.
- Evans-Pritchard, Ambrose. 2017c. Unpayable debts and an existential EU financial crisis—Are Eurozone central banks still solvent? *Daily Telegraph*, February 23.
- Evans-Pritchard, Ambrose. 2022a. Revenge of the Bundesbank spells serious trouble for Italy. *Daily Telegraph*. September 2. Available online: <https://www.telegraph.co.uk/business/2022/09/02/revenge-bundesbank-spells-serious-trouble-italy> (accessed on 4 September 2022).
- Evans-Pritchard, Ambrose. 2022b. Schadenfreude is unwise—Europe is next in line for market punishment. *Daily Telegraph*, October 4.
- Evans-Pritchard, Ambrose. 2022c. Europe’s next debt crisis is only just beginning—Tearing North and South apart. *Daily Telegraph*. November 1. Available online: <https://www.telegraph.co.uk/business/2022/11/01/europes-next-debt-crisis-just-beginning-tearing-north-south> (accessed on 3 November 2022).
- Ambrose Evans-Pritchard. 2022d. Europe’s banks are priced for economic Armageddon. *Daily Telegraph*, June 28. Available online: <https://www.telegraph.co.uk/business/2022/06/28/europes-banks-priced-economic-armageddon> (accessed on 29 November 2022).
- Evans-Pritchard, Ambrose. 2023a. Is Ireland vulnerable again as the world’s vast shadow banking system starts to crack? *Daily Telegraph*. April 4. Available online: <https://www.telegraph.co.uk/business/2023/04/04/ireland-vulnerable-world-shadow-banking-system/> (accessed on 6 April 2023).
- Evans-Pritchard, Ambrose. 2023b. Europe’s credit crunch will be the next chapter of this banking crisis: Europe’s half-formed banking union is woefully equipped to deal with instability. *Daily Telegraph*. May 5. Available online: <https://www.telegraph.co.uk/business/2023/05/05/europe-credit-crunch-next-chapter-banking-crisis/> (accessed on 7 May 2023).

- Evans-Pritchard, Ambrose. 2023c. The Eurozone's next crisis is already approaching, in Italy: The Continent's weak link poses a serious risk to entire European project. *Daily Telegraph*. October 20. Available online: <https://www.telegraph.co.uk/business/2023/10/20/eurozones-next-crisis-already-approaching-italy> (accessed on 30 October 2023).
- Evans-Pritchard, Ambrose. 2023d. Europe is slowly destroying itself as it heads for another lost decade: The Continent is doomed to struggle on with its own deformed creation. *Daily Telegraph*, November 10.
- Fahrholz, Christian, and Andreas Freytag. 2011. Whither the TARGET2 System? Taking a Glance at the Real Economic Facets of the Euro-Area Debt Crisis. *Applied Economics Quarterly* 57: 15–25. [CrossRef]
- Farhi, Emmanuel, and Jean Tirole. 2018. Deadly Embrace: Sovereign and Financial Balance Sheets Doom Loops. *The Review of Economic Studies* 85: 1781–823. [CrossRef]
- Febrero, Eladio, and Jorge Uxó. 2013. *Understanding Target2 Imbalances from an Endogenous Money View*. Cuenca: Universidad de Castilla-La Mancha, April 25, Available online: [https://www.researchgate.net/publication/271215526\\_Understanding\\_TARGET2\\_imbalances\\_from\\_an\\_endogenous\\_money\\_view](https://www.researchgate.net/publication/271215526_Understanding_TARGET2_imbalances_from_an_endogenous_money_view) (accessed on 7 February 2023).
- Febrero, Eladio, Jorge Uxó, and Ignacio Álvarez. 2018. Target2 Imbalances and the ECB's Asset Purchase Programme: An Alternative Account. *Panoeconomicus* 69: 73–98. [CrossRef]
- Feldstein, Martin. 1992. Europe's Monetary Union: The Case against EMU. *The Economist*, June 13.
- Financial Stability Board, International Monetary Fund, and Bank for International Settlements. 2009. Report to G20 Finance Ministers and Governors: Guidance to Assess the Systemic Importance of Financial Institutions, Markets and Instruments: Initial Considerations, October. Available online: <https://www.imf.org/external/np/g20/pdf/100109.pdf> (accessed on 6 May 2018).
- Fingleton, Bernard, Harry Garretsen, and Ron Martin. 2015. Shocking Aspects of Monetary Union: The Vulnerability of Regions in Euroland. *Journal of Economic Geography* 15: 907–34. [CrossRef]
- Foy, Henry, and Ian Johnston. 2023. The EU's plan to regain its competitive edge. *Financial Times*, November 5.
- Foy, Simon. 2023. IMF urges 'vigilance' as it warns over increased financial stability risks. *Daily Telegraph*. March 26. Available online: <https://www.telegraph.co.uk/business/2023/03/26/imf-urges-vigilance-warns-increased-financial-stability-risks> (accessed on 26 August 2023).
- Francis, Diane. 2023. Poland's Moral Leadership. January 26. Available online: <https://dianefrancis.substack.com/p/polands-moral-leadership> (accessed on 20 May 2023).
- Franco-German Working Group on EU Institutional Reform. 2023. *Sailing on High Seas: Reforming and Enlarging the EU for the 21st Century*. September 18. Available online: <https://www.politico.eu/wp-content/uploads/2023/09/19/Paper-EU-reform.pdf> (accessed on 19 September 2023).
- Frankel, Jeffrey, and Andrew Rose. 1998. The Endogeneity of the Optimum Currency Area Criteria. *Economic Journal* 108: 1009–25. [CrossRef]
- Fraser, Andrew. 2017. Risks are rising for investors in bank debt. *Financial News*, October 20.
- Friis, Jakob W., Roberta Torre, and Marco Buti. 2022. How to Make the EU Fiscal Framework Fit for the Challenges of This Decade. CEPR. *VoxEU*. November 10. Available online: <https://cepr.org/voxeu/columns/how-make-eu-fiscal-framework-fit-challenge-s-decade> (accessed on 21 February 2023).
- Fu, Anqi, Tim Jenkinson, David Newton, and Ru Xie. 2023 Research Unbundling and Market Liquidity: Evidence from MiFID II, *European Financial Management*. Available online: <https://doi.org/10.1111/eufm.12460> (accessed on 1 November 2023).
- Garber, Peter M. 1999. The Target Mechanism: Will it Propagate or Stifle a Stage III Crisis? *Carnegie-Rochester Conference Series on Public Policy* 51: 195–220. [CrossRef]
- Gasparotti, Alessandro, and Matthias Kullas. 2019. *20 Years of the Euro: Winners and Losers—An Empirical Study*; Centre for European Policy, February. Available online: [https://www.cepr.eu/Studien/20\\_Jahre\\_Euro\\_-\\_Gewinner\\_und\\_Verlierer/cepStudy\\_20\\_years\\_Euro\\_-\\_Winners\\_and\\_Losers.pdf](https://www.cepr.eu/Studien/20_Jahre_Euro_-_Gewinner_und_Verlierer/cepStudy_20_years_Euro_-_Winners_and_Losers.pdf) (accessed on 2 February 2017).
- Goodhart, Charles A. E. 1995. The Political Economy of Monetary Union. In *Understanding Independence: The Macroeconomics of the Open Economy*. Edited by Peter B. Kenen. Princeton: Princeton University Press.
- Goodhart, Charles A. E. 1998. The Two Concepts of Money: Implications for the Analysis of Optimal Currency Areas. *European Journal of Political Economy* 14: 407–32. [CrossRef]
- Guarascio, Francesco, and Jan Strupczewski. 2021. EU leaders to commit to finishing banking union ... one day. *Reuters*. June 24. Available online: <https://www.reuters.com/business/eu-leaders-commit-finishing-banking-union-one-day-2021-06-24/> (accessed on 21 May 2020).
- Halligan, Liam. 2012. IMF allows Eurozone to stay in its fantasy world. *Daily Telegraph*, April 21.
- Halligan, Liam, and Gerard Lyons. 2017. *Clean Brexit: Why Leaving the EU Still Makes Sense—Building a Post-Brexit Economy for All*. London: Biteback Publishing.
- HM Treasury. 2003. *The United States as a Monetary Union*. Norwich: HMSO.
- House of Commons Treasury Committee. 2017. The Solvency II Directive and Its Impact on the UK Insurance Industry, HC 324, 27 October. Available online: <https://publications.parliament.uk/pa/cm201719/cmselect/cmtreasy/324/324.pdf> (accessed on 17 April 2022).
- Hristov, Nikolay, Oliver Hülsewig, and Timo Wollmershäuser. 2020. Capital Flows in the Euro Area and Target2 Balances. *Journal of Banking and Finance* 113: 105734. [CrossRef]

- International Monetary Fund. 2017. Euro Area Policies: Article IV Consultation, Country Report No. 17/235. Available online: <https://www.imf.org/en/Publications/CR/Issues/2017/07/25/Euro-Area-Policies-2017-Article-IV-Consultation-Press-Release-Staff-Report-and-Statement-by-45121> (accessed on 25 July 2017).
- Ioannou, Stefanos. 2023. Regional and Municipal Debt in the Eurozone: A Cross-country Analysis. *Regional Studies* 57: 97–111. [CrossRef]
- Kenen, Peter B. 1969. The Theory of Optimum Currency Areas: An Eclectic View. In *Monetary Problems of the International Economy*. Edited by Robert A. Mundell and Alexander K. Swoboda. Chicago: University of Chicago Press, pp. 41–60.
- Kenen, Peter B. 1995. What Have We Learned from the EMS Crises? *Journal of Policy Modelling* 17: 449–61. [CrossRef]
- Keynes, John Maynard. 1942. Proposals for an International Currency (or Clearing) Union (Paras 28 and 29), February 11. Reproduced in J. Keith Horsefield (ed) (1969) Part I: Before Bretton Woods—The Keynes Plan. In *The International Monetary Fund 1945–1965: Twenty Years of International Monetary Co-Ordination, Volume III: Documents*. Washington, DC: International Monetary Fund.
- Keynes, John Maynard. 1971. *The Collected Writings of John Maynard Keynes*. London: Cambridge University Press, vol. XXV, p. 143.
- Krugman, Paul. 1991. *Geography and Trade*. Cambridge, MA: MIT Press.
- Krugman, Paul, Maurice Obstfeld, and Marc Melitz. 2012. *International Economics: Theory and Policy*. Harlow: Pearson Education Limited.
- Kyriakopoulou, Danae. 2017. Death in Venice for Banking Union. *OMFIF*, June 28.
- Layard, Richard, Stephen Nickell, and Richard Jackman. 1991. *Unemployment: Macroeconomic Performance and the Labour Market*. New York: Oxford University Press.
- Legorano, Giovanni. 2017. How Italy's Monte dei Paschi ended up on the verge of nationalisation. *Financial News*, July 10.
- Lever, Paul. 2017. *Berlin Rules: Europe and the German Way*. London: IB Tauris.
- Lyddon, Bob. 2023. *The Shadow Liabilities of EU Member States: And the Threat they Pose to Global Financial Stability*. London: The Bruges Group. Available online: <https://www.brugesgroup.com/blog/the-shadow-liabilities-of-eu-member-states-and-the-threat-they-pose-to-global-financial-stability> (accessed on 10 June 2023).
- Lynn, Matthew. 2022. Three ways the Ukraine war could crash the financial system. *Daily Telegraph*. March 11. Available online: <https://www.telegraph.co.uk/business/2022/03/11/three-ways-ukraine-war-could-crash-financial-system> (accessed on 16 December 2022).
- Lynn, Matthew. 2023a. Macron's France is trapped in a debt spiral it cannot escape. *Daily Telegraph*, May 2.
- Lynn, Matthew. 2023b. Arrogant Germany is incapable of saving itself. *Daily Telegraph*. September 22. Available online: <https://www.telegraph.co.uk/business/2023/09/22/arrogant-germany-incapable-saving-itself-olaf-scholz> (accessed on 23 September 2023).
- Maddox, David. 2023. Collapsing euro is riskier than 'gambling on bitcoin' warns top banking expert. *Daily Express*. August 9. Available online: <https://www.express.co.uk/news/politics/1800197/collapsing-euro-bitcoin-gambling-debt> (accessed on 20 September 2023).
- Matolcsy, Gyorgy. 2019. We need to admit the euro was a mistake. *Financial Times*. November 3. Available online: <https://www.ft.com/content/35b27568-f734-11e9-bbe1-4db3476c5ff0> (accessed on 26 July 2022).
- Mayer, Thomas. 2012. *Europe's Unfinished Currency: The Political Economics of the Euro*. London: Anthem Press.
- McKinnon, Ronald I. 1963. Optimum Currency Areas. *American Economic Review* 53: 717–25.
- McMorrow, Kieren. 1996. *The Wage Formation Process and Labour Market Flexibility in the Community, the US and Japan*. European Commission Economic Paper No. 118. Brussels: European Commission.
- Micco, Alejandro, Ernesto Stein, and Guillermo Ordoñez. 2003. *The Currency Union Effect on Trade: Early Evidence from EMU*. Inter-American Development Bank Working Paper No. 490. Washington, DC: Inter-American Development Bank.
- Migliaccio, Alessandro, and Giovanni Salzano. 2020. Italy's fragile finances have a USD 2.4 trn virus problem. *Bloomberg*. March 17. Available online: <https://www.bloombergquint.com/global-economics/coronavirus-latest-italy-s-finances-have-a-2-4-trillion-problem> (accessed on 9 May 2022).
- Millard, Rachel. 2022. Cutting off Russian gas to cost Germany EUR 220 bn and trigger European recession. *Daily Telegraph*. April 13. Available online: <https://www.telegraph.co.uk/business/2022/04/13/cutting-russian-gas-cost-germany-220bn-trigger-european-recession/> (accessed on 9 November 2022).
- Minenna, Marcello, Giovanni Dosi, and Andrea Roventini. 2018. ECB Monetary Expansions and Euro Area TARGET2 Imbalances: A Balance-of-payment-based Decomposition. *European Journal of Economics and Economic Policies: Intervention* 15: 147–59.
- Mongelli, Francesco Paolo. 2008. *European Economic and Monetary Integration, and the Optimum Currency Area Theory*. Economic Papers No. 302. Directorate-General for Economic and Financial Affairs, European Commission. Brussels: European Commission.
- Mundell, Robert A. 1960. The Monetary Dynamics of International Adjustment under Fixed and Flexible Exchange Rates. *Quarterly Journal of Economics* 74: 227–57. [CrossRef]
- Natras, William. 2023. Poland emerges as Europe's leader against Russia's war in Ukraine: Warsaw takes on Germany, Austria and Hungary, whose support for Kyiv is more equivocal. *Wall Street Journal*. January 20. Available online: <https://www.wsj.com/articles/poland-emerges-as-europes-leader-against-russias-war-in-ukraine-invasion-support-weapons-tanks-germany-11674248580> (accessed on 21 January 2023).
- Nonhoff, David. 2017. Germany's trade surplus is a threat to the EU. *CAPX*, June 12.
- Noonan, Laura, and Martin Arnold. 2023. Europe's top banking supervisor says fragmenting market raises risks. *Financial Times*. October 30. Available online: <https://www.ft.com/content/a8d19bfc-9ce3-432b-baa5-f749f3f23ddd> (accessed on 30 October 2023).

- Norris, Michelle, and Michael Byrne. 2015. *Asset Price Keynesianism, Regional Imbalances and the Irish and Spanish Housing Booms and Busts*. UCD Geary Institute for Public Policy Discussion Paper Series WP2015/14. Dublin: University College Dublin. Available online: <http://www.ucd.ie/geary/static/publications/workingpapers/gearywp201514.pdf> (accessed on 15 May 2017).
- Oltermann, Philip. 2017. Martin Schulz wants 'United States of Europe' within eight years. *Guardian*, December 7.
- Pasimeni, Paolo. 2014. An Optimum Currency Crisis. *European Journal of Comparative Economics* 11: 173–204.
- Pellegrino, Bruno, and Luigi Zingales. 2017. *Diagnosing the Italian Disease*. NBER Working Paper No. w23964. Cambridge, MA: National Bureau of Economic Research. Available online: [https://www.nber.org/system/files/working\\_papers/w23964/w23964.pdf](https://www.nber.org/system/files/working_papers/w23964/w23964.pdf) (accessed on 20 March 2019).
- Raines, Thomas, Matthew Goodwin, and David Cutts. 2017. *The Future of Europe: Comparing Public and Elite Attitudes*. Chatham House Research Paper. London: Chatham House.
- Reinhart, Carmen. 2018. Italy's Long, Hot Summer. *Project Syndicate*. May 31. Available online: <https://www.project-syndicate.org/bi-picture/toward-another-eurocrisis> (accessed on 13 September 2023).
- Reynolds, Barnabas, David Blake, and Robert Lyddon. 2020. *Managing Euro Risk: Saving Investors from Systemic Risk*. London: Politeia, February 23, Available online: <https://www.politeia.co.uk/managing-euro-risk-saving-investors-from-systemic-risk-by-barnabas-reynolds-david-blake-and-robert-lyddon/> (accessed on 26 October 2021).
- Schollmeyer, Uwe. 2019. *Payment Systems in a Multinational Currency Union*. Hachenburg: Deutsche Bundesbank University of Applied Sciences, January 31, Available online: <https://www.hochschule-bundesbank.de/resource/blob/781426/e94ed5b58f2a6bece26962e2a341c611/mL/2019-03-05-buckingham-data.pdf> (accessed on 3 May 2021).
- Shearman and Sterling. 2017. Continuity of Contracts and Business on a 'Hard' Brexit: Human Rights and Reverse Solicitation to the Rescue! *Perspectives*. October 31. Available online: <http://www.shearman.com/en/newsinsights/publications/2017/10/continuity-contracts-business-on-hard-brexit> (accessed on 29 November 2017).
- Sinn, Hans-Werner. 2011a. The ECB's Stealth Bailout. *VoxEU.org*. June 1. Available online: <https://www.hanswernersinn.de/en/the-cbs-stealth-bailout-vox-01062011> (accessed on 22 March 2023).
- Sinn, Hans-Werner. 2011b. On and Off Target. *VoxEU.org*. June 14. Available online: <https://www.hanswernersinn.de/en/on-and-off-target-vox-14062011> (accessed on 22 March 2023).
- Sinn, Hans-Werner. 2012. *Die Target-Falle: Gefahren für unser Geld und unsere Kinder*. Munich: Hanser.
- Sinn, Hans-Werner. 2014. *The Euro Trap: On Bursting Bubbles, Budgets, and Beliefs*. Oxford: Oxford University Press.
- Sinn, Hans-Werner. 2016. Europe's Secret Bailout. *Project Syndicate*. November 28. Available online: [www.hanswernersinn.de/en/PS\\_28112016](http://www.hanswernersinn.de/en/PS_28112016) (accessed on 22 March 2023).
- Sinn, Hans-Werner. 2019. *The Effective Rate of Interest on Target Balances*. CESifo Working Paper No. 7878, September. Munich: Center of Economic Studies, University of Munich. Available online: <https://www.cesifo.org/en/publications/2019/working-paper/effective-rate-interest-target-balances> (accessed on 28 August 2022).
- Sinn, Hans-Werner, and Timo Wollmershäuser. 2012. TARGET Loans, Current Account Balances and Capital Flows: The ECB's Rescue Facility. *International Tax and Public Finance* 19: 468–508. [CrossRef]
- Skouralis, Alexandros. 2021. *The Role of Systemic Risk Spillovers in the Transmission of Euro Area Monetary Policy*. European Systemic Risk Board Working Paper Series No. 129, December. Frankfurt: European Central Bank. Available online: <https://www.esrb.europa.eu/pub/pdf/wp/esrb.wp129-01256b31ef.en.pdf> (accessed on 8 March 2022).
- Slovik, Patrick, and Boris Cournede. 2011. *Macroeconomic Impact of Basle III*. OECD Economics Working Papers. Paris: OECD. [CrossRef]
- Steil, Benn, and Dinah Walker. 2015. Greece Fallout: Italy and Spain Have Funded a Massive Backdoor Bailout of French Banks. *Council on Foreign Relations*. July 2. Available online: <https://www.cfr.org/blog/greece-fallout-italy-and-spain-have-funded-massive-backdoor-bailout-french-banks> (accessed on 22 May 2017).
- Steinkamp, Sven, Aaron Tornell, and Frank Westermann. 2017. The Euro Area's Common Pool Problem Revisited: Has the Single Supervisory Mechanism Ameliorated Forbearance and Evergreening? CESifo Working Paper Series No. 6670. Munich: Center of Economic Studies, University of Munich. Available online: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3057925](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3057925) (accessed on 23 January 2023).
- Stiglitz, Joseph E. 2016. *The Euro: How a Common Currency Threatens the Future of Europe*. New York: W. W. Norton.
- Tilford, Simon. 2017. *Is the EU's Single Market leading to Convergence or Divergence?* London: Centre for European Reform. Available online: <https://www.cer.eu/insights/eus-single-market-leading-convergence-or-divergence> (accessed on 28 August 2023).
- Tooze, Adam. 2018. *Crashed: How a Decade of Financial Crises Changed the World*. New York: Viking. [CrossRef]
- Turner, Philip. 2013. *Caveat Creditor*. Bank for International Settlements Working Papers No. 419, July. Basel: Bank for International Settlements. Available online: <https://www.bis.org/publ/work419.pdf> (accessed on 7 April 2018).
- Van Reybrouck, David. 2016. *Against Elections: The Case for Democracy*. New York: Seven Stories Press. Available online: <https://www.penguinrandomhouse.com/books/645360/against-elections-by-david-van-reybrouck/> (accessed on 17 September 2022).
- Varoufakis, Yanis. 2017. *Adults in the Room: My Battle with Europe's Deep Establishment*. London: Bodley Head.
- Varoufakis, Yanis. 2021. The West's Wasted Crisis. *Project Syndicate*. November 23. Available online: <https://www.project-syndicate.org/commentary/west-wasted-pandemic-opportunity-by-yanis-varoufakis-2021-11> (accessed on 5 March 2022).
- Verhofstadt, Guy. 2017. *Europe's Last Chance: Why the European States Must Form a More Perfect Union*. New York: Basic Books.
- Warner, Jeremy. 2017. Fault lines at the heart of Europe cannot be closed: London may be happy to bankroll the North—But Germany will not pick up the bills for Greece. *Daily Telegraph*, May 26.

- Warner, Jeremy. 2023a. Rising interest rates threaten to test the Eurozone to destruction. *Daily Telegraph*. January 3. Available online: <https://www.telegraph.co.uk/business/2023/01/03/rising-interest-rates-threaten-test-eurozone-destruction/> (accessed on 20 June 2023).
- Warner, Jeremy. 2023b. Europe's banks in danger of another Doom Loop, with perilously little protection. *Daily Telegraph*. March 22. Available online: <https://www.telegraph.co.uk/business/2023/03/22/europes-banks-danger-another-doom-loop-perilously-little-protection> (accessed on 13 June 2023).
- Warner, Jeremy. 2023c. The sense of decline in Germany is palpable. *Daily Telegraph*. September 24. Available online: <https://www.telegraph.co.uk/business/2023/09/24/germany-economy-sick-man-europe-manufacturing/> (accessed on 25 September 2023).
- Warner, Jeremy. 2023d. Fault lines are fast re-emerging in Europe's fragile monetary union: Already fiscally challenged, high interest rates risk pushing the Eurozone to the brink. *Daily Telegraph*. October 1. Available online: <https://www.telegraph.co.uk/business/2023/10/01/europe-monetary-union-threatened-higher-interest-rates> (accessed on 2 October 2023).
- Werner, Richard A. 2014. Can Banks Individually Create Money out of Nothing? The Theories and the Empirical Evidence. *International Review of Financial Analysis* 36: 1–19. [CrossRef]
- Westermann, Frank. 2016. ECB Target2 balances keep rising. *OMFIF*. November 29. Available online: <https://www.omfif.org/analysis/commentary/2016/november/ecb-target-2-balances-keep-rising/> (accessed on 8 June 2017).
- Whelan, Karl. 2012. Target2: Not why Germans should fear a euro breakup. *VoxEU*. April 29. Available online: <https://voxeu.org/article/target2-germany-has-bigger-things-worry-about> (accessed on 8 February 2023).
- Whelan, Karl. 2014. Target2 and Central Bank Balance Sheets. *Economic Policy* 29: 79–137. [CrossRef]
- Whelan, Karl. 2015. What's Going on with Greece and the ECB? *Medium.com: Bull Market*, February 1.
- Whittaker, John. 2011. *Eurosystem Debts, Greece, and the Role of Banknotes*. Lancaster: Lancaster University Management School. Available online: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1968353](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1968353) (accessed on 15 May 2017).
- Whittaker, John. 2016. *Eurosystem Debts Do Matter*. Lancaster: Lancaster University Management School. Available online: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2725346](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2725346) (accessed on 15 May 2017).
- Whittaker, John, and Bernard Connolly. 2003. What Will Happen to the Euro. *Economic Affairs* 23: 66–71.
- Yassukovich, Stanislas. 2017. The city has nothing to fear from brexit. *Financial Times*, January 12.

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