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Monetary Subordination in the Eurozone:
Fragmentation and tiering of markets and
institutions

Matteo Giordano

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2024

Department of Economics
SOAS, University of London

Abstract

The objective of this thesis is to specify the monetary and financial dimensions of hierarchy and subordination in the European Monetary Union. It seems clear at first sight that the European Monetary Union is riven by such relations, despite the presumed formal equality of its members. And yet, the form and the content of these relations are hard to specify. The precise character of hierarchy and subordination in the European Monetary Union is highly elusive.

The thesis draws on the current literature on International Financial Subordination, and makes a methodological, conceptual, and empirical contribution to this rapidly expanding field. It focuses on the structural mechanisms of the single and common currency and shows that subordination is integral to the conduct of both private and public actors in the European Monetary Union. Subordination is also a monetary and financial process that reproduces itself, giving rise to subordinate forms of integration for some member states.

Specifically, it is shown that there are three pillars of subordination in the European Monetary Union: first, monetary hierarchies; second, a ‘hybrid’ working money; and third, fragmentation and selective integration of markets. Hierarchy and subordination result from the structural features of the Union and are shaped by selective integration across its fragmented jurisdictions. The simultaneous existence of fragmentation of markets and jurisdictions together with the integration and de facto unification of liquidity flows, collateral policies, and other financial processes generate relations of subordination among member states.

Evidence for the central claim of the thesis is provided by examining the flows of liquidity across the jurisdictions of the European Monetary Union. The complete liberalisation and unification of cross-border payments against a fragmented monetary infrastructure leads to a concentration of liquidity flows from subordinated members to the apex of the hierarchy. This tendency is facilitated by the ‘hybrid’ nature of the euro, whose domestic and cross-border functions are not distinct thanks to the TARGET system.

The thesis further shows that subordinate integration impacts on the domestic economies of member states and shapes their evolution. In the case of Italy, the single and common currency has resulted in monetary and financial subordination that pivots on the euro rather than the US dollar. Analysing economic fragility in Italy must take this development into account.

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And after Cyclops and Laistrygonians,

Κι αν πτωχική την βρεις, η Ιθάκη δε σε γέλασε.

Έτσι σοφός που έγινες, με τόση πείρα,

ήδη θα το κατάλαβες οι Ιθάκες τι σημαίνουν. [Cavafy, C.P. (1911), Ithaca]

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Acronyms

ABS Asset-Backed Securities.

AC auto-collateralisation.

AMECO Annual Macro-Economic Database of DG ECFIN, the European Commission's Directorate General for Economic and Financial Affairs.

ANFA Agreement on Net Financial Asset.

APP Asset Purchase Programmes.

BACH Bank for the Accounts of Companies Harmonised.

BdI Banca d'Italia.

BIREL Banca d'Italia-Regolamento Lordo.

BIS Bank for International Settlements.

BoP Balance of Payments.

BOTs Buoni Ordinari del Tesoro.

BSR Balance Sheet Recession.

BTP Buoni del Tesoro Pluriennali, Italian Government Bond with maturity from 18 months to 3, 5, 7, 10, 15, 20, 30 e 50 years.

BuBa German Bundesbank.

CA Current Account.

CCBM Correspondent Central Bank Model.

CCTs Certificati di Credito del Tesoro.

CEPAL Comisión Económica para América Latina y el Caribe.

Consob Commissione Nazionale per le Società e la Borsa.

C-S-P Core-Semiperiphery-Periphery.

C-P Core-Periphery.

CCP Central Counterparty.

CMF Critical Macro-Finance.

CSD Central Securities Depository.

DCA Dedicated Cash Account.

DIP Delivery Instructions Processed.

DM Deutsche Mark.

DMO Debt Management Office.

EADI European Association of Development Institutes.

ECB European Central Bank.

ECP European Commercial Paper.

ECSDA European Central Securities Depositories Association.

ECU European Currency Unit.

EDS European Dependency School.

EEC European Economic Community.

EFSF European Financial Stability Facility.

EMCF European Monetary Cooperation Fund.

EMEs Emerging Market Economies.

EMI European Monetary Institute.

EMS European Monetary System.

EMU European Monetary Union.

ESCF Eurosystem Collateral Framework.

ESM European Stability Mechanism.

EU European Union.

EUA European Unit of Account.

FMI Financial Market Infrastructure.

FoFs Flow of Funds.

FRFA Fixed-Rate Full Allotment.

FVCs Financial Vehicle Corporations.

FX reserves Foreign Exchange Reserves.

GACS Garanzia Cartolarizzazione Sofferenza.

GBP British Pound Sterling.

GC repo General Collateral Repo.

GFC Global Financial Crisis.

GIIPS Greece, Ireland, Italy, Portugal, and Spain.

HQLA High Quality Liquidity Assets.

ICH International Currency Hierarchy.

ICMA International Capital Market Association.

ICSD International Central Securities Depository.

IFS International Financial Subordination.

IMF International Monetary Fund.

IRI Istituto per la Ricostruzione Industriale.

ISA Interdistrict Settlement Accounts.

ITL Italian Lira.

KA Capital Account.

LBS BIS Locational Banking Statistics.

LCR Liquidity Coverage Ratio.

LoLR Lender of Last Resort.

LTROs Longer-Term Refinancing Operations.

MEF Ministero dell'Economia e delle Finanze.

MFIs Monetary and Financial Institutions.

MMFs Money Market Funds.

MMSR ECB's Money Market Statistical Reporting.

MNC Multi-National Corporation.

MROs Main Refinancing Operations.

MTS Mercato Telematico dei titoli di Stato, then MTS S.p.A..

MV Money View.

NCB National Central Bank.

NFC Non-Financial Corporation.

NFCs Non-Financial Corporations.

NGEU Next Generation EU.

NPLs Non-Performing Loans.

OCA Optimal Currency Area.

OCC Organic Composition of Capital.

OFIs Other Financial Institutions.

OMOs Open Market Operations.

PEPP Pandemic Emergency Purchase Programmes.

PFMI Principles for Financial Market Infrastructure.

PSPP Public Sector Purchase Programmes.

QE Quantitative Easing.

REER Real Effective Exchange Rates.

RER Real Exchange Rates.

RTGS Real Time Gross Settlement System.

SC repo Special Collateral Repo.

SDR Special Drawing Right.

SDW Statistical Data Warehouse.

SIFIs Systemically Important Financial Institutions.

SMEs Small and Medium-Size Enterprises.

SMP Securities Market Programme.

SPVs Special Purpose Vehicles.

SSP Single Shared Platform.

STS Short-Term (Debt) Securities.

T2S TARGET2 Securities.

TARGET Trans-European Automated Real-time Gross Settlement Express Transfer system.

TFEU Treaty on the Functioning of the European Union.

TLTROs Targeted Longer-Term Refinancing Operations.

TNC Trans-National Corporation.

TUB Testo Unico Bancario.

TUF Testo Unico della Finanza.

UIC Ufficio Italiano dei Cambi.

ULC Unit Labour Cost.

USD US Dollar.

VSTFF Very Short Term Financing Facility.

Part I

Theory and Tradition

Chapter 1

Introduction

1.1 Introduction

If the Eurozone looks like a Core-Periphery Structure, swims like a Core-Periphery Structure, and quacks like a Core-Periphery Structure, then it probably is a Core-Periphery Structure. Although theorisation of Core and Periphery relations grounded in production and trade for European countries were prominent in the 1980s, no modernisation has occurred to study the European Monetary Union (EMU) through a lens in the same tradition. Indeed, whilst the bipartite Core-Periphery Structure has become too strict to analyse monetary and financial relations, the recent years have witnessed a revival of the long-standing tradition of Imperialism, Structuralism, and Dependency Theory to approach the relations between Emerging Market Economies (EMEs) and the international dollar-based monetary and financial system.

This thesis argues that an approach in line with this refound tradition can and should be applied to study the *internal* asymmetries of monetary unions and regional monetary and financial structures, even when the members involved cannot be defined as EMEs. Such argument stems from the unique feature of the EMU, namely the fact that it is a union amongst equals and that all members should remain equal under the legal and economic dimensions of the process of unification. Where economic equality is clearly absent, the rationale behind monetary unions is the progressive and automatic economic convergence of the laggards with the more advanced members.

This work is at its very core against such understanding of monetary unions which neglects the possibility of having monetary structures established to sustain a form of integration that perpetrates the hierarchical tiering of the members and the respective jurisdictions. Indeed, the puzzle and paradox of the EMU is the apparent equality of

member states that is actually just a legal appearance: beneath the surface, whether one looks at the real economy or financial markets (as proposed in this work), equality is far from being the feature of the Union, which becomes tiered and non-converging, with mechanisms in place that reinforce such asymmetric unification and prevent the rebalancing of the member states.

Consequently, the main objective of this project is to understand the internal *structural mechanisms* of the single and common currency that lead to hierarchy and subordination of legally equal members, and how such *monetary subordination* affects the domestic economies of member states and their evolution along the process of integration and unification. It is argued that subordination is not only a structural feature that shapes the behaviour of the actors involved (for example causing ‘Subordinate Financialisation’) but also a process that reproduces itself.

This chapter introduces the theme of the thesis and the topics discussed, contextualising them within a gap in the literature and the broader historical perspective around monetary systems in different hegemonic periods. It seeks to establish the motivations behind the topic as well as the puzzle faced at the beginning of research. A more detailed analysis of the methodological and theoretical pillars of this work is offered in Chapter 3, after the key literature is reviewed in Chapter 2.

Section 1.2 discusses the motivations behind this project, centred around the dissatisfaction with the current interpretations of Core-Periphery analyses and with the failure to assess hierarchies in Europe. Section 1.3 explores the puzzle of the Eurozone, namely a monetary union amongst *equal* members who actually are not equal at all. This section contextualises the starting point of the research. In Section 1.4 the topics and objectives of the research are explored in more detail. A brief evaluation of the small existing literature is offered, coupled with a closer analysis of subordination and of the regional focus on the EMU and Italy. Section 1.5 outlines the structure of this work and the key arguments of each of the chapters developed. Ultimately, the key contributions are summarised in Section 1.6.

1.2 Motivations: the misuse of ‘core’ and ‘periphery’ in the European context

The motivations behind this research arise from a twofold puzzle. On the one hand, the terms ‘core’ and ‘periphery’ are used to describe European countries without reference to a proper taxonomy or even a definition built on the relationships of imperialism, dependency, and asymmetries across countries. On the other hand, it has become clear since the Global Financial Crisis (GFC) that there is a precise tiering of the member countries of the European Union (EU) and more specifically of the European Monetary Union (EMU), suggesting that there are indeed relationships of hierarchy and asymmetry –and thus of subordination– across member states that should be at the heart the meaning of ‘core’ and ‘periphery’.

On the first motivation, the literature on the Eurozone Crisis and its aftermath, much akin to the wider literature on the EU/EMU as well as the non-academic discourses, makes use of ‘core’ and ‘periphery’ terminology with arbitrary categorisations that often are shaped by historical features, political turbulences, or model-based definitions rather than by rigorous economic analyses in the tradition of the Core-Periphery (C-P) Structure.

The dissatisfaction with the taxonomy of the EU/EMU and of its members has not really touched the academic community except for very recent and isolated efforts to make sense of regional hierarchies. To explain why such asymmetries arise, this research brings together the centenary but neglected theories of Imperialism and Core-Periphery structures with an analysis of monetary and financial structures at the European level. A theory of *monetary subordination* and of subordinate monetary integration –summarised by the idea that *monetary and financial structures protract, replicate, and strengthen subordination*– then arises from such analyses to describe the hierarchical tiering of the Eurozone.

For this purposes, I argue that we should move on from Core-Periphery dichotomous schema,¹ towards a complete understanding of the features of subordination for single countries. Rather than having a bipartite or tripartite system, the tradition of Imperialism, Structuralism and Dependency Theory should move beyond the analysis of Core-Periphery relations by theorising the ‘spectrum of subordination’ that allows for a more comprehensive study of subordinate and non-subordinate countries and their idiosyncrasies: the concept of ‘periphery’, today, should be expanded to a theory of subordination, thus finding a solution to the issue that crippled this tradition in the 1980s, namely the

¹As well as from a tripartite Core-Semiperiphery-Periphery (C-S-P) structure as developed by Wallerstein (1975) and the ensuing literature.

absence of a coherent bridge between Core-Periphery and financialisation. The capitalist tendencies are common across countries, but the single experiences are qualitatively different: subordination allows for the understanding of hierarchies and of the positions along them, allowing for the idiosyncratic developments that each country undergoes due to its own internal composition.

Such theory is developed here with regard to monetary integration because of the role of money as a tool for imperialism, and because a monetary union *formalises* the structures that arise organically from the capitalist domination of the international over the domestic. Indeed whilst money may not be the *cause* of subordination proper, money –and monetary structures– affect the shapes and forms that subordination takes, though not its essence. Monetary and financial subordination in the Eurozone is crucially subtler and with specific forms differing from the one experienced by EMEs in the international monetary system precisely because of the plumbing of the euro. In addition, the puzzle of the Eurozone’s ‘periphery’ remains unexplained: the literature has explained the divergences in Unit Labour Cost (ULC) and Real Exchange Rates (RER), but it has forgotten to analyse the plumbing of the common and single currency for the structural causes of asymmetries in the EMU.

Furthermore, a formal application of the Imperialist-Structuralist-Dependency paradigm to the issue of a monetary union has never been done despite the use of core and periphery terminology. Indeed, this work aims at synthesising the contemporary analysis of financial capitalism with the original imperialist understanding of Core-Periphery structures, thus aiming at showing how structures and infrastructures are at the heart of the modern forms of imperialism and asymmetries. In other words, this work strives to re-appropriate terminology and theories that belong to the Marxian tradition but that have been considerably deprived of their original value in the last decades.

The second motivation can only be hypothesised via stylised facts at first, with this work expanding on the forms and mechanisms that show the dimensions of hierarchy and imperialism in the EMU. The statistics used in quantitative assessments of the eurozone fail to encompass such dimensions, which can only be appreciated with a thorough study of the catalyst of asymmetries, the common and single money. Indeed, previous works on Core-Periphery in Europe –even those belonging to the Imperialist tradition, have only captured the blurred appearance of core and periphery in Europe without expanding on their monetary foundations and have crucially neglected the structural causes of subordination in Europe –and more precisely the Eurozone.

For example, as can be seen in Figure 1.1, there is a division in terms of national income per capita between two broadly defined groups, despite their remarkable heterogeneity. More surprising is the fact that only one country has moved from above the EU-15

average to below it, Italy. The decline occurred with the inception of the common and single currency in 1999, and led Italy to become an integral part of the so-called ‘Southern Periphery’ of the Eurozone. Convergence does not appear as an outcome of the euro.

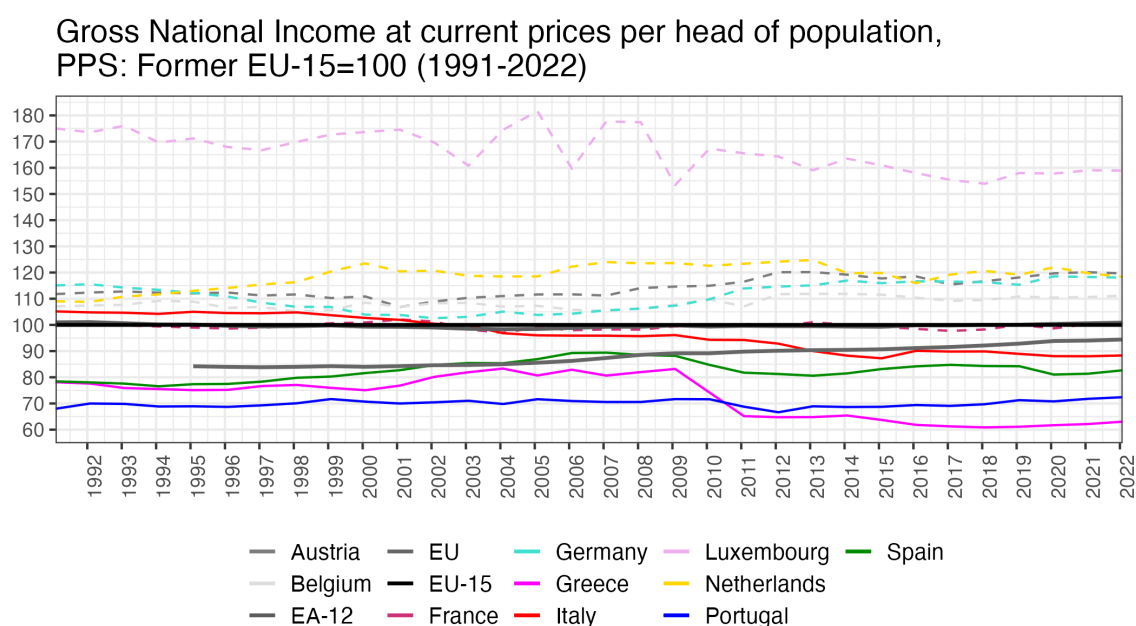


Figure 1.1. Gross National Income at current prices per head of population (EU-15=100), 1990–2022.

Notes: PPS: Former EU-15=100. Full lines are the countries in the Eurozone traditionally defined as peripheral, whilst dashed lines represent those usually defined as ‘core’ or core-like.

Source: Author’s own elaborations on AMECO (European Commission, 2023).

Such observation, coupled with Figures 1.2 and 1.3 and the ethos of European failing economic developments throughout the 2010s, outlines a simple puzzle: can the common and single money create a hierarchy and divisions amongst countries? In other words, monetary unions have always been interpreted through the ‘Exchange Rates lens’ as a system fixing exchange rates and thus preventing devaluations (or revaluations) and forcing internal devaluations as adjustment mechanisms. A key argument and innovation of this research is to look at a monetary union through the ‘subordination lens’ by highlighting the importance of monetary and financial *structures* as the true defining features of a monetary union, which is a financial project build on an artificial monetary architecture.

This perspective stresses that monetary unions are primarily financial projects that require the creation of monetary and financial structures allowing for the *commons and single* monetary –and financial– system. Monetary unions are deeper than the fixing

of exchange rates and the productivity differentials of Unit Labour Cost (ULC), and thus need to be analysed through a structural lens akin to the one adopted when looking at international financial systems, as offered recently by Alami et al. (2022) for EMEs. Given that such an approach has never been taken or theorised, this work seeks to offer both theoretical conceptualisation and empirical analysis of the Eurozone following such lens, which takes the name of a *theory of monetary subordination*.

1.3 The European question: the puzzle

The puzzling reality of the EMU outlined in this work can be summarised, paraphrasing Orwell (1945), as the fact that the EMU is *a union amongst equals, where some are more equal than others*. Indeed, economically and politically speaking, member countries are not only anything but *equal*, but the process of adaptation and integration to the Union has taken different forms and paths, leading to protracted differences that have come apparent especially since the GFC. Even the literature on monetary unions –Optimal Currency Area (OCA) theory in its endogenous and exogenous forms– fails to explain the evolution of the 23 years of monetary union in Europe. Such approach is not only insufficient to capture the monetary and financial structures mentioned above given that it focuses primarily on the effects of fixing exchange rates and considers financial markets primarily as preconditions or separate components, but it also becomes inconsistent by showing that there remain various areas in which convergence has not happened across Eurozone countries, thus disproving the endogeneity of OCA.

This section offers some stylised facts about the application of OCA to the Eurozone, and the shapes of ‘core’ and ‘periphery’ in the Union. It then elaborates on the role of the GFC and Eurozone Crisis as catalyst for the appearance of more refined dichotomies between core-like and periphery-like countries, leading the way for the development of the concept of ‘subordination’ in the following section.

1.3.1 Between OCA theory and convergence

Throughout the history of European integration, convergence has been the key concept with respect to the aims (and outcomes) of the increasingly deeper, deregulated, and liberalised relations amongst nations. Said convergence takes two forms: on the

one hand, as a remedy to the disparity between the criteria defining a region as an OCA and the empirical experience of the EMU, the ‘new’ or ‘endogenous’ OCA tradition argues that the criteria identified,² rather than being preconditions, are the results endogenous to monetary integration, so to justify the beginning of the establishment of a monetary union even amongst significantly unequal partners. This view was put forward by Eichengreen (1992), Frankel and Rose (1996), and Strauss-Kahn (2003), underlining that convergence amongst countries across the aforementioned criteria due to the enforced monetary integration inevitably would lead to broader economic convergence and stability amongst member countries.

On the other hand, the second form can be outlined as economic integration leading to economic convergence, which in turn is argued to bring forward political convergence and thus further economic and political integration, a theoretical mechanism underlined by the (neo-)Functionalist scholars and first introduced by J. Monnet (Sadeh and Verdun, 2009; Guiso et al., 2015). The Euro and the Eurozone, in essence, are a fruit of the functionalist approach combined with the presupposition that the endogenous OCA literature was indeed right in describing the causality as running from monetary integration to economic convergence (Spolaore, 2013).

Neither argument supporting the idea of a convergence of less developed (peripheral?) countries toward the more advanced European members (the core?), has come through completely. The levels of intra-EU and intra-Eurozone trade have increased for the period 1999–2012 (ECB, 2013),³ but Jager and Hafner (2013) argue that, considering the other parameters of OCA theory with a special attention devoted to the possibility of and response to asymmetric shocks such as the global financial crisis and the Eurozone crisis, ‘[t]he euro did not promote further economic integration within the EMU’ (p.322).

Contrary to Jager and Hafner (2013), the euro and the longer process of monetary unification started with the European Monetary System (EMS) of exchange rate and monetary coordination and cooperation, have produced some form of integration, but not the convergence it had promised in terms of economic variables. Two separate and methodologically different analyses of convergence partly corroborate this hypothesis: Marelli et al. (2019) find that real economic convergence for the period 1995–2016 has been more prominent at the EU level than at the Eurozone level, especially in the aftermath of the Eurozone crisis and for the Southern periphery, although they also find that the OCA criteria (which are essentially institutional) have ‘converged’ to different extents (hence

²Labour mobility (Mundell, 1961), flexibility of prices and wages (Friedman, 1953), trade openness and consolidation (McKinnon, 1963), fiscal integration (Kenen, 1969), convergence of inflation rates Fleming (1971), and political factors (Mintz, 1970).

³With the exception of 2009.

the idea of integration instead of convergence).

Diaz del Hoyo et al. (2017) find that real economic convergence has differed across the Eurozone with the Southern periphery showing the worst levels, but also that when taking a more historical view (1960s onwards), the adoption of a single currency itself did not slow down the process of catching-up or transformed it into divergence. What is important from their analysis, however, is that which they define as ‘Maastricht convergence’ (Ibid., p. 35), which encompasses the convergence criteria required to adopt the euro in 1991 in Maastricht.⁴

Ultimately, the authors find that, considering Maastricht convergence, the results are again mixed in that the heterogeneities across Eurozone members remain significant. Looking at Diaz del Hoyo et al. (2017) (graphs at page 37, 39, 40), it can be noted that there is little evidence of a clear Core-Periphery divide even in terms of the single parameters of price stability, long-term interest rates, and the excessive deficit procedure. If on the one hand, a relatively flexible group can be identified encompassing the countries classified as ‘core’ in the previous section at least in the first two criteria, on the other hand the experiences in the Southern periphery are significantly various, with the exception that Italy is consistently in a middle position between said core and the rest of the Mediterranean periphery.

The definition provided here of EMU or monetary integration builds on the idea that it is more than just the adoption of a single currency: by integration, it is meant the process of gradual synchronisation, amalgamation, and consolidation of different national economies or markets that can be enforced by fixing exchange rates, liberalising and deregulating the domestic markets, coordinating monetary policies implicitly or explicitly (i.e., formal coordination or the setting of national monetary policy in relation to foreign capital), and by the composition and intensity of trade and capital flows. In these terms, the process of European monetary integration started long before the introduction of the euro, possibly soon after the collapse of the Bretton Woods system, which by itself provided fertile soil for a reformulated form of integration.

Whether the Maastricht criteria represent indicators of convergence or integration, it is argued that this requires the development of a novel approach to monetary unification: if we see integration for example in the Euro-members bond markets, but we do not see convergence, in this example of the interest rates, then the form of integration is characterised by *structural fragmentation* in that it replicates a hierarchy through the

⁴These encompass price developments, long-term interest rate developments, and fiscal developments. As a criterion of accession there was also a criterion regarding exchange rates, but this is removed from the ‘Maastricht convergence’ criteria for eurozone countries for obvious reasons.

financial and monetary architecture. It is possible, in other words, to have a process of selective and fragmented integration that integrates only specific market segments and infrastructure and that leaves as fragmented others; in this sense the problem of the Eurozone arises from it being a form of *integration* rather than *unification*. Such dynamics are defined here as ‘subordinate integration’, which can be explained as the forms in which a national economy is transformed whilst being constrained by the architectural design of the system in which it is integrating, as will be introduced later in this chapter.

1.3.2 Stylised facts

The stylised facts of Core-Periphery division in Europe according to traditional methods can be observed in the productive sector and government debt. Accordingly, the only comprehensive study of European Core-Periphery based on the tradition of radical (Marxian) political economy carried out by Weissenbacher (2019) also focuses only on trade and the side of production.

The level of industrialisation proxied by the share of manufacturing in total value added (Figure 1.2) shows the absence of clear Core-Periphery distinction. Eurozone member countries have different levels of manufacturing to total value added, and whilst the highest share has been of the German economy since 1961, Italy, Spain, and Portugal show higher shares than France since the late 1970s and well into the EMU. In other words, it is not the manufacturing output that drives a potential division between core and peripheral member states.

Figures 1.2 and B1 show that the GFC brought to an end the falling trend of de-industrialisation in Eurozone, leading to a decade of constant ratios of manufacturing to total value added in most countries and importantly irrespective of their core or peripheral position. The downward trends were shared by all countries, again irrespective of Core-Periphery distinctions and marginally affected by the introduction of the single and common currency. It is worth noting, furthermore, that Germany appears as an outlier by having a relatively constant ration since 1992.

Current Account (CA) balances, a hot topic for Eurozone member countries, have undergone significant convergence since the GFC, as shown in Figure 1.3. Whilst there was a clear distinction between peripheral CA deficits and core surpluses, these have been decreased if not eliminated by 2012-13. In the 2010s, whilst it is possible to ascertain that peripheral countries have lower surpluses or small deficits, the two largest peripheral countries (Italy and Spain) have shown consistent CA surpluses. Again, France shows CA balances below most of the peripheral countries. CA, ultimately, whilst showing the effect of consumption-bubbles in Greece, Spain, and Portugal during the 1999-2007 period, fail

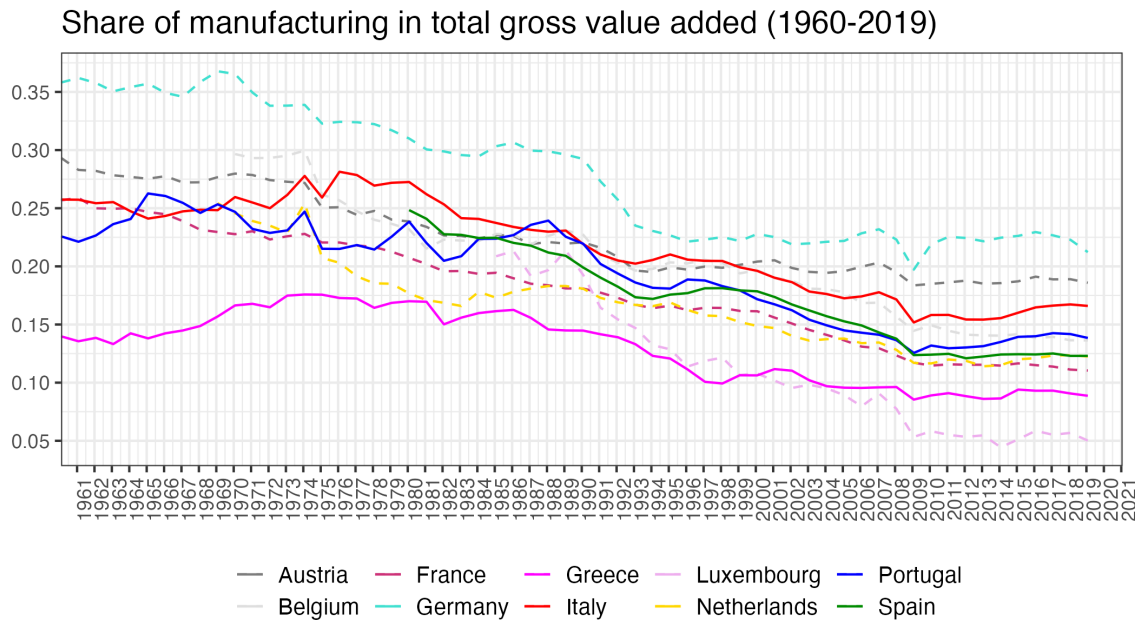


Figure 1.2. Share of manufacturing in total gross value added (% of total), 1960–2020.

Notes: Germany before 1990: West Germany. Full lines are the countries in the Eurozone traditionally defined as peripheral, whilst dashed lines represent those usually defined as ‘core’ or core-like.

Source: Authors’ own elaborations on AMECO (European Commission, 2023).

to describe the position of Italy, which suffered from small CA deficits until 2011. In other words, whilst the appearance of two distinct groups (Core and Periphery) is observable with CA, these cannot point out the dynamics and the size of the asymmetric relations in Europe and the Eurozone.

With respect to government debt (Figure 1.4), it is difficult again to set out a clear picture of Core-Periphery: whilst indeed southern peripheral countries seem to have amongst the highest ratios of government debt to GDP, there is a considerable variance of such ratios amongst both core and peripheral countries. There is a wide spectrum of debt ratios, entailing a spectrum of hierarchy rather than a clear-cut Core-Periphery division. Importantly, the polarisation of such ratios has taken place in the aftermath of the GFC (not the Eurozone crisis), which has driven peripheral government debt disproportionately to higher levels.

As these stylised facts depicted, there are *some* but unclear hints of Core-Periphery divisions amongst Eurozone member countries. For this reason, the division should be approached as a spectrum of subordination to allow for idiosyncrasies across ‘peripheral’ countries, thus this work uses the terms ‘periphery’ and ‘core’ to refer to countries that are respectively subordinated and non-subordinated –or with low degrees of monetary

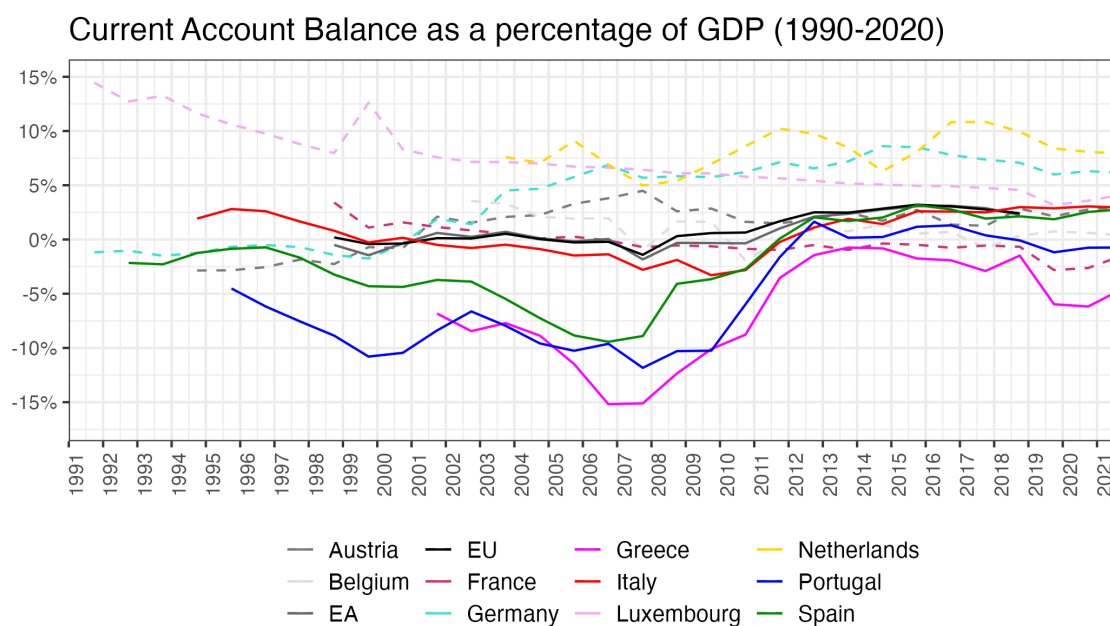


Figure 1.3. Current Account Balance as a percentage of GDP (% of total), 1990-2020.

Notes: Partner: Rest of the World. Full lines are the countries in the Eurozone traditionally defined as peripheral, whilst dashed lines represent those usually defined as 'core' or core-like.

Source: Authors' own elaborations on AMECO (European Commission, 2023).

subordination.

Whilst the asymmetric tiering of the members is a structural feature of the Eurozone, such Core-Periphery or *subordination* has emerged as visible in the aftermath of the GFC. The Eurozone crisis embodies a crisis of subordination that cannot be solved internally: the Eurozone crisis forced the Area to come to terms with the structural asymmetries that surfaced and have characterised it ever since. The polarisation of the Eurozone is structurally enshrined in its monetary architecture.

Ultimately, little research has been done on the combination of Eurozone monetary dynamics and financialisation in European countries. Whilst the literature has developed accounts of the French and German financialisation, there is remarkably little on the peripheral countries' financialisation and how it is affected by the common and single currency. The primary contributions in this area have been a couple of papers by the Regulation school (analysed in the following chapter), and the contributions of the critical political economists related to Lapavitsas et al. (2010).

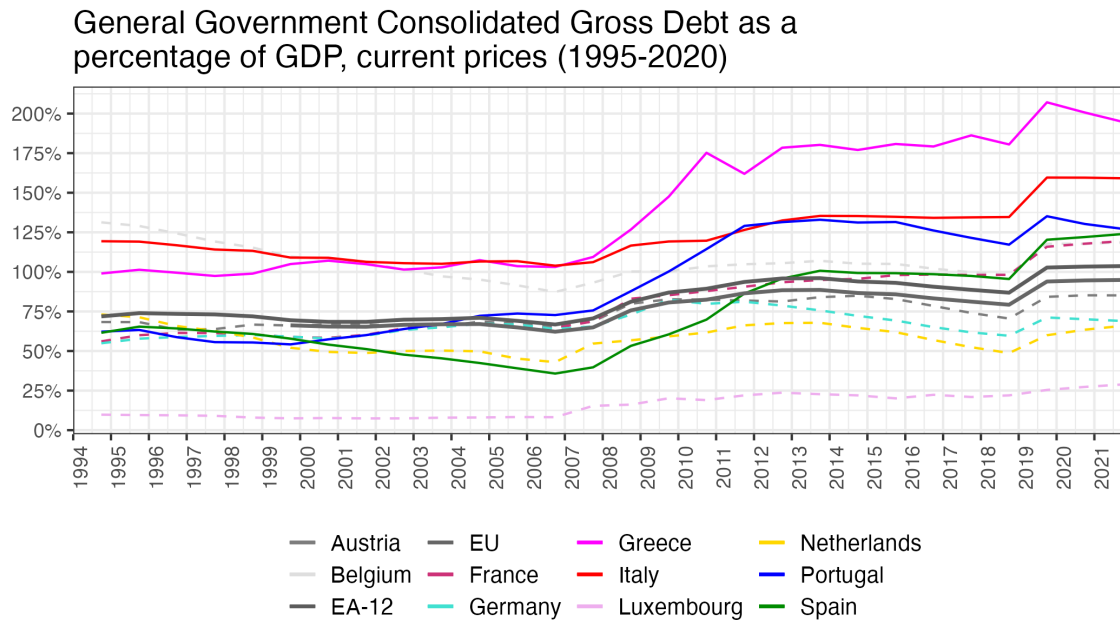


Figure 1.4. General Government Consolidated Gross Debt as a percentage of GDP at current prices (% of total), 1995-2022.

Notes: Full lines are the countries in the Eurozone traditionally defined as peripheral, whilst dashed lines represent those usually defined as ‘core’ or core-like.

Source: Authors’ own elaborations on AMECO (European Commission, 2023).

1.4 Subordination: from the three ‘Paces’ to the EMU

Given such an unclear picture of the Eurozone, this research seeks to explore a narrower and uncharted area of analysis: that of the monetary structures underpinning the euro. Through the acknowledgment that the EMU is structurally hierarchical and characterised by monetary subordination it is possible to find subordination and tiering across member countries along the lines of contemporary financialised capitalism. The purpose of finding subordination in the EMU is to show that member countries are not equal, and that hierarchical relations of power mediated through money and finance (and their respective institutions) can be located in the EMU in a similar way to those affecting developing countries in a dollarised global financial system.

To be sure, the EMU is embedded in the world system and is inevitably shaped by the rivalry between the euro and the US dollar, but such an analysis is beyond the scope of this research. Subordination in Europe is distinct but similar to the subordination of developing countries in the world-economy, as shown for the case of Italy in Chapter 9. Crucially, the aim of this work is not to provide a *general* theory of subordination, but to

understand and conceptualise *monetary –and inevitably financial– subordination*.

The concept of subordination, though it is defined at length in Chapter 3, provides the theoretical framework to contrast the Dependency paradigm of ‘agency-driven’ hierarchy,⁵ by underlining the role of structures. In other words, whilst a hegemony can create a system of subordination for its subjects –in which case subordination is agency-driven, subordination can appear without a hegemonic power and can bestow itself the hegemonic power upon the ‘core’ or non-subordinated country of the world-system.

In turn, such an understanding of structures through a subordination lens explains better the ‘Paces’ of the last century: whilst the Pax Britannica was an agency-based system of subordination, the Pax Americana showed a lower degree of agency by the hegemon and more reliance on the Structure (the Bretton Woods System, which followed the White Plan devised by the American Delegation), and the Pax Germanica in Europe and Eurozone was created not by hegemonic power of Germany, but rather because of the structure of monetary and financial integration: the subordination of the EMU is infrastructure-driven rather than agency-driven and confers upon the non-subordinate (or less-subordinate) members the hegemonic power.

To be sure, both the Pax Britannica and the Pax Americana relied on ‘structures’ and on the infrastructure of the world-system centred around London and New York respectively. Indeed, it was the very position at the heart of the two financial systems, the Gold Standard first and the Bretton Woods System then, that strengthened the hegemonic power of Britain and the US during the two Paces, either by underwriting bills or providing financial intermediation and maturity transformation by lending long (Despres et al., 1966; Kindleberger, 1981).

The centres, in other words, relied on their own institutions and –currency– power to sustain the international structure, as the *money* of the system required a centralised issuance or management in the case of the Gold Standard, which relied on the use of the Pound Sterling for the around 40% of exchange reserves owned by Central Banks until World War One and that saw the Bank of England using its rate to signal market movements since 1870s (Eichengreen, 2019, Ch. 2). In this sense the structure is shaped and created by the agency of the hegemon itself.

This is crucially different for the Eurozone, in which a proper and uncontested hegemon did not exist in the 1990s, and even with the creation of the Eurozone a hegemon does not appear formally: the euro is a currency of apparently equal member states,

⁵‘Agency-driven’ entails that there is an imperialistic power and sectors that mobilise their power and capital to exploit the ‘periphery’ by creating a relation of dependence.

without a formal hierarchy. The hierarchy is introduced if one looks at the plumbing of the monetary system, what I refer to with the term ‘infrastructure’ or ‘architecture’ of the euro, which is the heart of the single and common money. Indeed, it is the (infra-)structure of the euro that by design creates tiering of the fragmented jurisdictions and that requires a core for its decentralisation.

Such core, then, inevitably becomes the hegemon of the euro not with the direct control of the monetary system or authority, but by concentrating and extracting liquidity, by becoming the link to the the foreign (non-Euro area) counterparts, and ultimately by defining the form of *integration* of the member states, which develop subordinate domestic and cross-border features of their national financial systems. In turn, subordinate members see their sectors evolve –and financialise as the common currency is a project of financialisation– in a subordinate manner, perpetrating the condition of subordination.

It is the scope of this work to begin exploring this Pax Germanica and the pillars behind the asymmetric and hierarchical structure of the Eurozone. Crucially, the mechanism to support the working of the Area despite the polarising tendencies at play also need be defined, as this is specific to the institutional set-up of the Eurozone as an advancement from pervious European monetary arrangements.

Unfortunately, this is only the beginning of the study of hegemonic power within the European Monetary Union. In fact, because of the absence of theories of subordination and hierarchies, this work had to start from the very bottom to understanding monetary asymmetries. In other words, the conceptualisation and observation of subordination offered in this work is the *necessary* step before analyses of hegemony in the Euro area can take place, and lay the foundations for the study of agency within the structure of subordination.

1.5 Structure and topics of the chapters

The structure of this thesis is divided into three parts: Part I discusses the literature on the economic history of the Imperialist tradition and the conceptualisation of monetary subordination for the Eurozone, Part II establishes the structural feature of monetary subordination in the EMU by discussing its three pillars, and Part III elaborates on the consequences of monetary subordination for Italy (an historical analysis) and for the process of financialisation of six key member states (a comparative analysis). This

section provides short abstracts for each of the chapters.

1.5.1 Part I: History of Radical Economic Thought and Conceptual Framework

Chapter 2: From Core-Periphery to Subordination in Europe: reviewing the traditions This chapter reviews the literature behind a Core-Periphery or subordination approach. To develop the conceptualisation of subordination for the EMU, it is necessary to first look at the key contributions of the centenary tradition on asymmetric and dependent economic exchange that evolved out of the study of imperialism. This review establishes what the meaning of Core-Periphery should entail, and successively delves on the analysis of the international domination over the domestic sphere, and the role of finance and money as mechanism of dependency. Such review brings together theories of imperialism, Latin American Structuralism and Dependency School, and the American and European studies into world-systems. The chapter proceeds then to discuss the literature on money and currency hierarchy to establish the known forms of monetary hierarchy, which serve as the starting point for the analysis of monetary structures and relations developed in the following chapters. Successively, this chapter brings together this literature with the analysis of European integration and poses the foundations for a ‘subordination lens’ applied to specifically the process of monetary integration.

Chapter 3: Conceptual and methodological considerations This chapter sets forth the conceptual and methodological considerations of this thesis to clearly establish the hypotheses, as well as to synthesise a coherent approach to subordination and to the study of the single and common currency of the European Monetary Union (EMU). The main contribution of this chapter is the theoretical elaboration of ‘subordination’ in both a generic and specific connotation, the latter being concerned with the *monetary* subordination of member states in the EMU. While subordination has been used in the past, I clarify its meaning and features for my research and for future scholars following my path of analysis focusing on *money* as the catalyst for subordination and hegemony. Both the theoretical framework adopted and the specific theoretical contribution made are offered, encompassing the focus on monetary and financial structures, and the justification for expanding the theory of subordination to one of *Subordinate Integration* as the reproduction of subordination itself.

1.5.2 Part II: Monetary structures and hierarchies as the pillars of monetary subordination in the EMU

Chapters 4, 5, 6, and 7 establish the structural issues of the EMU showing how subordination appears.

Chapter 4: The European Currency Unit between official and private monetary hierarchies This chapter establishes the lens to study the presence of monetary hierarchies in Europe by analysing the predecessor of the Euro, the European Currency Unit (ECU), as a new form of money within the European Monetary System (EMS). By using archival material for the ECU and balance sheet methodology, the chapter explores the presence of Monetary Hierarchies in the European Monetary System, highlighting the incomplete nature of artificial quasi-world monies, and establishing the presence of Official and Private forms of monetary hierarchy by looking at the creation and functioning of Official and Private ECU-denominated monies. Three key contributions are put forward in this chapter. First, it shows the history and nature of ECUs, rising from Official balances to unrelated Private instruments, and it argues that distinct forms of Official and Private monetary hierarchies found within the ECU showed overlapping and contrasting evidence of competition. Second, such competition is argued to lie at the heart of the failure of the ECU. Third, the study of the Official and Private ECU is carried out to replicate its nature in the Eurozone in the following chapter to show that the euro is a a monetary system incorporating the EMS –and thus its hierarchies– with the backstopping mechanisms that allow for its survival.

Chapter 5: Monetary hierarchies in the Eurozone and the TARGET system This chapter examines the presence of monetary hierarchies within the Eurozone by applying the lens of analysis developed in the previous chapter for the ECU to the architecture and mechanics of the euro. Three main arguments are put forward. First, the chapter outlines the form of the Official monetary hierarchy in the EMU, shaped by the working of TARGET coupled with Novation to place the ECB at the apex. Second, a Private monetary hierarchy can be found in the Eurozone if different ‘legacy-euros’ are identified: indeed, euro-balances guarantee access only to the NCB in which they reside, and only indirectly offer access to other official balance sheets. In other words, there is a different legacy-euro for each jurisdiction (each NCB). Third, these legacy-euros are connected through the official monetary hierarchy that sees the ECB playing the role of Central Counterparty for all other NCBs. The euro-system improves the ECU by creating the backstop of the private hierarchy by the official one. Such backstop is guaranteed through

a unique mechanism, though: the TARGET system and the creation on demand of TARGET balances to maintain the par valuation across legacy-euros. Ultimately, it is shown that TARGET balances do not appear to be a direct form of quasi-world money, but a contractual system of access to official balance sheets, thus resembling official FX swap lines extended by central banks.

Chapter 6: TARGET, money and capital flows, and hybrid refinancing The few explanations of TARGET imbalances in the literature have focused on single relationships between some forms of liquidity outflows and the rise of net TARGET claims or liabilities. This chapter argues against such mono-causal explanations of TARGET balances by showing that, whilst net liquidity flows are driven by the mismatch between gross liquidity inflows and gross liquidity outflows and thus by a multitude of factors, the crucial feature that emerges is the Core-Periphery dynamics of these drivers. In other words, TARGET imbalances are the appearance of Core-Periphery as well as the consequence of Core-Periphery dynamics in liquidity flows, best shown by capital flows (portfolio investments of residents) and the interbank transactions. The key stylised fact arising from this analysis is the contrasting relationship between balancing banking inflows and capital outflows for TARGET surplus countries and liquidity outflows through both interbank markets and capital flows for TARGET deficit countries. In turn, this shows that the interbank market is not only frozen, but channelling funds from the TARGET deficit to the TARGET surplus countries. The explanation provided here for the rise in TARGET balances as well as for the behaviour of the money markets is the hybrid nature of central bank refinancing in the EMU. Indeed, the decentralised refinancing operation and the provision of automatic, collateral-based intra-day liquidity by the TARGET2 system represent two sides of the same coin: refinancing operations carry the guarantee of cross-border funding, whilst funding for cross-border transaction can be obtained automatically through implicit refinancing operations. Such a *hybrid* system is a feature proper of the decentralisation of the EMU and leads to the lack of rebalancing mechanism for liquidity flows across jurisdictions.

Chapter 7: Banks and money markets between structural fragmentation and selective integration This chapter explores the connection between the euro money markets, structural fragmentation, and the mode of monetary and financial integration at play in the Eurozone. Two lines of enquiry are pursued. First, the effects of banks' behaviour (as both technical conduits and profit-seeking agents) and of euro money markets as drivers of TARGET balances is analysed to complete the findings of the previous

chapter. A crucial factor in shaping the asymmetries within the Eurozone –eventually shaping the liquidity flows analysed in Chapter 6, is found to be the *fragmentation* of the jurisdictions. Second, the setup of financial markets and specifically the architecture of money markets in the EMU is analysed to test whether it supports the asymmetric and hierarchical relations in the Eurozone. This is achieved by formalising the presence of *structural* fragmentation supporting the existence of distinct jurisdictions and thus of using the concept of ‘cross-jurisdictional’ flows. Fragmented jurisdictions, in sum, become tiered because of the form of Eurozone integration. To do so, this chapter focuses on analysing the infrastructural side of the Eurozone, arguing that a fragmented infrastructure but a common and single currency create the condition for asymmetric liquidity flows from the subordinated jurisdictions to the non-subordinate ones. Ultimately, structural fragmentation is defined as a pillar of monetary subordination in the EMU, for it keeps the jurisdictions separate thus allowing for their hierarchical tiering. It is through its effects on such macro-financial system that the fragmented plumbing of the monetary union becomes a crucial source of subordination by creating an infrastructure that integrates (but not unifies) only selected markets/segments, whilst leaving others fragmented around national borders and monetary jurisdictions. The fragmented infrastructure creates the condition for imbalances and asymmetric liquidity and capital flows, supporting the argument of subordinated jurisdictions. At the same, the tension between passive integration and unification is explored underlining its political economic nature by relying on the analysis of the role of fragmentation in politicising monetary authorities and the policies enacted in the late 2010s to foster such integration without unification.

1.5.3 Part III: The consequences of subordination and subordinate integration in the EMU and Italy

Chapters 8 and 9 expand on the *consequences* of subordination within the Eurozone by evaluating the presence of subordinate financialisation for key members and the Italian subordinate integration in the EMU.

Chapter 8: Subordination, a comparative analysis for the EMU member states

Whilst the previous four chapters focused on the structural side of monetary subordination, this chapter analyses subordination in terms of the processes of domestic financialisation in the EMU. Given the uniqueness of a monetary union, the presence of structural subordination is a *conditio sine qua non* of the presence of subordination in the domestic inter-class and cross-border intra-class relations. This is not the case for the study of subordination-international, which affects independent and fragmented countries by def-

initiation. Consequently, having clearly outlined the presence of Structural subordination, one way to look at its consequences is to follow the study of financialisation, which by nature looks at the epochal change of the capitalist economy reshaping inter-class relations. More precisely, the study of asymmetric financialisation for developing countries is employed here as a comparative tool for the analysis of subordination in key member states of the EMU. Subordinate Financialisation appears in more subtle ways than for developing countries, and is supplemented by the behaviour of banks –especially in terms of their cross-border exposures. It is found here that not only has Financialisation progressed at different paces, but also that Financialisation has awarded France with dominant financial capital that allows it to remain non-subordinated to Germany. Such analysis provides a more accurate inspection of the financialisation of Eurozone and is able to link financialisation to the hierarchical tiering of the EMU in a more complete way compared to the work done by the Dependent Financialisation literature. Ultimately, this analysis is complemented by a more careful examination of bank behaviour and exposure across Eurozone member states, pointing at the unique and central role of European banks as ‘ephors’ of the subordination. In conclusion, the chapter shows that the Eurozone monetary structures underpin the process of subordination and subordinate financialisation.

Chapter 9: Subordinate integration: the case study of Italy This chapter analyses the trajectory of the Italian economy by employing the lens of subordination developed for emerging markets applied to European countries, with the necessary adaptation. Such subordination revolves around the monetary and financial dimensions since the end of the XX century, although the subordination of productive capital is recognised and has been investigated already. Whilst the previous chapters showed the presence and nature of monetary subordination in the EMU, this chapter seeks to establish the role and effects of such subordination on Italy. The chapter makes three key contributions. First, the introduction of the euro is argued to have shifted the Italian financial and monetary subordination from a global USD-centric to a euro-centric form. Second, it shows that this novel configuration of subordination is institutionalised and hyper-charged through the architecture of the Eurozone, describing this as the process of ‘subordinate integration’, and elaborates on the similarities between the subordinate position of Italy in the EMU and the one of EMEs in the global dollar-based one. Third, in terms of manifestations of subordination in Italy, the chapter discusses the key consequences of monetary and financial subordination on Italy, namely the increasing financial fragility both as temporary crises and as the environment for more structural fragility with significant impacts on the real economy –bringing forth the comparison with EMEs.

1.6 Summary of contributions

In conclusion, this thesis puts forward significant conceptual and empirical contributions both for the academic community and policymakers. The academic ones can be summarised in four key dimensions:

1. The theoretical contribution to the traditions of Imperialism, Structuralism, and Dependency by formalising the idea of monetary –and financial– subordination and expanding on its relations with money and finance. It argued that money and the monetary arrangements *shape* the specific forms subordination takes.
2. The theoretical and empirical developments to the understanding of monetary systems by improving the conceptualisation of the asymmetries and hierarchies arising within them, and by formalising the relevance of monetary structures in shaping subordination. This contributes in innovative ways multiple literatures, like Critical Macro-Finance (CMF), Money View (MV), International Financial Subordination (IFS), and post-Keynesian and Marxian theories of money.
3. The empirical critical analysis of the EMU's monetary and financial plumbing, an area that has often been left in the shadows, but that however plays a crucial role in shaping not only the functioning of the market but also the tiering of official agents and market participants, thus becoming the catalyst of the forms subordination takes in the Eurozone.
4. The empirical development of the dynamic conceptualisation of subordination for a monetary union, explaining how and why subordinate members integrate in a subordinate fashion and to subordinate positions, closely relating it to historical forms of subordination (in the case of Italy) and the development of mature financialisation (for key Eurozone member states).

These contributions encompass both theoretical, empirical, and methodological developments contributing to the field of Political Economy. The present work seeks to establish also a niche in the literature focusing more closely on the political economy of the technical features of monetary structures and on the consequences that they bring about. Furthermore, the conceptualisation of subordination and the methodology used allow for this work to be replicated in monetary unions amongst advanced and emerging market countries, and especially replicated to international monetary theory outside of monetary unions.

The contributions to policymaking, conversely, pertain to the membership in the EMU. Indeed this dissertation suggests that radical changes need be made for the sub-

ordinated countries to be able to remain in the Eurozone. It is not argued that exiting the Union is unquestionably a necessary policy choice, but recognising the structurally asymmetric effects of Euro-membership and the need for *rebalancing* mechanisms is vital for the survival of the single and common money.

Money is far from neutral, and the monetary structures represent a key, de-politicised, and technical component underpinning the working of monetary systems as well as the developments of inter-class relations mediated by money and its capital-derived power of organising principle for a capitalist relations. Monetary structures shape the financial relations across sectors and borders and define the shapes of financialisation in emerging and mature countries alike.

Chapter 2

From Core-Periphery to Subordination in Europe: reviewing the Traditions

2.1 Introduction

It was argued in Chapter 1 that ‘core’ and ‘periphery’ lost their meaning in the European discourse on the failures of convergence. It is the purpose of this chapter to re-establish the significance behind core-periphery structures and specifically applied to Europe in the new form of *subordination*, the key features discussed in the long literature started by the Marxist theorists of imperialism need be outlined.

As this research was proceeding, Alami et al. (2022) called for an agenda to study ‘International Financial Subordination’ for developing countries. Whilst this work agrees with said agenda on the traditions of subordination, the present conceptualisation of subordination is distinct in at least three aspects: first, it focuses on money and finance as the catalysts of subordination; second, it seeks to provide a stricter definition of subordination; and third, it applies subordination not to developing countries, but to developed ones within a *closed-system*, namely a monetary union.

The task of this work is then twofold: reformulate the arguments offered in the literature on developing countries to fit developed ones, and apply it specifically to the case of the European Monetary Union. As this chapter shows, the former task requires a critical analysis of the literature, whilst the latter is novel in nature and requires the study of structures and behaviour –which are then carried out in the remainder of this work. For clarity, whilst Core-Periphery is the starting point of inquiry, I will refer to

the dynamics proper of Core-Periphery relations –i.e., the subjugation of the periphery vis-à-vis the core– with the term ‘subordination’.¹ This is required to abstract from strict bi-partite structures and to establish a thread throughout the literature.

Indeed, ‘subordination’ should be understood as the modern result of the imperialist tradition born in Europe in the early twentieth century and primarily developed in Latin America between the 1940s and 1970s under the names of Structuralism and successively Dependency Theory. Such tradition waned in the 1970s/80s precisely as financialisation appeared most evident, and the small pockets that continued using an imperialist framework provided limited analyses of financialised capitalism. The exception was the theory of Long Durée developed by Baumol and Arrighi, which sought to provide a historical analysis of financialisation. This, eventually, has been the theoretical pillar of the Dependent Financialisation school and of modern takes on asymmetric relations of *Dependencia*.

It is precisely with Arrighi’s work and the French Regulationists that the concept of ‘subordination’ became secondary and got left out of the theory, as in its place was preferred the stronger and agency-laden idea of dependency. Subordination, conversely, is a *structural feature* that requires no agency per se. To be sure, non-subordinated countries can exploit such positioning, but the root cause of subordination itself does not require an explicit agent: the infra-structure of exchange and specifically of financial flows dictates the environment in which agents make decisions and carry out transactions. Dependency theory only conceives the asymmetric exchange as driven by the agency of the core, thus precluding the possibility of having the structure determine the relations of power amongst the members.

Furthermore, subordination should be interpreted as both an international and domestic phenomenon: though it arises given the position of the country vis-à-vis the world-economy, subordination affects the way in which the country connects to others (the ‘international dimension’) as well as the relations amongst domestic actors (the ‘domestic

¹The term ‘dependency’ has been used in the literature too. I provide here an alternative to Dependency that aims at describing the monetary and financial relations between countries in a global world-economy, and at complementing the evolving methods employed by the past analysis of dependency, most clearly shown by the shift from core-periphery structure at a global level to the analysis of dependency relations in dyads of countries. This follows from the recognition that a Core-Periphery structure can be a methodological approach to global systems as well as to pairs of countries for the study of ‘dependency’ (trade, productive, and even capital), in which one country behaved as the core and the other as the periphery (Cardoso and Faletto, 1979; Wallerstein, 1985; Arrighi, 1985). This double use of core-periphery theory has persisted through time and across the different strands of this tradition, as it can be seen with the works of Seers et al. (1979), Seers and Vaitos (1980), Seers (1981), and Seers and Vaitos (1982), in which it can be evinced that the EADI (European Association of Development Institutes) scholars began their analysis by applying a simple Core-Periphery structure to dyads or groups of countries within Europe, highlighting the process of economic integration.

dimension’). In this sense, it draws on the conceptualisation of subordinate financialisation for developing countries as put forward by Lapavistas and Powell (2013). However, subordination predates and transcends financialisation, in that it is the characteristic of the inter-relations of capitalist nations and of the capitalist world-market. It arises in all dimensions of exchange, real as well as financial. Thus, financial and *monetary* subordination are features that exist prior to ‘subordinate financialisation’. Such feature has been neglected in other approaches.

Before moving to conceptualising subordination, however, a review of the literature behind it is needed to put forth the key themes fundamental to developing a coherent, founded, and novel approach subordination in the EMU. This is the purpose of the present chapter.

Section 2.2 synthesises the origins of Core-Periphery structure as a *power-laden* concept, exploring its prominent feature: the domination of the international over the national. This is explored through the lens of imperialism and later schools that define ‘dependency’. Given the focus on the EMU, the monetary and financial aspects of the traditions reviewed are discussed in Section 2.3 to understand the role of finance and capital flows in promoting the existence of core and periphery. Section 2.4 delves onto the recent Marxian and Post-Keynesian theories of monetary hierarchy. The concept and form of monetary hierarchies represent a focal point for the analysis of subordination in the world-economy and will require modifications to be applied to the case of the Eurozone. This sets the foundations for the elaboration of an additional dimension of monetary hierarchies in the successive chapter, namely the ‘*official*’ and ‘*private*’– conceptualised in Chapter 3 . Section 2.5, then, proceeds with reviewing the scholars of the so-called European Dependency School as first efforts to use a dependency-like paradigm for the study of European economic –not monetary– integration. Lastly, Section 2.6 concludes the chapter by reviewing the most recent literature on European Integration and critical approaches to monetary unions.

2.2 The meaning of Core-Periphery Structure: the domination of the international over the domestic

The formalisation of the Core-Periphery division as a complete theoretical formulation hinging on such dichotomy, instead of other tendencies that eventually lead to

the polarisation of the world-economy as the contributions aforementioned, is attributable to Raúl Prebisch in the late 1940s, culminating with what has become later known as the ‘CEPAL Manifesto’ or the ‘Structuralist Manifesto’ in 1950 (Prebisch, 1950). Before Prebisch, other authors had contributed to the creation and use of ‘core’, or ‘centre’, and ‘periphery’ vocabulary, almost all of whom have been connected geographically to South America, either by origins or by temporary visits.

Love (1980, 1996) attributes the first use of such terminology to Sombart (1928),² who used the terms only in a descriptive way whilst putting forward the idea of uneven development within an economy, a concept that later on would be further expanded by the works of Myrdal (1958), Hirschman (1958), and Friedmann (1966), who are informally categorised under the label of ‘Unbalanced Growth’³ theorists (Weissenbacher, 2019, p.118). Love (1996) also points to the contributions of authors like F. Perroux, C. Furtado, and M. Manoilescu not only in the development of the terminology but especially of thesis about dependency; to be sure, there are as many points in common as ones in disaccord with Prebisch’s work and amongst CEPAL scholars.

The theoretical foundations of Core-Periphery, however, lay with the theories of imperialism and the capitalist system as an international phenomenon by early Marxist writers. Even though Amin (1988) argues that the rift between the core and the periphery is an innate feature of the capitalist system predating its last phase, namely Lenin (1999) imperialism, it was in the latter’s time that more complete analyses of polarisation were elaborated by Luxemburg (2003), Kautsky (1970), Luxemburg and Bukharin (1972), and Hilferding (1981).

Different causes for subordination as a strategy of dominance across countries have been theorised. Three such theorisations are synthesised here, namely imperialism, Structuralism and Dependencia.

In the form of imperialism,⁴ it was conceptualised as the result of necessity due to the structural contradictions of the capitalist mode of production encapsulated in either of two theories of crises, namely the tendency of the rate of profit to fall or the propensity to underconsumption-overproduction. Hilferding (1981) and later Bukharin (1929), developing on Marx (1967) Volume III, argued that the export of capital from the developed (*industrial*) countries towards the ‘periphery’ was stimulated by the rising Organic

²The first two volumes of his work *Der moderne Kapitalismus* were first published in 1902, but the third volume, in which he explicitly uses the ‘peripheral’ and ‘centre’ (Sombart, 1928, III:15), was published later in 1928.

³This is in opposition to the ‘Balanced Growth’ scholars who developed the strategy of ‘Big Push’ (Rosenstein-Rodan, 1943; Nurkse, 1953).

⁴As explained, this is not a core-periphery structure but relies on the same dynamics of subjugation.

Composition of Capital (OCC) in the former and thus faltering profitability, which could be countered by producing in areas with a lower OCC. In contrast with Marx, Luxemburg (2003) argued from an underconsumptionist perspective that the imperative of capitalist producers to realise surplus value could be only satisfied by the presence of ‘strata of buyers outside capitalist society’ (p.332), which thus underlines the intrinsic link between capitalism and imperialism.

A further position is then taken by Kautsky (1970) who argues that the force behind imperialism should be found in the need of an agricultural sector or zone to sustain the expansion of capitalist industry. Given the disparity in development and pace of development between industrial and agricultural zones, with the former constantly outpacing the latter, the expansion of industry requires an expansion in the reach of capitalists over the agricultural areas to secure raw materials and consumers. As free trade was the tool to dominate the agricultural areas during the British hegemony, imperialism is another form of such domination that seeks not only to extract resources but also to ‘prevent them [agrarian zones] from developing their own industry and to force them to restrict themselves entirely to agricultural production’ (Kautsky, 1970, p.7).

Despite the differences in the approaches, these theories of imperialism underline one crucial aspect: given the advanced stage of capitalism, it is not possible to analyse it in a context limited to the nation-state and the class structure therein, but it is necessary to understand how the domestic social conflicts and productive forces shape and are shaped by the international context. In fact, the debate over imperialism revolves around its role in fostering or preventing the expansion of capitalism outside of the capitalist core: whilst Lenin (1999) argues that imperialist domination prevents capitalist development in the dominated countries, Warren (1980) suggests that imperialism itself fosters the expansion of capitalism across the world-economy.

The analysis by Warren (1980) of core-periphery relations is relevant for this work in that it qualifies that imperialist domination need not be a force to keep ‘under-developed’ the subordinated countries, but it can itself serve the purpose of supporting capitalist development in the periphery. Indeed the cross-border movement of capital –and the repatriation of profits– need not be zero-sum. What is important, however, is the understanding of how imperialist relations affect the mode of integration in the world-economy.

Applied to this work and to the Eurozone, the imperialist relations established under the concept of subordination do not point to the European periphery being kept under-developed, but integrating and acquiring a role with economic features that are *subordinate*. Specifically, the role of money and monetary architectures that are missing from the classical and modern theories of imperialism is argued to be the catalyst for such

subordinate integration. As shown in Section 2.3.1, this is the reason behind the use of subordination rather than dependency.

For Prebisch and the Structuralists, the subordination of Latin America arose from the international division of labour understood as the division between a centre characterised by a high level of industrialisation and a peripheral area ‘producing food and raw materials’, hence characterised by an under-industrialised economy, a distinction that substantially resembles Kautsky’s. Prebisch’s original innovation was to pursue a systemic analysis of the interdependence between the centre and the periphery which resulted in the elaboration of a unitary, bipartite international system identified by the hegemonic structure in which its actors exchanged (Puntigliano and Appelqvist, 2011; Love, 1980).

Two dynamics were imputed by Prebisch to the international hierarchy. First, the international division of labour is shaped by the unequal relations that regularly served the centre’s interests. Second such ‘dependency’ of the periphery on the core is protracted by a set of complex mechanisms encompassing trade and financial relations that cannot be expected to be solved automatically by the functioning of the free market (Saad-Filho, 2005), and that reinforces itself in a way akin to Myrdal (1958) ‘principle of circular and cumulative causation’, sustaining divergence between the core and the periphery. Prebisch went further by tying the issues of Latin America to the productivity of the United States (the centre) directly through the trade channel, specifically to the ‘import coefficient’ of the US and of Latin American countries (the periphery), the need to import capital goods in Latin America, and to the availability and exchange of dollars (Prebisch, 1950, ch.1-3).

The Dependencistas broadly understand the causes of Core-Periphery relations similarly to the Structuralist, except for one key dimension. Contrary to the Structuralist reliance on the domestic bourgeoisie, Dependency School recognised the possibility that the peripheral bourgeoisie could have interests in common with the centre and be a tool for the execution and the buttressing of the international dependency structure. Whilst Structuralists did not reject the international tiered structure, Dependencistas openly repudiated the system as it was arguing that by no means it could have been possible to overcome the hierarchies. As one of the first ‘Western’ scholars to popularise the Latin American Structuralist-Dependency School in Europe, Seers writes: ‘[t]he realization that import substitution created new, and possibly more dangerous forms of dependence converted the ECLA structuralists into dependency theorists’ (Seers, 1981, p.140).

Such new forms of dependence revolved around the role of TNCs/MNCs (Sunkel, 1973a,b) This is possibly the first great interaction between peripheral theories of dependency and Marxist and neo-Marxist theories developed in the US, most notably Baran (1957) ‘The Political Economy of Growth’ in which he argues about the creation of under-

development by hand of the development of now-‘core’ countries through the well-known means of colonialism, imperialism and pillage, and Baran and Sweezy (1966) ‘Monopoly Capital’:

In fact, *dependency, monopoly capitalism* and development are not contradictory terms: there occurs a kind of dependent capitalist development in the sectors of the third world integrated into the new forms of monopolistic expansion. (Cardoso, 1972, p.89, emphasis added)

The more radical current of the Dependency School shows more easily the points of departure between ‘dependency’ and Structuralism, by rejecting the idea that dependency could be escaped through development. According to Chase-Dunn (1975), (radical) Dependency theory orbits around three principal areas that necessarily entail the aforementioned conclusion: the exploitation of the periphery through unequal exchange and ‘de-capitalisation’ (and the international competitive market system), the ‘structural distortions’ of the position across the international chain value and division of labour at the moment of integration within the international system, namely the specialisation in low-value added and commodity exports, and the ‘suppression of autonomous policies’ implied by the domestic dominance of the local elite/bourgeoisie, which is however subordinate and in collusion with the core’s interests.

The focus on TNCs/MNCs is shown also in Wallerstein’s World-Systems Analysis, which delves into the consolidation of large, monopolistic firms as the main actors determining both national policies and the international division of labour. Wallerstein’s understandings of dependency and exploitation are more complex than the Latin Americans’, for he argues that the dominant capitalist class of the core exploits the working-class of the rest of the world system regardless of the position of the country, but then another form of exploitation arises, what in the past had been called dependency, which acts primarily between states (Wallerstein, 2004, 2002).

In common with all the theories discussed, however, the domination of the international over the domestic is shared also by Wallerstein, who argues that ‘[c]apitalism and a world-economy (that is, a single division of labour but multiple polities and cultures) are obverse sides of the same coin’ and that ‘[o]ne does not cause the other’ (Wallerstein, 1974, p.391). From this, he argues that, given the coexistence of governments with different levels of power, the stronger ones (core) are able to enforce onto the weaker ones (periphery) a system based on unequal exchange. The logical end of the argument is:

Thus capitalism involves not only appropriation of the surplus-value by an owner from a labourer, but an appropriation of surplus of the whole world-economy by core areas.

[...] Capitalism was from the beginning an affair of the world-economy and not of nation-states. (Wallerstein, 1974, p.401)

This quote is crucial both for Core-Periphery structure analysis, since it gives a rationale for a systemic study of the world-economy instead of the nation-state, and even more importantly for this research, since it offers the ground to apply the ‘Core-Periphery paradigm’ –i.e., the domination of the international over the domestic which I redefine as subordination– approach to the ‘European world-economy’.⁵

2.2.1 A ‘network’ definition of the core as a funnel

To define and recognise Core-Periphery structures, Borgatti and Everett (1999) introduced the use of network analysis. This sought to formalise ‘the notion of a core / periphery structure’ that they argue ‘has never been formally defined’ (p.375) in World-Systems Analysis and the Dependency Theory.⁶

⁵The introduction of the *semiperiphery* into the conception of the world-economy changed the structural features of the system: one needs to depart from the C-P structure, and enter the Core-Semiperiphery-Periphery structure. This reflects the third era of Core-Periphery structure theories, after the proto-C-P, imperialistic current, and the classical Core-Periphery structure of Structuralists and Dependency theorists. From Wallerstein onwards, different conceptualisations of Semiperipheral areas becomes the focus of the new dependency scholars, which ultimately is the current state-of-the-art approach in the field. Nevertheless, the realisation that the world-system was tri-partite instead of bi-partite dates to before Wallerstein’s theorisation, although he was the first one to use the term ‘semiperiphery’. Wallerstein (2002) himself references Galtung (1972) and Marini (1969) for first definitions of such hybrid areas: the former named them ‘go-between nations’ whilst the latter ‘subimperial states’. Who is missing from Wallerstein’s review of the previous reverences to pseudo-semiperipheries is Prebisch, who referred to a third category in his Core-Periphery theory, namely the secondary centres’; this absence is due to the nature of Wallerstein’s semiperiphery being not a subset of the centre, but being simultaneously a discrete entity and the most important part of the world-system, although at the same time in a disadvantaged position in relation to it. Later developments by scholars related to the European Dependency School (EDS) provided further distinctions within the Core-Semiperiphery-Periphery structure by identifying grey areas within these three main zones like Lange (1985) ‘perimeter of the core’, which will be discussed in the next section.

The novelty of the Core-Semiperiphery-Periphery structure is best explained by Arrighi and Drangel (1986), who commented that the ‘existence of a relatively stable intermediate group of states is at variance with the expectations of modernisation and dependency theories alike’ (p.10), given that ‘intermediary positions’ are considered either ‘temporary’ –modernisation theory– or ‘residual’ –dependency theory. With a different nuance, Terlouw (1993, 2002) argues that:

The semiperiphery is not a distinct group of states that can be separated from the core and the periphery. It is an intermediate zone on the continuum between core and periphery. (Terlouw, 2002, p.5, emphasis added)

⁶Subsequent advances in the mathematics and modelling to detect Core-Periphery structures and to define the composition of the core and the periphery can be found in Nordlund (2018) with a link to the Marxist origin of Core-Periphery and to the European commodity trade for the empirical side of his work, in Rombach et al. (2017) for what concerns the identification and the number of centres present in a network, and similarly in Zhang et al. (2014) for a mathematical approach to the intensity of Core-

The insights from network analysis provide the stylised forms that Core-Periphery can take. As Nordlund (2018) writes, whilst the key aspect in network analysis modelling of Core-Periphery structure is that ‘intra-categorical density differential is the defining feature of core-periphery structures’ (p.3), the defining of core and periphery in the Marxist tradition relied on intra-categorical as well as inter-categorical density. Galtung provides the clearest parameters to identify Core-Periphery structure by taking into account both inter- and intra-categorical ties:

There are four rules defining this particular interaction [C-P] structure:

1. interaction between Centre and Periphery is vertical;
2. interaction between Periphery and Periphery is missing;
3. multilateral interaction involving all three is missing;
4. interaction with the outside world is monopolized by the Centre, with two implications:
 - (a) Periphery interaction with other Centre nations is missing,
 - (b) Centre as well as Periphery interaction with Periphery nations belonging to other Centre nations is missing. (Galtung, 1971, p.106)

A Core-Periphery structure can show a wide range of complexity, and is not limited to a simple two-zone structure. First, there can be multiple cores within a network, as there can be multiple ‘empires’ in a world-economy (Galtung, 1971). This bears two consequences for this research: it justifies the applicability of Core-Periphery structure to a regional entity embedded in a world economy, suggesting that the core of the region should be the link to other cores around the world; and it poses rightful questions on the internal structure of the EMU according to Core-Periphery framework, namely of whether the core is one nation or a group of nations and how the inter-categorical density is shaped.

Second, a defining characteristic of Galtung’s definition of Core-Periphery structure is the absence of periphery-periphery interaction (point 2) and the monopolisation of interaction by single core with the respective peripheries (point 4). In network analysis, these features are described by the definition itself of a Core-Periphery structure, namely one characterised by ‘densely connected core nodes and sparsely connected peripheral nodes’ (Rombach et al., 2017, p.619), which entails a more rigid specification of ‘core’ and ‘periphery’ in the EU and EMU.

Periphery relations within networks.

As a consequence of such definition of core nodes, the position of Southern European peripheral countries might be less clear: Nordlund (2018) finds that analysing commodity trade within the EU/EFTA, the ‘core’ of the EU changes according to whether one includes more stringent specifications of the relations that make a country a member of the core, and most interestingly he found that Italy and Spain may be considered part of the core only if ‘peripheral dependency’ is added.⁷

Thus, the definition of what ‘core’ and ‘periphery’ mean and how they are determined and recognised assumes a more important role than under the broader Core-Periphery theories. The specific relationships between core and periphery represent the relationships between subordinated and non-subordinated countries: the monopolisation of interaction with the outside world is a feature of the core in network analysis, but also of the non-subordinated members in Europe, as is shown in the analytical chapters. The latest works on Core-Periphery theory in Europe (see Celi et al., 2018; Weissenbacher, 2019) do not consider aspects of network analysis in their definitions of core and periphery, which are mainly based on the distribution and potential grouping of nominal values instead of considering the precise relations between core and peripheral countries.

2.3 Capital flows, finance, and financialisation in the tradition of imperialism

The role of finance as an instrument and catalyst of imperialism was recognised by the early scholars mentioned above. This section outlines the role of capital flows for imperialism, leading to further elaborations on finance and the theories of financialisation that incorporate the traditions of imperialism in the modern evolutions of subordination and dependency.

The importance of finance for imperialism was outlined by Hilferding, who recognised its significant from the *domestic* perspective: ‘high finance’ (monopolistic banks) dominated over the cartelisation of financial and productive capital. Within the domestic capitalist core, the security and regularity of industrial profits provided by monopolistic industries (also due to the rise of cartels) attract bank capital, which is ‘invested’ in the

⁷‘Peripheral dependency’ is defined by Nordlund as the specification ‘that each peripheral actor is connected to exactly one core actor’ and consists of Galtung’s fourth point (Nordlund, 2018, p. 5-6).

outcome of the industrial activity, entailing a two-way relationship between banks and industries that culminates with the coincidence of ownership of bank and industrial capital in the hands of the ‘capitalist oligarchy’ (Hilferding, 1981, p.369).⁸

However, it is at the interaction between the international and domestic that finance –in the form of the flow of capital– acquires an even more important role for imperialism and dependency, being the tool for ‘haute finance’ (the class in possess of the finance capital) to dictate both the tempo of accumulation and the structure of the world-economy: finance capitalists in the core, together with the machinery of their nation-state, become the hegemonic organising principle of the world-economy (Arrighi, 1994; Robinson, 2011).⁹ In other words, Finance Capital is able to ‘organise’ the economic structure and dynamics within the national borders and, subsequently, project such economic dominance towards foreign outlets (Lapavistas, 2009b).¹⁰

The cross-border flows of finance capital were perceived, especially in terms of the ‘rentier’ class by Lenin, as the coordinating mechanism amongst elites in the dominant and the dominated countries: the interests of what would later be defined as the *comprador* or *lumpen bourgeoisie* (Frank, 1972) were shaped by the core elite through the means of finance capital, which then would flow back in augmented measure to the core under different forms depending on the role (or type) of capital that it performed in the peripheral country (industrial, commercial, bank capital).¹¹

Baran (1957) also included capital flows as one of the three phenomena perpetrating a condition of dependency that prevents underdeveloped countries from developing, together with aid relationships and trade (through the ‘unequal exchange’).¹² These mech-

⁸Such ‘capitalist oligarchy’ is not described by Hilferding as a ‘parasitical rentier’, which is Lenin’s (1999) contribution.

⁹Whilst Wallerstein’s World-Systems Analysis did not delve on the role of finance and capital flows –except for their connections to the operation of multinational firms, Arrighi (2007) sought to combine monetary and ‘real’ economic factors in his analysis of dependency and domination, especially in the era of US hegemony both before and after the demise of the Bretton Woods System. Arrighi (1994) develops a theorisation of financialisation utilising Braudel (1982) concept of ‘autumn’ of the hegemon to describe the shift of excess capital from investments in manufacturing and productive areas to the growing financial sector. Such a shift is a sign of declining hegemony in the current cycles of accumulation and paves the way for the creation of a new hegemonic power (Arrighi, 1994, 2007).

¹⁰Hilferding discusses in Part V of Finance Capital the nature of capital exports as stimulated by domestic and foreign differentials in the rates of profits or in the differentials between interest rates. The difference of whether the capital export is motivated by profit rate differentials or by interest rates differentials depends on whether the capital being exported takes the form of profit-yielding capital or interest-bearing capital respectively, although Hilferding argues that different profit rates are the preconditions for capital flows, given that the higher interest rate in undeveloped capitalist countries is composed also of a part of profit (and wages) (Hilferding, 1981, p.315).

¹¹‘Typical of the old capitalism, when free competition held undivided sway, was the export of *goods*. Typical of the latest stage of capitalism, when monopolies rule, is the export of *capital*’ (Lenin, 1999, p.70).

¹²Baran (1957) does not make use of core-periphery terminology in his work, but refers to peripheral

anisms allow for the ‘economic surplus’ to be extracted or transferred to the developed (core) from the underdeveloped (peripheral) countries.¹³

Instead of focusing on capital flows, Amin explores the role of finance and of the mechanisms through which it behaves as a tool of dependency for peripheral countries. Amin (1976) discusses mainly the role of foreign- and domestic-owned banks in capitalism at large and more specifically the operation of bank credit in peripheral countries. He argues against the criticism that underdeveloped countries have an inefficient banking system that provides too little or too much money,¹⁴ but that the crucial issue is whose interests the banks work for:

the banks never serve the economy “in general” but a specific group of economic activities.

In the underdeveloped countries the banks have a history that is closely linked with the history of the installation of peripheral capitalism in these countries. (Amin, 1976, p.269)

The foreign banks have then progressively expanded from having relations with the export sector to servicing the whole dependent economy, from which core banks and financial institutions are able to extract additional profits, as under the hegemony of Great Britain (Amin, 1976, p.269). Also, similarly to the previous Marxist scholars, Amin highlights the role of foreign capital in shaping a comprador bourgeoisie that may be able to secure ownership of domestic banks, which are however inherently associated with foreign capital.¹⁵

The Post-Keynesian contributions on finance and banking for asymmetric relations are encapsulated in the model offered by Chick and Dow (1988), which focused on *regional* development, and later adaptations in the context of subordinate financialisation (Vielma and Dymski, 2022). Importantly, Chick and Dow (1988) recognise that the imperialist tradition –especially in its dependency form– did not delve into the monetary and

countries as ‘underdeveloped’.

¹³The concept of ‘economic surplus’ is one of Baran’s most sophisticated theoretical and methodological innovations, which he distinguishes in two forms: the ‘actual economic surplus’, namely the difference between output and consumption in a given country, and the ‘potential economic surplus’, which Baran defines as: ‘the difference between the output that *could* be produced in a given natural and technological environment with the help of employable productive resources, and what might be regarded as essential consumption’ (Baran, 1957, p.133).

¹⁴Amin argues that ‘[t]he monetary and banking system [of the underdeveloped countries], even when foreign-controlled, supplies the economy with as much money as it requires’ (Amin, 1976, p.269).

¹⁵It is worth remarking also that Amin structurally differentiated the working of banks in the core (‘auto-centric’) and in the periphery, which in turn bears considerable consequences on the ability to develop and on the composition of the domestic economy (Amin, 1976, see p.270).

financial dimensions underpinning the asymmetric and exploitative relations between core and periphery. The model –focusing on banking institutions primarily– breaks down the stages of ‘banking business development’, looking at the core and periphery behaviour in terms of the processes of money creation, credit provision, and savings and investments, culminating in the cross-regional flows of money and capital.

Indeed, the adjustments for the model to be applicable to the current environment of considerable cross-border gross financial flows defining the ‘Global Financial Cycle’ (Miranda-Agrippino and Rey, 2015; Rey, 2015) is highlighted by (Vielma and Dymksi, 2022), stating that ‘[i]t is not just that money-market managers, having pushed aside Schumpeterian bankers, now ‘buy to sell’, as Minsky would have put it; they ‘buy before others buy, to sell before others sell’ ’ (p.644).

Ultimately, the Chick-Dow model argues in favour of a slowdown of the process of financial integration and unification, and the use of selectively fragmented capital markets to protect the peripheral financial and banking systems in order to allow them to develop fully. Such view is a clear precursor of the fact that subordinated countries or regions integrate in global financial systems following a subordinate pattern and thus developing features that remain proper of the periphery.

2.3.1 The Eurozone as a project of financialisation: subordinate and dependent strands

To approach and define subordination in the EMU with respect to the changing *behaviours* of agents, this work borrows from the literature on financialisation for developing countries. The two strands of this literature (subordination and dependent) study the changes of domestic relations of production reshaped by the process of financialisation, both highlighting the role of cross-border spillovers and especially the cross-border reach of financial capital (Lapavitsas and Soydan, 2022). The two strands are closely related but differ in one main aspect: *dependent financialisation* argues that the financialisation in developing countries comes as a result of the extroverted capital flows out of the core, whilst *subordinate financialisation* understands financialisation as structural change occurring in any capitalist system, with developing countries facing external constraints due to their subordinate position. Subordination in the EMU takes on both features, and can be studied by comparing the European –formalised– monetary and financial subordination with the financial subordination experienced by EMEs.

A key difference between the approach developed in this work and the financialisation literature is the importance allocated to (infra-)structures. The literature on financialisation has not been concerned with infrastructures partly because, dealing with

‘independent’ countries, the infrastructures are supposed to be fragmented along national borders and with degrees of hierarchy. Crucially, the focus on a monetary union makes clear that the same cannot be said about the EMU, which requires a recognition of its failures to create a unified system within which behavioural subordination can take place.

Dependent financialisation

The dependent financialisation emerges from Regulationist focus on the economic embeddedness into the socio-political and cultural sphere, understanding capitalism as both the cause and the result of the ‘social structure’. In essence, Regulation theory argues that characteristic of a specific era is not only the regime of accumulation, but especially the mode of regulation that seeks to stabilise the structural contradictions that arise in a capitalist economy (Becker et al., 2010, 2015). Since the 2000s, the Regulation scholars have adopted a twin approach to the contemporary evolutions, centred in Europe: they augmented the Regulation Theory by focusing on financialisation and its forms in countries at different levels of development (they notably use Core-Periphery terminology); and they followed the EDS’s concern with the process of European uneven integration.

Out of this combination is the idea that the periphery (of Europe) financialises by being dependent on the core’s financialisation itself. Not only the sphere of circulation is an escape for capital in a national (core) condition of faltering profitability and accumulation in the productive sector as some theories of financialisation argue, but capital seeks to change also and especially its physical location towards the periphery. The link with the various Core-Periphery and Dependency theories is clear (drawing from dos Santos (1969)):

Besides the asymmetric trade relation, dependency is also characterised by an asymmetric structure of cross-border capital movements, leaving productive capital and money capital distinguished from each other. Nevertheless, both types of capital, when exported to the periphery, lead to a direct transfer of surplus value in the form of repatriated profits or interest payments to the core. (Becker et al., 2015, p.83)

Whilst the early Regulation observations were concerned primarily with manufacturing and productive accumulation in a way akin to the Core-Periphery theories of the 50s-70s (Becker and Weissenbacher, 2015), more recent elaborations crucially identify ‘axes of regulations’ along which a regime of accumulation can be defined (Becker and Jäger, 2012). Three main axes are argued to be the essential parameters of reference: productive – financialised accumulation, extensive – intensive accumulation, and introverted – extraverted accumulation (Ibid.). The second and third axes relate respectively to the extraction of surplus value (absolute – relative) and to the orientation of the economy

with regards to the trade regime and capital flows (import dependent – export oriented), whereas the first dimension is central for defining financialisation in Regulationist terms, in core as well as peripheral countries, since it is argued that investment can be carried out either in the productive or the financial sector(s) (Becker et al., 2010).

Within a regime of financialised accumulation, then, two forms of financialisation can be defined: on the one hand, financialisation can build on one interpretation of Marx's 'fictitious capital'¹⁶ as the creation and growth of a "second circuit of 'fictitious capital' " encompassing shares, securities, and any 'claim on the profits produced in the productive circuits of capital' (Becker et al., 2010, p.228-29), on the other hand financialisation can build on the expansion of 'interest-bearing capital', whose allocation is aimed at areas with higher interest rates (Becker et al., 2010; Becker and Jäger, 2012; Becker et al., 2015).

The differences between core and peripheral financialisation are to be drawn from this dichotomised nature of financialisation according to Regulation Theory, in that whilst Becker et al. (2010) argue that the 'take-off of the second circuit of capital' is most widespread, they then recognise that the other type of financialisation spurred by interest rates differentials and banks' management of international capital characterises better the peripheral experience (Becker and Jäger, 2012). The dependency of the peripheral 'mode of financialisation' reflects the extraversion of its regime of accumulation, which elaborated on the dependency of peripheral countries on international trade and capital inflows from the core, as well as the flow of surplus value through capital outflows back to the centre, as was argued relatively univocally by all theories in the Core-Periphery tradition.

Dependent financialisation is argued to have been conditional on two factors outside the control of the peripheral country: the condition of the core and the international financial and monetary structure. On the former, Becker et al. (2010) argue that, using the case study of Chile, Brazil, Serbia, and Slovakia, over-liquidity in the core and the internationalisation of capital by core agents structurally dominates over the financialising of the periphery. The latter topic of the international monetary regime has been introduced and analysed by the Grenoble scholars Byé and de Bernis (1987), although it remains a rather uncharted territory outside the claims that conformity between peripheral and core norms, which can take different shapes but unilaterally by the peripheral country, enhances the dependency links between the nations.

¹⁶Marx (1967) 'fictitious capital' is not clearly defined in Capital Volume III Chapter 25. What is most valuable to understand is that fictitious capital is not capital as can be found in circulation. Rather fictitious capital is Marx's elaboration to construct something akin to modern 'net present value'. The capital that is in circulation and that is real cannot be derived from fictitious capital but rather from loanable capital, a point that is made by Lapavitsas (2011), and that shapes how one theorises financialisation. For other discussions of fictitious capital, see also Perelman (2008); Fine (2013); Lapavitsas (2017).

Subordinate financialisation

Whilst the theory of dependent financialisation is affected by the conception of financialisation as a temporary phase, the subordinate financialisation view reflects the application of the theory of financialisation as a structural change to the case of developing countries. Although the concerns and the parameters analysed seem similar to the dependent financialisation strand, subordination is ontologically different from dependence, as defined by Powell:

peripheral economies will experience the tendencies of financialisation, but in a *distinctive form which has been shaped by imperial relations* in the current world market conjuncture. [...] Taken together, I have called the distinctive form of financialisation in the periphery *subordinate* financialisation. (Powell, 2013, p.144, emphasis added)

Hence, financialisation in the periphery could take the same forms it takes in the core, namely a reorganisation of the structure of and relation between the crucial economic actors aforementioned, characterised by the three tendencies encompassing households, banks and non-financial corporations outlined by Lapavitsas (2011). However, the subordinate position of peripheral countries forces a change in the behaviour of such domestic agents that inherently revises financialisation: it is not the direct and explicit dependence on the core, but the subordination to the core's economic 'power' that alters the form of financialisation in the periphery (Lapavitsas, 2013b; Powell, 2018; Lapavitsas and Soydan, 2022). Partially different stances are taken by Kaltenbrunner and Karacimen (2016), Garcia-Arias (2015), and Kaltenbrunner and Paineira (2015, 2018), who recognise a co-existence of both dependency and subordination.¹⁷

Three points characterise this approach. First, studies on subordinate financialisation tend to utilise similar methodological approaches focused on some key parameters or metrics to assess the empirical phenomenon of financialisation in the periphery. Major attention is paid to the role of capital flows, specifically in terms of the provenience, the aim, and the links amongst different kinds of flows. This area finds subordinate financialisation scholars sharing the Post-Keynesian recent elaboration on drivers of capital flows, the current and the capital accounts, and most importantly the re-elaboration of Mundell's Trilemma to a Dilemma (amongst the many relevant papers Rey, 2015; Miranda-Agrippino and Rey, 2015; Obstfeld, 2015; Guschanski and Stockhammer, 2017; Swarnali, 2017; Habib and Venditti, 2019; Davis et al., 2019), all of which offer valid empirical evidence but lack

¹⁷These authors use different terms to define financialisation in developing countries to reflect this co-existence: for example 'subordinated nature of financialisation' (Kaltenbrunner and Paineira, 2018, p.280), or 'centre-periphery financialisation' (Garcia-Arias, 2015).

the inherently Marxist approach that links these phenomena to the development of the capitalist (world-)economy.

Broadly speaking, Financial flows represent the expansion of a financialised world-market in which peripheral countries can find foreign sources of finance in addition or in substitution to the more traditional national ones, characterising financialisation in the core. For example, Kaltenbrunner and Karacimen (2016), drawing from Kaltenbrunner and Paineira (2015), find that with the expansion of capital flows to emerging markets, the foreign capital had been channelled to '(short-term) domestic currency assets, such as domestic currency bonds, equities and even more complex assets such as derivatives' instead of more traditional 'bank lending or foreign currency sovereign debt flows' (p.294), which can be interpreted as a sign of subordination rather than dependence.

Second, although capital flows are a crucial part of analysis, it is the subordinate financialisation scholars' enquiry into domestic macroeconomic changes that provides a fuller understanding of the role of foreign flows and the nature of peripheral financialisation. The two examples provided in the previous paragraph tell more than 'just' the forms of capital flows: they are instructive on the change of domestic non-financial corporation's funding away from bank loans to market-based finance, with the crucial difference that instead of being domestic market-based finance as in core countries, it is foreign market-based finance.

This reflects the shallow capital markets in underdeveloped countries, and hence the subordination to more developed sources of finance; in a way, the findings provided by Rousseau and Sylla (2001)¹⁸ corroborate the thesis that financialisation in the periphery¹⁹ is not simply another form of dependency, which would be hence a 'result' of the faltering core and of financial globalisation, but rather is a process that leads to deeper financial integration with foreign markets. The role of financial maturity is also relevant in another way: subordinate financialisation arises out of the unevenness of domestic institutions (amongst which financial markets) within the world-economy. Peripheral countries are in a broad position of subordination, both in terms of industrial and financial capital, vis-à-vis the core, which defines the inevitability of asymmetric or uneven exchange also within the realm of finance: financial subordination leads to subordinate financialisation.

The importance of money is reflected in the third major feature of the subordinate financialisation strand of thought, which puts forward the integration of more widespread

¹⁸Rousseau and Sylla provide a study of the 1850-1997 period for mainly now-developed countries. They found that 'growth and increasing globalisation of these economies might indeed have been 'finance-led' ' (Rousseau and Sylla, 2001, p.1), and that countries with domestic advanced financial system are more active in trade.

¹⁹Note that Rousseau and Sylla discuss financial maturity and not financialisation.

analyses of monetary relations in shaping, at the international level together with flows of capital, the new form of imperialism, and at the domestic peripheral level the subordination of the transformation into financialised capitalism. The analysis of monetary relations and systems is inherently complementary to and complemented by the focus on capital flows, in that the issues arising from each one of these areas are two sides of the same coin.

2.4 Monetary hierarchies in the EMU: between International Currency Hierarchy, Post-Keynesian traditions and Marxist Monetary Theory

The wider Structuralist theory of Core-Periphery relations, according to Prebisch and other Latin Americans, was reflected in the financial sphere and international monetary dynamics. With the end of WWII, a new international economic system was being institutionalised around the hegemonic power of the US and of its currency, the dollar. Notably, Prebisch and the Latin American scholars were discussing Core-Periphery structure between Latin America and the US, thus entailing that their Core-Periphery system had as the core, the (financial and monetary) centre of the world-economy. The role of international financial capital was linked by the structuralists to the international monetary system, and drew from Keynes's understanding of the international economic framework: current accounts and trade flows are inherently connected to capital accounts and capital flows, and the mechanism shaping their interactions should be characterised by the reliance on controls and monetary arrangements (Keynes, 1969; Prebisch, 1950).

Whilst historically money has not been at the centre of Core-Periphery theorising, more recent strands of the literature, primarily Post-Keynesian and Marxist, discuss the presence of hierarchies in monetary systems. The former scholars understand the monetary hierarchy as a phenomenon occurring both at the international and at the domestic levels in independent, though related, ways. These are analysed *separately* under the broader ideas of the International Currency Hierarchy (ICH) and the Critical Macro-Finance/Money View approach, respectively for the international and the national dimensions.

Marxist economic theory studies money as an inherently capitalist attribute, which then needs to be analysed at the level of capitalist production that expands from national boundaries to the global world-economy which cannot be separated with clarity, especially in the age of fiat money. In addition to the two heterodox schools mentioned

above, a third major contribution to the field is made by some political economists seeking to explain the role of money in relation to hegemony. The most prominent contributions by political economists expanding on the connection between economic power, monetary power, and hegemony can be found in Kindleberger (1981), Strange (1971), Cohen (1971), and Norrlof (2014).

From these literatures, three main points are of interest for this work: the reasons for and form of a hierarchical international monetary system, the role of money as a tool of hegemony, and ultimately the consequences of such hierarchy especially regarding the Core-Periphery division, which is not a direct consequence of an ordered system. Inevitably, a work on monetary union needs to deal with the ontological understanding of money as well. The source of the hierarchy of money lies precisely in the definition of money and of its roles. The remainder of this section reviews the literature on money, whilst Section 3.5 in the next chapter develops original contributions in expanding the monetary hierarchy to an additional dimension, the one of *Private* and *Official* hierarchies and the possibility of competition between the two.

Two types of monetary hierarchies are distinguished by the Post-Keynesian scholars. On the one hand, following Minsky claim that ‘everyone can create money; the problem is to get it accepted’ (Minsky, 1986, p.288), the domestic or national monetary system is hierarchical by nature because different monies –that is, the liabilities of different economic actors– have different degrees of ‘*acceptability*’. This hinges on the understanding of the process of modern money creation as the extension of credit by banks (‘endogenous money’ view or a ‘credit theory of money’), which in turn entails that private deposits within a bank should be understood as commercial or bank money.²⁰ Such pyramid of money sees at the top the IOUs of the central bank as the liabilities of the government and thus the most secure and final means of payment, followed by bank money (liabilities to the single banks), followed by other types of IOUs (amongst the several authors, see Wray, 1990, 2002; Bell, 2001; Tcherneva, 2016).

On the other hand, at the international level, the Post-Keynesian analysis of monetary hierarchy departs from the aforementioned view, and has been developed with reference to developing countries. In this tradition, the national currencies are placed on a hierarchical order due to the different degrees of liquidity of each currency in cross-border transactions. In other words, in determining the rate of return of such asset, a liquidity premium is attached to the single currency, which acquires higher importance (or weight in the determination of such abstract interest rate) in times of higher uncertainty, much akin to Keynes (1936) very own theory of ‘liquidity preference’ and the extreme scenario

²⁰Namely the liability of that institutions.

of a liquidity trap (Carvalho, 1992; de Paula et al., 2017).²¹

Crucially, it follows that as the liquidity premium increases, so does the position of a money on the ladder of the monetary system. Historically, the role of the reserve asset for the world economy (top of the hierarchy) has been played by the asset with the highest liquidity premium, either a precious metal or one single currency, followed by ‘secondary’ key currencies that reflected an intermediary position. Following the standard outlined by Goodhart (1998) of one money for one (sovereign) state, the monetary hierarchy implies an asymmetric ordering of countries, in which the core is a single national entity issuing a national money, whilst the periphery(-ies) is composed of several national economies that either issue a national money that is not accepted for international transactions or that do not have a national money.

Nevertheless, according to Post-Keynesian theory, this structure does not directly imply a loss of monetary sovereignty in the peripheral countries. Indeed, only a branch of Post-Keynesian scholars argue that the asymmetric structure of the international monetary system is ‘structural’ and thus puts the peripheral countries in a position of more restricted sovereignty over its monetary arrangement (de Paula et al., 2017; Prates, 2020), following more closely Keynes (1935, 1969) understanding of the currency hierarchy as a *structural* feature of a monetary (and financial) system revolving around a national currency;²² this position is also shared by the more recent work published by CEPAL, which brings forward mainly with Ocampo (2001, 2017) the Structuralist tradition outlined in Chapter 2.

A second branch, however, argues that monetary sovereignty can be achieved also by peripheral countries provided that they issue unconvertible fiat money and more importantly that they do not issue debt denominated in a foreign currency (Tymoigne and Wray, 2013). Consequently, the hierarchical monetary structure can be overcome to implement the domestic policies of choice, without major external constraint; ultimately, this suggests that the international monetary system does not define the position of a country in the Core-Periphery structure of the world economy despite the fact that some currencies do in fact play a more crucial role than others as foreign exchange reserves.

The dichotomised approach to monetary hierarchy is overcome in the Marxist analysis of money, in which the four roles of money in the domestic economy –Unit of Account, Means of Exchange, Means of Payment, and Store of Value– are complemented by the international role of money as ‘World Money’ –money in its commodity form *par*

²¹de Paula et al. (2017) specify that the rate of return on money is $r_a = a + q - c + l$, where a is the expected appreciation of the asset, q is the expected quasi-rent of the asset, c is the carrying cost, and l is the liquidity premium.

²²One can define Keynes’s approach not only as structural, but also as Structuralist due to the similarities with the Latin American Scholars.

excellence. To be sure, the Marxian tradition of imperialism does not include significant arguments revolving around money as a catalyst for imperialist power, for their analyses centred on the flows of capital instead, as argued above. Nevertheless, there are contributions studying money proper in the marxian tradition, which offer a starting point on the nature of money rather than on it as an instrument of subordination –which is the main contribution of this work.

Although borders still maintain significance in this theory in so far as national monies have not been consistently used outside of a specific geographical region,²³ the internationalisation of only certain national monies meeting the definition of ‘central bank credit money declared as legal tender’ (Labridinis, 2014, p.19) following the position of such country and respective monetary institutions in the capitalist world economy stresses the need for a holistic approach to money. This goes beyond national-international dichotomy, linking together the different forms and role of money into a unified framework. Such framework is of crucial importance to understand the Core-Periphery division in the EMU, a ‘world-economy’ in which all the forms of money are blended more than ever. Indeed, it is not a coincidence that such process of internationalisation occurred at the time of the imperialistic stage of capitalist development (early XX century), and that it coincided with the first theorisations of a (proto-)Core-Periphery structure of the world economy.

Much akin to the Post-Keynesian understanding of the international monetary system as inherently hierarchical, the source of such hierarchy in Marxist monetary theory is the form of world money, historically played by gold, and more importantly the form of ‘quasi-world money’²⁴ (Lapavitsas, 2013a) arisen in the XX century, in which a national credit-based currency acquires the ability of settling payments and storing value at the international level. It is the ‘obligatory rather than a voluntary character’ of the settlement of international balances with the current world money (or quasi-world money) that defines the asymmetric and ordered structure of the international monetary system (Lapavitsas and Aguila, 2020, p.13-14).

The crucial feature of (quasi-)world money is its inability to act as coherent and smooth organising principle in the international world-economy, a role that money covers as long as it remains within the borders of a national capitalist economy and as long as it is managed by the national monetary authority. This failure is evident in the crises that occur when the domestic meets the international capitalist economy, usually in the forms of foreign exchange or Balance of Payments (BoP) crises (sudden stops and capital flows reversal), in which the hierarchy of currencies is revealed by having the quasi-world

²³Small territory for commercial bank credit money, national territory for central bank money.

²⁴The term ‘quasi-world money’ was coined by Makoto Itoh as explained in (Lapavitsas, 2013a, note 6).

money dominating the domestic currency. It is precisely the asymmetric tiering of currencies in the international market that confers upon the quasi-world money a degree of ‘organisational power’ that places the institutions in charge of such money at the heart of the monetary system: under this lens it is possible to elaborate a *monetary theory* of the forms of subordination.

One aspect of Marx’s own thought bears special validity in the context of a monetary union: names and qualities of money are not coherently linked to one another (Marx, 1965, vol. I, ch.3), in that the nomenclature –which is derived by the Unit of Account role of money– does not reflect the different forms of money for which it is used, thus leading to ‘money confusion’ (Labridinis, 2014, p.12). This very same approach is shared by the CMF-Money View literature, which understands that qualitatively different types of money (liabilities of individual balance sheets) are often named under an umbrella nomenclature due to the Unit of Account used. Furthermore, the ‘order’ (or hierarchy) amongst the forms that money takes is neither fortuitous nor predetermined but reflects the relations of exchange of the economy in which they exist (Lapavitsas, 1991, 2017).

Crucially, these theoretical understandings of currency hierarchy lead to two gaps in the assessment of monetary hierarchies. First, the theoretical approach has failed to distinguish the different issuers of credit money, primarily between *official* and *private* issuers. Such difference is important because if money is the power of accessing the issuing balance sheet, then different types of money give rise to distinct forms of monetary hierarchy. Whilst the distinction is at times blurred due to the fact that private and public institutions may demand both private and official liabilities, official and private monetary hierarchies are the extremities of a spectrum of hierarchical relationships. A complete definition can be found in Table 3.1.

Second, these theoretical approaches have not focused enough on the plumbing of monetary systems that allow the different forms of money to interact with one another and that make possible for money to change from one form to the other. Hierarchies are inherently technical, as the nature of monetary hegemonic power is indirect and mediated through mechanisms and institutionalised practices. In the case of the Eurozone, this plumbing may be coupled with the focus on quasi-world money by being able to mask the absence of a true regional world money.²⁵

The enquiry into the monetary infrastructure of the Eurozone must rely on the analysis of the different forms of euro-balances and on the payment system that allows

²⁵Special attention needs to be paid to payment systems, in that they underpin the constant flows of money within an economy and with the rest of the world.

these forms to build the underground plumbing of the EMU. By looking at the specific roles of the different forms of money it is possible to determine the order of the monetary forms in the EMU and to provide a more complete assessment of the EMU, in which something akin to a ‘euro-fetishism’ (the calling of more and more distinct forms of money as ‘euro’, the unit of account of the EMU) is at play.

2.5 The application of dependency ideas to European integration: predecessors of subordination

A first attempt at theorising Core-Periphery relations in Europe and for the process of European economic integration was carried out by scholars in the 1980s in two different forms:²⁶ the ‘Binghamton’ network developed by Arrighi on the shoulders of Wallerstein aimed at studying the Southern European countries as a semiperiphery within the world-economy and in relation to other semiperipheries around the world, and the European Association of Development Institutes (EADI) network, developed in the UK and Europe, with the aim of applying the methodology put forward by Core-Periphery structure theorists to the case of the European regional ‘world-economy’, and more specifically to the process of post-war economic integration. ‘Dependency’ was a word largely lacking in the European discourse, and the EADI members were eager to use it to analyse the failures and the fundamental issues of the various stages of economics –not monetary– integration.

The objective of the Binghamton network –built on Wallerstein’s insights to locate in the reconstructing Europe a dynamic coexistence of core and semiperipheral countries in terms of position in the global world-economy (Wallerstein, 1974, 1985, 2002, 2004) –was to study how the European peripheral countries, mainly the Mediterranean ones, which had relatively homogeneous income per capita levels at the upper boundary of the world periphery in the 50s, related to the bordering countries that were, for several parameters, members of the core. Despite the levels of income, however, Arrighi and Drangel (1986) concentrated the majority of European countries in the decade following WWII as belonging to the world semiperiphery, with only Sweden, Denmark, Germany

²⁶The term European Dependency School (EDS) is introduced by Weissenbacher (2016, 2018, 2019) as an umbrella classification for scholars who advanced the Dependency paradigm to encompass the study of European integration.

and the UK being core countries, and only Portugal being a member of the periphery.

Most important are the works collected in Arrighi (1985), which revolve around the further development of the Core-Semiperiphery-Periphery structure. Wallerstein (1985) opens the book with a vague reiteration of the tri-partite world-economy, leaving space for further categories, so long as they do not become too specific. By the end of the book, the world-economy became structured in a much more complex way, with the introduction of the ‘perimeter of the core’, and alternatively of the periphery, to describe the countries on the verge of transitioning or having just done so from one zone to the other (Lange, 1985; Arrighi and Drangel, 1986). The idea of a perimeter was born to accommodate the peculiarity of the European countries, mainly Italy, that had been able to industrialise and increase their income per capita and technological productivity, but that still were subject of ‘semiperipheral’ political and social institutions.

The view of a comprador or lumpen bourgeoisie that characterised dependency for the Latin Americans was reiterated at the European level with the increasing importance of the role of foreign capital on shaping the interests of the local/domestic elites (Logan, 1985). The protraction of dependency onto the European semiperiphery through the means of capital flows implied that, if a country like Italy managed to enter the core area, it would remain only at the perimeter, on the edge of falling again into a dependent position: given the (semi-)developed status of European countries at large from the 1960s onwards, however, more elaborate mechanisms to maintain the hierarchical structure were needed, which took the shape of NATO at first, and more crucially the European Economic Community (EEC) at the level of a region –Europe– in which core, semiperipheral and peripheral countries were in close geographical proximity to one another (Wallerstein, 1985).

EADI scholars began the analysis by applying a simple Core-Periphery structure to dyads or groups of countries within Europe (Seers et al., 1979; Seers and Vaitos, 1980; Seers, 1981; Seers and Vaitos, 1982), highlighting that the process of economic integration into a regional division of labour (regional production/value-chains) for Southern members through the proliferation of Trans-National Corporation had begun before the institution-alisation of the tiered system with the process of political integration, except for Italy that was a founding member (Vaitos, 1982).

Dependency was seen through the phenomena that earlier dependency scholars criticised for preventing the development or modernisation of Latin America: Southern European countries were rapidly integrated into transnational capitalism through the European capital that dictated the role of the country and of the regions therein (Vaitos, 1980; Seers and Vaitos, 1980; Musto, 1982, 1985). With hindsight, the perspective that TNC and transnational capitalism could be a means to the end of ‘development’ through

industrialisation of peripheral members (a Structuralist proposition), has not been validated by the empirical development of the ‘European periphery’, which has suffered from a premature de-industrialisation as a consequence of the penetration by foreign capital (Weissenbacher, 2019).

2.6 Critical Political Economic traditions and European integration in the XXI century: the need for a subordination alternative

To conclude, the history of European integration offers some sporadic insights into critical takes. At the same time, the study of financialisation and of international financial flows for developing countries established in the last decade has produced a comprehension of the imperialistic nature of cross-border financial relations. The two areas, however, have *never* met to synthesise a theory of monetary unions based on the monetary relations of subordination, the modern form of imperialism.

The relevance of the Dependency Theory tradition has been restated in the second half of the 2010s by authors like Kvangraven (2020), who argues that at the heart of the dependency paradigm lies the analysis of the ‘polarizing tendency of capitalist development, related to both structures of production and the common constraints related to peripheral development’ (p. 80). Despite the fact that production is the primary focus of Marxian traditions, proponents of Structuralist thought and of some shades of Dependency Theory appreciated the role of monetary structures in shaping Core-Periphery relations. For example, Prebisch’s analysis of the core position of the US vis-à-vis Latin American economies relied heavily on the role of the dollar as the international currency, which by extension suggests a focus on the monetary structure of the Bretton Woods System and the supply of liquidity to the international economy.

Such focus on monetary structures has been reinforced with the attention to financial markets and financial processes implied by the financialising of capitalism during the last four decades. With financialisation, the imperialist tradition came to wane down with only few exceptions, which have found renewed connections between imperialist and Core-Periphery relations and the financialisation of both developed and developing countries. A formal reconciliation of the two, however, has only begun to appear recently, with authors like Reis and de Oliveira (2021) and Musthaq (2021) putting forward the need to connect Dependency Theory with financialisation, with ‘financialised dependence’ being

the fourth phase of dependency.

Most of the connections between money and dependency have been developed either in relation to the financial subordination literature, which discusses developing countries and the international monetary system, or to the monetary Unions in Africa, primarily the CFA Franc (Koddenbrock and Sylla, 2019). In terms of the CFA Franc and monetary relations of dependency linked to monetary unions, the literature does not focus on the *internal* dynamics but on the imperialistic features of the *external* component, France, in the CFA Franc. In other words, it is not a Structuralist or dependency theory of monetary dependency in a monetary union, but the study of how money has become the primary tool for imperialism in a post-imperialist world, identifying the CFA Franc as a tool of subjugation in the hands of France.

The interesting peculiarity of monetary unions, however, is the internal dynamics of imperialism and hegemonic power, something that has been mostly neglected even in unions amongst developing countries. Koddenbrock and Sylla (2019) realise the domestic dynamics that the external money imposes on central banking and bank-firms relations, but still with a concern on the externally-controlled banks and on the extra-CFA Franc capital. Indeed the CFA Franc is a peculiar monetary union in which France is at the same time not a member, but a guarantor and linchpin for its working, thus locating it internal and external to the union itself. Undressing the tiering of the African member states, however, has not yet been achieved.

This re-found interest in the shades of imperialist tradition to analyse developing countries has remained limited to specific cases of clear historical subjugation. Little has been done to bridge this tradition and the analysis of international monetary systems and financial relations amongst advanced countries. The use of the imperialist–Core-Periphery tradition as a lens for the specific analysis of European asymmetries has been limited to a couple of contributions that only provide a narrow analysis –historically focusing on trade and the EU rather than on money and the EMU. The few authors who do link Europe and the EMU to the ideas of the imperialist tradition do so either by focusing on some narrow understanding of dependency or by developing a theory of dependent financialisation for the ‘periphery’ in line with the Regulation School (Becker and Jäger, 2012; Becker and Weissenbacher, 2015; Weissenbacher, 2019), and thus by extension Dependency Theory.

As for the former, Gambarotto and Solari (2015) is the only paper that tries to develop an approach to the EMU in the tradition of Core-Periphery theory and more broadly in line with the literature reviewed in the previous chapters, though combined with an interpretation of the different forms of European capitalism (specifically of Southern European capitalism) that follows Hall and Soskice (2001) ‘Varieties of Capitalism’ approach. However, their analysis of the Core-Periphery structure of the EMU and of the

peripheralisation of southern Europe relies on the understanding of Germany being the centre because of the strong export sector. It is argued here that a monetary union is not only a fixing of exchange rates and that Core-Periphery cannot be understood only through the real economy, but that a monetary union is primarily a financial project of unification of monetary and financial structures and that the hierarchical and asymmetric structure of the Union requires a financial understanding beneath the real one.

Such a perspective crucially leads to a more subtle understanding of the meaning of periphery especially in the context of financialised capitalism: indeed, peripheralisation and financialisation should not be seen through the causal relation offered by Gambarotto and Solari (2015) in arguing that *peripheralisation* causes financialisation, but need to be seen as separate phenomena. Furthermore, the idea itself of peripheralisation should be overcome in favour of an understanding of subordination given the degree of heterogeneity of ‘peripheral’ countries and the absence of a clear-cut Core-Periphery structure but rather a structure of subordination. Such subordination, then, inevitably shapes the financialisation and the process of monetary unification of southern European –subordinated– countries.

Ultimately, from a Latin American background, O’Connell (2015) explains the Eurozone crisis as one of ‘deregulated cross-border finance’ rather than on a structural theory of the asymmetries in the EMU. Crucially, the role of ‘deregulated cross-border finance’ is a key determinant of the hierarchical tiering of member states because it offers an insight into the distinction between monetary unification and monetary integration: the EMU, a *unification* project has actually proven to be a project to integrate and support financial flows in a hyper-deregulated form, thus letting capital dictate the subordination of EMU members. Indeed, such an understanding requires further development to analyse how unregulated it was, the form such cross-border flows took, and how the hierarchy was supported by the single and command currency and its institutions. The Eurocrisis and the polarising decade coming after was more than a crisis of deregulated cross-border finance in that finance was deregulated only in certain segments and heavily supported in others, using it as a juggernaut for asymmetric integration.

The need for an alternative framework encapsulated in the idea of subordination is a driving reason for this work. This research is unique and novel as it seeks to reconcile these apparently separate and poorly connected areas through the prism of money, understood as far more than just money itself: it is the set of monetary and financial structures that shape the economic, social, and political evolution of member countries depending on the degree of subordination.

Chapter 3

Theorising Subordination in the EMU: Conceptual and Methodological Issues

3.1 Introduction

This chapter sets forth the conceptual and methodological considerations of this thesis to clearly establish the hypotheses and to synthesise a coherent approach to subordination and to the study of the single and common currency of the European Monetary Union. The main contribution of this chapter is the theoretical elaboration of the meaning and features of subordination in the EMU.

In addition to the focus on monetary and financial structures, the theory of subordinate integration as the *reproduction* of subordination itself is explained. A key argument of this work is that structural subordination is able to replicate itself by building the structure and shaping the behaviours of actors in a fashion that perpetrates the path dependency of hierarchical tiering. subordination is ‘circular and cumulative’ (Myrdal, 1958, ch.2), which means that not only does it arise as a feature of a monetary system but also as its own reproduction.

This work develops from the conceptual analysis of the nature of monetary subordination to the empirical evaluation of its presence and shapes. The bridge between theoretical and empirical dimensions is shown here through the levels of abstractions devised to capture the tendencies of subordination as well as its specific features in the EMU, with a particular attention to the Italian process of subordination. Crucially, in addition to theorising subordination and how it appears in the EMU, this chapter offers a conceptual

discussion of structures as a systemic approach to financial and monetary systems. This allows for political economy considerations on such topic starting from a highly technical analysis of the infrastructures, which is required to operationalise structures, and thus to link the subordination of the structures with the behaviours of the agents and classes.

The remainder of the chapter is structured as follows. Section 3.2 provides an elaboration on the theoretical framework adopted by identifying three main traditions. Section 3.3 conceptualises the idea of subordination and defines its main features and then elaborates on the specific form of subordination within the EMU by delving into both the theory of subordination in the monetary union and the *reproduction* of subordination through a theory of Subordinate Integration. Section 3.4 further discusses the theorisation and analysis of hierarchies in the EMU by looking at the structures and infrastructures of financial systems, which are argued here to be crucial for the existence of subordination. These are the linchpin of a study of the EMU as the monetary union has to be underpinned by the creation of the financial infrastructure to support a common and single currency not only domestically but especially internationally (at the EMU level and beyond). Section 3.5, then, builds on literature provided in the previous chapter to develop a first, more abstract theoretical and empirical conceptualisation of money and currency hierarchy, which is then employed in the next chapter to investigate the Eurozone and the European Currency Unit. This section puts forward a novel and original dimension of the monetary hierarchy by looking into the official-private axis, defined based on the origins of the money-demand and the nature of the money-issuer. Ultimately, Section 3.6 develops the main hypotheses derived from the theory and explains how each single chapter answers each hypothesis, and outlines the specific methods of analysis and the data used in the upcoming chapters.

3.2 Theoretical framework

This work develops on the ‘quasi-rationalist’ approach to economics developed by Classical Political Economists upon the synthesis of the Common Sense philosophy (see Reid, 1849; Stewart, 1858) developed in Scotland at the beginning of the XIX century Prasch (1996) and the scepticism arising from Locke (1959) extreme empiricism that led to Hume’s sceptical approach (Hume, 1976). By integrating the Baconian scientific method, the Common Sense School allowed for the combination of empiricism with the acceptance of ‘first principles’. Such entanglement led to Senior (1938) methodological discussion of

economics, which has been considered as the the first of its kind (Mitchell, 1967), and that focused on the process of enquiry of political economy as a process starting with *general facts* that are clearly observable. Similarly, this research started with the ‘common sense’ observations that the Eurozone has not led to convergence, a failure that requires an explanation.

Given such tradition, the theoretical framework employed in this work is proper of Classical Political Economy broadly defined: a conceptual analysis that leads to an empirical inspection of subordination in Europe. Such framework is congruous with the analysis at different levels of abstraction, from the most empirical to the conceptualisation of ‘structures’ to make sense of the shapes of monetary subordination and eventually to the understanding of subordination as a feature and process of monetary and financial systems beyond the Euro.

Crucially, the present work does not seek to offer a universal theory of subordination or of Monetary Unions, but aims at offering an analysis of the general tendencies of subordination applied to the specific process of European monetary integration and grounded in the age of financialised capitalism, a specific historical dimension. Consequently, this work remains materialistic and historically specific, though the theorisation of the tendencies of subordination and the focuses of analysis explored in this work can be replicated and generalised: in this sense, I seek to encapsulate the *essence* of subordination through the lenses of monetary relations and financialised capitalism. Such methodological approach is inherently Marxian.

Nevertheless, the degree of complexity of monetary relations in the XXI century requires the expansion of the theoretical framework to encompass different *critical* approaches to money and finance, eventually coupled with power. This is further complicated by the peculiar environment of the Eurozone characterised by the coexisting national and regional spheres, which is undoubtedly reminiscent of the imperialist and Structuralist-dependency studies of the relations of subjugation of the domestic by the international as explained in the previous chapter.

This in turn, justifies the tradition this research belongs to, namely the study of asymmetric relations amongst countries, encompassing both class-relations and the role of the state. In other words, monetary subordination in the Eurozone is analysed here by looking at monetary structures saturated with power and by highlighting the social dimension of money especially in a monetary union. At the same time, it warrants a similar methodology.

However, the specific focus on money required to study the Eurozone and to contribute to the broad tradition of imperialism and Dependencia requires also the use of

alternative approaches to monetary theory. The difficulty of the inquiry into the asymmetric monetary relations of the Eurozone lies in both the complexity of the subject –money together with the Eurozone– and the novelty of the question, given that currency unions have been studied primarily with the OCA theory as discussed in the Chapter 1.

I mainly take from three traditions: Post-Keynesian Economics in the flavours of the ‘Critical Macro Finance’ and ‘Money View’ approaches,¹ the Marxian tradition –especially its monetary theory, and Critical Political Economy. These have provided distinct though similar accounts of the conceptualisation of money and finance that are argued here to be key to the understanding of monetary relations of subordination. Rather than being just an amalgam of monetary theories, these specific literatures are employed in this work because they each contribute with a particular theoretical or methodological addition to the conceptualisation and operationalisation of *monetary subordination* in the Eurozone, as explained in the remainder of this section.

The Critical Macro-Finance (CMF) and Money View (MV) branches arise as the result and reaction respectively to Minsky’s understanding of the economy as a ledger and agents as balance sheets. These approaches offer the theoretical conceptualisation of modern financial systems in their intricacies of credit relations and systemic connections across agents embedded in hierarchical logics of credit –to be compared with hierarchical logics of money of the Marxian tradition.

In the spirit of CMF and MV, this work approaches the theorisation of structures as the architecture underpinning the web of interlocking balance sheets as well as the forms in which such balance sheets interact. However, one significant caveat of this CMF-MV tradition of inquiry into the subtle mechanics of finance and banking from a technical perspective is the compartmentalisation of theory and empirical analyses, which have rarely been bridged. The present work seeks to offer a significant contribution to such framework by embedding the theoretical conceptualisations within the empirical reality.

From the Marxian tradition, this work takes on three different aspects. First, whilst the analysis of money-specific is done through the previous framework, as I proceed at higher levels of abstractions I move swiftly to a Marxian framework. This entails, for example, the understanding of money as an organising principle and as a source of contradictions inherent of the class dynamics of capitalism, as well as the ontological understanding of the different forms of money. Second, the Marxian tradition also helps conceptualising subordination in the EMU as a structural feature only mediated through

¹Although the Money View approach tends to consider itself as a separate school, it has been related to the Post-Keynesian tradition and consequently grouped together here.

money and monetary architectures. This in turn prompts the analysis of the connections between monetary subordination and the transformation of member countries in their financialised form, as carried out in Chapter 6. Third, this tradition requires for the analysis of finance within the capitalist system as a whole and especially as permeated by power relations. The inclusion of power in monetary relations, whilst not new, is rarely found in empirical work due to the complexity of conceptualisation.

The concept of subordination offered in this work seeks to reconcile the macro-financial approaches aforementioned with the focus on monetary relations as relations of power and struggle proper of the imperialist tradition. In other words, I seek to develop a synthesis of ‘Marxian macro-finance’ for the Eurozone (and beyond) with one important distinction: money is understood in the Marxian sense and not in the Post-Keynesian one, namely money is qualitatively different from credit and transcends credit relations – namely a money theory of credit (De Brunhoff, 2015). The theoretical distinction between money and credit is fundamental for the understanding of cross-border money relations in the Eurozone,

Ultimately, in line with the modern International Political Economy (IPE) approach, my research merges the study of economic tendencies with the analysis of institutions (and only marginally of interests and ideas) that characterise the environment in which economic and political actors relate to one another. Not only this is crucial to offer a detailed account of the reality of integration in a monetary union –required by the empiricist nature of research, but it also is necessary as the role of institutions is proper of the essence of the EMU and of European integration.

Behind (and before) the economic rationales of convergence amongst countries joining the European project, deeper integration was pursued following the neo-Functionalist belief of economic following the spill-overs of political integration as put forward by J. Monnet (Spolaore, 2013; Guiso et al., 2015), and the foundations of the post-war European integration are shaped deeply by the institutionalist views on inter-state cooperation (Axelrod and Keohane, 1985; Mearsheimer, 1995). Thus, the subject this research seeks to study is by nature a hybrid of economic and political views. The lens of IPE is conducive to the widening the conceptualisation of hegemony and to the delving into the application of Regime Theory, and to evaluating the possibility of the existence of a regional hegemonic power in Europe.

In conclusion, this work belongs conceptually to the Classical Political Economy philosophical framework by allowing the interaction of abstraction and conceptualisation with a strong empirical evaluation of reality. Assumptions and methodological approaches that require restraining assumptions have been reduced if not entirely avoided precisely because the focus of this work is the developing of theoretically coherent and complete

approach to subordination embedded in its empirical manifestation in the Eurozone, understanding the main features and tendencies of such phenomenon. In this sense, the hypotheses developed in this work represent already considerable theoretical work and do not aim at being strictly tested, but at being synthesised with the support of rigorous empirical analysis of the tendencies and appearances of subordination specific and abstracted.

3.3 Conceptualising subordination in the EMU and subordinate integration

The literature analysed in the previous chapter outlined the key dimensions explored in relation to Core-Periphery structures as precursors of subordination. The conceptualisation of subordination offered in this work is not limited to external power or capital as a *proactive* and forceful agent, but focuses on the mechanics and structures that lead to the hierarchies: subordination does not have an imperialistic agent but gives rise to a hegemonic power. This, in turn, affects the domestic economies of member states and their evolution along the process of integration and unification: subordination is not only a structural feature but also a process that reproduces itself,² hence the development of a theory of subordinate integration, or the reproduction and strengthening of hierarchy and subordination amongst member states.

With this understanding of subordination in mind, a theory of subordination for a monetary union is based on the peculiarity of such system: it is an extreme form of integration and unification, which brings forth at the same time the appearance of subordination (often described as Core-Periphery structures) and more subtly its actual features. The architecture of a monetary union is unique in its being an artificial creation to unify separate and unitary jurisdictions.

The unique feature of the EMU is the fact that it is a *union* amongst equals and assume that all members remain equal under the legal and economic dimensions of the process of unification. Where economic equality is clearly absent, the rationale behind monetary unions is the progressive and automatic economic *convergence* of the laggards with the more advanced members. This work is at its very core against such understanding

²Such double understanding is in line with the Marxian use of different levels of abstraction.

of monetary unions which neglects the possibility of having monetary structures developed to sustain a form of integration that perpetrates the hierarchical tiering of the members and the respective jurisdictions.

The paradox of the EMU is the apparent equality of member states that is actually just a legal appearance: beneath the surface, whether one looks at the real economy (as done in the past with the focus on Unit Labour Costs and Real Exchange rates) or financial markets (as proposed in this work), equality is far from the feature of the Union, which becomes tiered and especially *non-converging*, with mechanisms in place that reinforce such asymmetric unification and prevent the rebalancing of the member states. The architecture, then, acquires the utmost importance by acting beneath the surface of the single and common currency, far from the political discourses and into the realm of de-politicised technocracy and of undemocratic institutions.

The presence of subordination in the EMU appears evident in general terms, but elusive in terms of the specific forms of subordination. Whilst core and periphery are somewhat recognised (though improperly) within the EMU,³ it is mistaken to think of the core and of the periphery as unitary, cohesive, and homogenous areas: countries –and their monetary jurisdictions– lay on a spectrum of subordination that revolves around a single centre, and it is the mobilisation and accumulation of non-subordinate or less-subordinate positions that confers to a country/monetary jurisdiction the role of ‘core’. There is not a single periphery in the Eurozone, but a collective of subordinated countries that experience the ‘peripheral position’ each in a different way. It is thus necessary to define and understand the forms and causes for such a subordination to arise.

3.3.1 Three features of subordinating monetary structures

The subordination or dependency in the monetary dimension experienced by EMEs displays two stylised features. First, they are distinct jurisdictions (monetary, financial, and fiscal) with delineated borders connected to the rest of the world by specific forms of cross-border flows. Second, they are positioned towards the bottom of the international monetary hierarchy in that their currencies –or more generally their liabilities– show significantly lower liquidity premia or higher risk premia compared to currencies (and liabilities) of non-subordinate or less-subordinate countries. A third stylised feature may be included: stability is not the norm for EMEs in a subordinated position, given that they are subject to constraints and fragilities –most prominently Balance of Payment constraints, assets-liabilities and denomination mismatches, exchange rate risk, and exposure

³See, for example, Hall and Soskice (2001); Gambarotto and Solari (2015); O’Connell (2015).

to capital bonanza and sudden stops.

Monetary subordination in the EMU should find replicated the first two stylised facts –though in differentiated forms. However, it should find a mechanism that *prevents* the weaknesses of the third stylised fact –which would threaten the par exchange of same-denomination liabilities across member borders.

Accordingly, the structural form of monetary subordination in the EMU stems from three features of money and its plumbing in the Union: the fragmentation and integration caused by the financial infrastructure beneath the euro, the monetary hierarchy of liabilities of the different jurisdictions, and the hybrid operation of money that bridges domestic and cross-border functions. Across these three, the tension between the fragmentation of selected markets compared with the integration and unification of others sets the architecture for subordination and for the exploitation by non-subordinate members of their position, by creating distinct jurisdictions –just like EMEs in the world-economy.

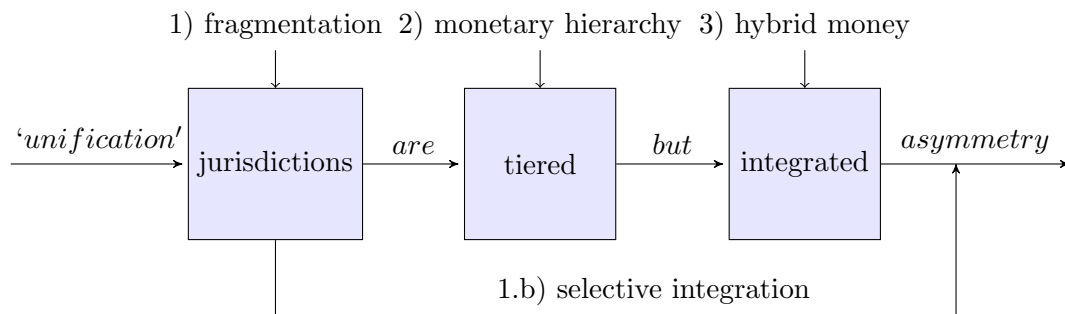


Figure 3.1. The shape of Monetary subordination in the Eurozone.

Notes: The numbered items represent the ‘pillars’ of monetary subordination in the EMU.
 Source: Authors’ own elaborations.

Figure 3.1 shows a conceptualisation of how *monetary subordination* takes place in the Eurozone derived from the experience of EMEs. Fragmented monetary jurisdictions are hierarchically tiered, but remain integrated via the working of the euro as a peculiar form of –hybrid– money. More specifically, these jurisdictions become even less converging via the working of the Eurozone coupled with the integration of selective markets.

The appearance of subordination arises from the selective fragmentation across fragmented jurisdictions, as appears from the flows of liquidity across jurisdictions in the EMU: the complete liberalisation and unification (i.e., explicit guarantee of 1-1 par of the euro liabilities issued by the NCBs) of cross-border payments with a fragmented –or in institutional terms: decentralised– monetary infrastructure both in terms of central bank jurisdictions and market preference lead to a *concentration* of liquidity flows from the bottom to the apex of the hierarchy. Such flows are *mediated* by the working of money

in the EMU, where domestic and cross-border functions are not distinct thanks to the TARGET system and the ‘hybrid’ nature of euro-balances –regulated by both domestic monetary conditions and cross-border payments. Structural fragmentation of markets and jurisdictions, coupled with the integration and de facto unification of some specific segments (liquidity flows, collateral policies, liquidity flows for securities settlements), allow and underpin the division between subordinated and non-subordinated member countries. This is most hidden in a monetary union, and depends on the institutional and private setup of the regional monetary architecture.

Being able to find a monetary hierarchy within the EMU requires a decomposition of the Eurosystem and a focus on the specific monetary jurisdictions that together create the EMU. The monetary hierarchy highlights three features that allow to define the EMU as an asymmetric structure laden with subordination. First, it highlights the coexistence of different monies or different euros (issued by the single NCBs) that brings forward the legacy monies of the pre-euro countries and allows for the existence of ‘quasi-FX reserves’ in the form of TARGET balances. Second, the hierarchy points at the fact that it is not the monies that are tiered but the access to the balance sheets issuing such liabilities, thus making the monetary hierarchy a matter of balance sheets of different institutions in the EMU (the single NCBs, the ECB, the commercial banking sectors having claims on their national NCB). Third, the hierarchy shows the lack of homogenous and overarching unification of the *official* and *market* infrastructure.⁴ The monetary hierarchy points at the presence of asymmetries, which are a first hint and tool of subordination.

The hybrid operations of money in the EMU reinforce the presence of the monetary hierarchy and show the mechanisms of integration and unification that allow for the hierarchy to appear: this is the first instance of the *selective fragmentation* mentioned above in which certain market segments are unified, and others are not. The hybrid operations of money denote the working of the ‘euro’ as both domestic money and quasi world money for the region, connecting *automatically* through the mechanisms of TARGET the money capital of one jurisdiction to its par value in another jurisdiction.

Such hybrid financing allows for contradictions and distortions to arise in the flow of money capital within the union, which became hyper-liberalised through the automatic 1-1 par conversion despite the continued decentralisation and formal fragmentation of monetary jurisdictions. Such flows are important in defining subordination as different from dependency: liquidity flows not only from the ‘core’ to the subordinated countries

⁴‘Official’ in this work denotes the central bank or the government sector, their architectural organisation and their operations. It is to be considered as opposed to ‘private’ or ‘market-based’, which denote phenomena arising directly from private sector decisions.

as is argued by the dependency theory in which capital exits the core to shackle the periphery in dependency, but it flows to the ‘core’ from the subordinated members in net terms. In gross terms, money capital flows both ways, thus creating in part the features of dependency, but crucially adding a deeper level of complexity by giving subordinate members a less passive role.⁵

The third feature the EMU that leads to subordination is the market infrastructure beneath the euro and its liquidity, and the strategic fragmentation that it displays. Such fragmentation denotes the more elaborate concept of ‘structural fragmentation’ and proposes a simple though blurred cause for the protracted division between subordinated and non-subordinated countries: the infrastructure of financial markets and monetary transactions. By failing to unify and create a new single infrastructure for the EMU and preferring a *passive* mode of integration by bridging separate systems, the Eurozone members still show differences in the market infrastructures along national borders.

The most important markets showing structural fragmentation in a monetary union are the money markets, in that they allocate short term liquidity and funding to commercial and shadow banks. Without money markets, a money lacks the plumbing for it to exist and act as a money, both domestic and international. The spill-overs from fragmented money markets hit the short- and long-term funding of financial and non-financial firms, the infrastructure of capital markets, the retail and wholesale investors partaking in such markets, and the government’s issuance of debt –possibly the safest collateral that can be used in market and official transactions. In the age of financialisation, hence, passive monetary integration leading to fragmented money markets leads to the shaping of inter-class relations within domestic boundaries and across them: the subordination of the EMU shapes the process of financial integration and by extension of financialisation of the single member countries and at the same time is a result of the financialisation of the end XX century.

3.3.2 Monetary subordination and subordinate integration

Subordination represents the structural constraints built in the structure of international exchange characterising the position of a country. Along the structural dimension of subordination, actors and classes within the domestic boundaries also reflect the presence of subordination by altering their behaviours, which are shaped by the subordinate position of the country within a world-economy. As a consequence, subordination can be

⁵Empirically, this argument is in line with the argument made by Borio and Disyatat (2011) in which capital flows are analysed in their gross rather than net form.

divided into two branches: the changing relations amongst domestic sectors (in line with the Marxian study of financialisation), and the changes in the cross-border behaviour of domestic agents –such as shifting from investing in domestic markets to foreign markets.

The two are intertwined, but distinct: whilst financialisation may have brought similar tendencies on the main countries of the EMU and thus blurred the distinctions between the national forms of financialisation, the cross-border activities can still show a high degree of subordination if the euro (and its infrastructures) are ‘finance-diverting’. The idea that subordination constrains behaviours is necessary to provide the space for idiosyncrasies and differences amongst non-subordinated countries, and to provide space for agency in subordination. Indeed, the heterogeneity found in the EMU ‘periphery’ should be ascribed to the degree of structural subordination coupled with the constraining form of subordination on a specific country.

Subordination within the EMU appears in political and economic areas, and revolves around the de-politicisation and re-politicisation of monetary sphere and central banking. Power, in turn, acquires a technical dimension in the Eurozone like never before: such de-politicisation of decision-making justified by the technical nature of monetary operations within the EMU only solidifies the structural nature of subordination in the Eurozone, making it an asymmetric platform for the projection of power both by states and by capital. The subordination, furthermore, is a precise outcome of the form of integration in the Monetary Union, and cannot be eliminated through ‘passive’ integration alone.

The reproduction of subordination is a crucial issue for a theory of subordination, as it explains how such a tiered structure endures or becomes more asymmetric. A theory of subordinate integration argues that countries integrate in a monetary union in different ways, but that countries starting from a subordinate position will integrate in a subordinate manner, giving rise to a further reinforced subordination. The architectures of integration evolve as to promote subordination, with a process of circular causation between the two. Crucially, such subordinate integration occurs because national systems are integrated rather than *unified*, the difference being that the former seeks to connect existing systems whilst the latter to replace the existing one with a new regional structure. Whilst monetary unification, by no means, eradicates subordination altogether, it can build in mechanisms that seek to rebalance the polarising tendencies of the Union.

The thesis put forward in this work with subordinate integration can be easily summarised as follows: *monetary structures protract, replicate, and strengthen subordination*, so that members joining the monetary union in an asymmetric position do not in fact converge but remain subordinate, via the structure of the monetary and financial system. In other words, the initial subordinate position of member state at the moment of

integration affects the mode of integration through the infrastructure built in the Union and the behavioural changes in domestic (private and public) agents and in inter-class relations.

Such subordination will appear in different ways, amongst which the tendency of using intermediaries located in a non-subordinate jurisdiction for transactions between the subordinated jurisdiction and agents outside of the Union and the tendency of liquidity to flow towards non-subordinate jurisdictions both for transactional and non purposes. An asymmetric and tiered infrastructure creates automatic mechanisms of subordination to appear and be reinforced with or without agency, given that monetary integration of nation states has proven to require a passive approach based on common grounds in the own interests of member states rather than a proactive approach based on the unification and creation of infrastructures aimed at rebalancing subordinate tendencies.

Monetary integration progresses along different segments at different speeds, meaning that the same time a region like the EMU is subject to unification tendencies only in certain areas (liquidity flows for example), with others failing to unify or even integrate. In turn, this means that whilst certain areas/markets can see convergence and the progressive unification, others experience fragmentation and subordination as the monetary integration deepens, leading to a persistent division between subordinated and non-subordinated ('core') members. Such division is not agency-based, but infrastructure-based in that subordination is a structural feature of a monetary union that seeks to integrate rather than unite member states, and it is reproduced precisely in the mode of integration that leads not only to subordination as a regional structural feature but also as a re-shaping of domestic practices and inter-class relations, giving rise to a mode of integration in the monetary union that gives subordinate outcomes. Subordination, which in itself hinges on the persistent structural fragmentation of the EMU, is not a temporary condition but the very essence of the European mode of monetary integration.

3.4 Theorising structures in the EMU: the synthesis between CMF/MV and Marxist Monetary Theory

A pillar of this work is the literature on financialisation and specifically on financialisation in developing countries, which developed from an early and implicit reconciliation of the imperialist tradition with the new study of financialised capitalism. The

experience of the subordinated members of the Eurozone provides significant support for the subordination strand by showing that subordination can be a feature of a system or structure, which then becomes financialised, leading to particular forms of financialisation based on the domestic inter-class relations and the external constraints (and opportunities) offered by the subordinate position.

Out of the financialisation literature comes the theorisation of power and hierarchy in international markets, as put forward recently by the financial subordination literature (Alami et al., 2022). Such phenomenon is defined as a feature of EMEs integrating in the world economy, which is recognised to be inherently ‘uneven and hierarchical’ (p.3) and propagated through ‘money and finance’ (p.4). The present work argues that financial subordination is not only a feature of the international capitalist system but also of closed systems such as monetary unions, in which integration and unification intertwine. This research focuses on dimensions of subordination that are specific to the EMU and thus have been neglected by the Latin American Traditions, Post-Keynesian economics, and most Marxian accounts of finance in developing countries, namely the importance of monetary structures.

For the financial subordination literature, the issue of technical infrastructures and of specific forms of structural fragmentation is less pronounced because the international monetary and financial system is made of connected but legally and formally separated national systems and infrastructures. Consequently, the analysis of technical and structural features of financial systems occupies only a marginal role, often relegated to the use of foreign exchange reserves and other ‘forced’ transactions.

On the contrary, the focus on a monetary union allows the study of power through structures and of the role of (infra-)structural set-ups on the countries and classes involved. The EMU is a project sold on the idea and theory of *unification* rather than *integration*, which aims at more than the simple connection of separate infra-structures, but at their unification and replacement with common and single ones. In other words, the shaping of the monetary union relies not only on agents or classes, but also and especially on the process of unification of the (infra-)structures that dictate the shape of the union, of its common mechanisms, and of its common constraints. It is the structure that can be set up to require a core, not a hegemonic core that sets up the structure, and this is especially true in the case of the Eurozone and the single and common currency.

Theorising structural hierarchy in the EMU means understanding the structures within which agents act, which entails assessing the flows of capital and money across jurisdictions, the hierarchal tiering of official and private balance sheets, the official and private market-making infrastructures, the fragmentation of markets and instruments, and ultimately the tensions between integration and fragmentation.

The hierarchical nature of balance sheets is known within the Money View approach (Mehrling, 2013, 2020) and endogenous money theories, though the concepts of hierarchy applied to money and balance sheets has been present, more or less explicitly, in Marxian literature for longer (Lapavitsas, 2003). The hierarchical nature of balance sheets and of money –understood as the tool to access the specific balance sheet issuing such money– implies two consequences: first, that different monies exist with distinct features and ‘value’,⁶ although they may have the same name (for a Marxian account of this phenomenon see Labridinis, 2014), and second, that there exist different prices of the different monies arising in the different markets such monies are involved in (for an early account see Mehrling, 2013).

Within the context of the EMU, hierarchical balance sheets acquire considerable significance if such hierarchy is shaped by the location of the balance sheet in specific jurisdictions, entailing that a new price arises: one of cross-border inter-jurisdiction exchange (i.e. the exchange rate between the national *legacy currencies* that have been replaced by the euro) which is fixed by definition at par. Hierarchical, jurisdiction-based balance sheets require a mechanism to support the par across legacy euros, which is bound to experience stress in tight market conditions when the liquidity of money dries up at the bottom of the hierarchy, thus requiring elasticity.

Given such hierarchy of balance sheets and the possibility of a ‘flight to safety’ in the form of a ‘flight to safe euro-issuing balance sheets’, a feature of the hierarchy in the EMU should be found in the flows of capital and of money across jurisdictions. Contrarily to the traditional dependency argument that capital flows from core to periphery and that such export of capital is the tool through which dependency and imperialism is carried out, hierarchy (and subordination) in the EMU is represented by capital and money flows that do not have to be unidirectional in either gross or net terms. Liquidity flows, whether generated by financial investments or trade funding or other activities, must follow a specific path through the higher up balance sheets of the EMU in order to acquire safety and ability to exit the EMU. In other words, the hierarchy of the EMU should be appreciated by seeing liquidity flowing from the periphery or subordinated members to the ‘core’.

Thus, there is an infra-structural root of the hierarchical tiering of balance sheets that lies in the coexistence of formally equal balance sheets like the NCBs, which are however not perceived as issuing the same kind of euros given that the liabilities of a specific NCB are preferred over the same liabilities but issued by another NCB. Only the transfor-

⁶The different monies have different values in terms of whether they are final means of settlement or not, namely whether they discharge the payee’s liability or not.

mation of the payment system (TARGET and TARGET2) into a tool for integration and for the de facto implementation of a monetary regime prevents the hierarchical feature of institutional and private balance sheets from colliding with the single and common currency by providing unlimited guarantee to the par exchange rate across liabilities issued by different jurisdictions.

In a similar fashion, one key dimension and precondition for the presence of hierarchy in the EMU is the presence of fragmentation across market segments, both in terms of infrastructure and of securities traded. Such fragmentation is necessary because hierarchy requires a degree of integration of financial and monetary structures to allow for the flow of liquidity, but at the same time a persistent failure to unify all monetary and financial structure as to have different tiers. This concept is associated to the idea of ‘selective integration’ put forward in Chapter 7, and highlights the difference between *integration* and *unification*: the former entails the creation of ‘bridges’ or links between separate systems, whilst the latter implies the replacement of single systems with a new, unitary one. The structural features of the EMU and of the process of monetary unification point at a Monetary Union that is not unified but integrated, with single markets and infrastructures integrating at different speeds. Money markets, the beating heart of modern financial systems, encapsulate this issue of fragmentation and selective integration in the best form.

Once such hierarchy and tiering of the monetary jurisdictions is defined and outlined,⁷ it is possible to develop the argument in two directions: on the one hand, what such hierarchy implies for the appearance of subordination at the domestic level, and on the other hand, how such hierarchy is reproduced through subordination. Whilst the two can be looked at separately, an introspection on how the hierarchy is reproduced can be carried out from both a regional and a domestic perspective, implying that the reproduction of the regional hierarchy hinges also on the domestic evolution of member states. For this reason this work puts forward a theory of subordination and one for Subordinate Integration, or the reproduction of subordination.

⁷Monetary Jurisdictions exist in any monetary system with a degree of decentralisation, but become even more important when monetary union is the driver of the financial, fiscal, and political union as in the case of the Eurozone.

3.5 A further dimension of monetary hierarchies: the ‘Official-Private’ distinction

Section 2.4 of the previous chapter reviewed the literature on monetary hierarchy and laid the foundations for one of the key contributions of this work: the conceptualisation of a further dimension of monetary hierarchies, namely the tension between *Official* and *Private* hierarchies. The importance of the balance between private and official sides of money specifically in the Eurozone is established in Sahr and Müller (2022), highlighting the ‘privatisation’ of money creation. Whilst Chapter 5 examines the presence and characteristics of monetary hierarchies in the EMU, this section aims at providing the conceptual foundations of the official-private dimension. This is not to be understood as an alternative to the theories discussed, but as an additional facet of monetary hierarchies transcending the division between domestic and international –though by no means mutually exclusive.

The conceptualisation of the official-private monetary hierarchy arises from the experience of the European countries and banks with the European Currency Unit (ECU) in the 1980s and 1990s, where two forms of ECUs were in circulation: one issued by official European institutions and held by central banks, and one issued by banks for other monetary and financial institutions, primarily private but without a legal provision excluding central banks. The definition of this additional ‘axis’ of monetary hierarchies is summarised in Table 3.1, where the columns represent the origins of the demand for money and the rows the nature of the issuer of the money demanded. On the one hand, *official hierarchy* is reflected in the demand for official money-liabilities –defined as Foreign Exchange Reserves (FX reserves)– by other central banks (i.e., official demand for official liabilities).

Private hierarchy, on the other hand, is derived from either the market-based private demand for official liabilities (for example, bank demand for central bank reserves), or by the private demand for private liabilities (for example, bank demand for other bank liabilities denominated in the latter original unit of account). This seemingly broader basket for the definition of the private hierarchy arises from the fact that private liabilities are domestically traded at par with official liabilities –especially in the era of almost unlimited Lender of Last Resort (LoLR) and floor regimes of monetary policy, thus entailing that a private agent demanding private money-liabilities is implicitly trading the possibility of exchanging the private liabilities with official ones. Ultimately, official demand for private liabilities is included even though it is uncommon. For this reason, ‘market-based’ may be used as a property of the private monetary hierarchy.

To help conceptualise this novel dimension of the monetary hierarchy, the re-

minder of this section explores it at the general level, without a specific application to the Eurozone case.

	Official Demand for...	Private Demand for...
... Official Liabilities	Official Monetary Hierarchy	Private Monetary Hierarchy
... Private Liabilities	Private Monetary Hierarchy	Private Monetary Hierarchy

Table 3.1. The Distinctions between Private and Official Monetary Hierarchies.

Source: Author's own elaborations.

3.5.1 The international level: official–private hierarchies and quasi world money

Understanding the forms of the currency hierarchy at the international level requires the distinction between the private market-driven demand for different currencies and the public demand derived from either the formal institutionalisation of a monetary hierarchy or the private demand itself (Krugman, 1984; Cohen, 1971; De Conti and Prates, 2018). The current monetary system revolves around the US dollar both in terms of private and official demand, though it is not institutionalised at a supra-national level given the existence of SDRs. Thus the hierarchy is simple: the USD as the quasi world money, followed by the Euro as the proximate alternative, followed then by other key currencies such as the British pound, Swiss franc, Japanese yen and recently the Chinese renminbi.

The private market-based hierarchy

The role of the US dollar and, to a lesser extent, of the euro as the key currencies used by the private sector can be appreciated by looking at the denomination of international debt securities (Figure 3.2) and at cross-border bank positions (Figure 3.3). The USD is the main currency of denomination for both, and has been increasing over the last three decades. As of end 2021, \$14 of the total \$25 trillion of outstanding international debt securities were denominated in USD, whilst more than \$15 trillion of the total \$32

trillion of cross-border bank claims were denominated in USD.⁸ Similarly, the denomination of international payments shows two leaders with the euro and the dollar both accounting for around 40-45% of international payments.⁹ To complete, roughly 50% of trade invoicing is denominated in US dollars, whilst $\frac{4}{5}$ of foreign exchange transactions are made against the US dollar (Davies et al., 2020), meaning that currencies are traded in the FX market against dollars more than with other currencies.¹⁰

Outstanding stock of international debt securities by currency of denomination
2011Q4-2021Q3; trillions of US dollars

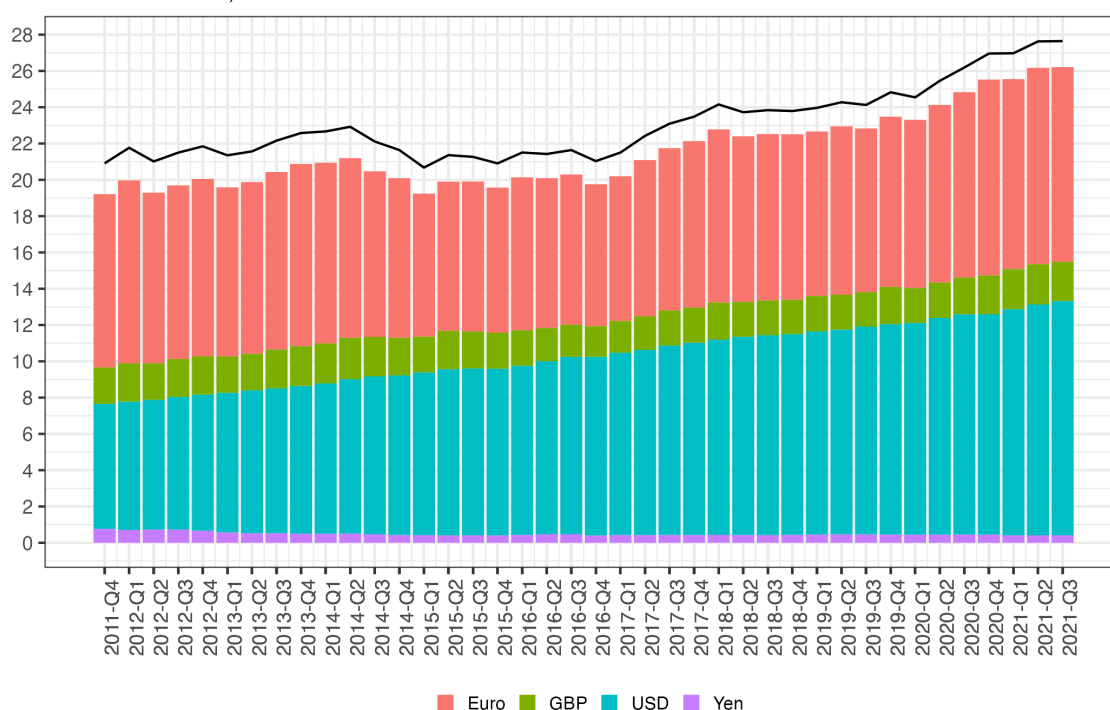


Figure 3.2. Outstanding stock of international debt securities by currency of denomination (tr USD), 2011Q4–2021Q3.

Source: Author’s own elaborations on BIS Data.

The monetary hierarchy arises from the private demand for credit money denominated in the quasi world money, in this case the US dollar, even if this money is not a liability of the Federal Reserve –i.e., it is not an official balance. Actors exchange credit

⁸The increasing cross-border claims denominated in Euros is cause by the accounting of intra-Euro area cross-border bank claims, which rose up to the Eurozone crisis and then decreased.

⁹‘International Payments’ can be deduced by looking at SWIFT messages offered by Bloomberg. In October 2020 the Euro became the leading currency for international payments.

¹⁰The data follows the 2020 CGFS Report by the BIS that itself draws on multiple sources and time frames. ‘Trade invoicing’ follows Gopinath (2015) estimations.

liabilities that do not necessarily need to be issued by a central bank (reserves or cash), but that can be privately issued denominated in USD. This is an example of the form of private monetary hierarchy, as such tiering does not rely on the presence of central bank money. The observation of a (international) hierarchy of credit monies was also made by Keynes, who argued that as ‘the logic of bank money implied the hierarchical structure of banking systems. [...] that the same logic could be forwarded to international settlements, if a third stage was built in linking national banking systems together’ (Aglietta, 2004, p.54).

At the same time, however, the private market-based hierarchy requires the presence of a hierarchy also amongst the official central bank monies. Indeed, especially during crises, behind such private demand-driven currency hierarchy there needs to be an institutional or public one that guarantees the access to quasi world money liquidity to guarantee the solvency and liquidity of the parties involved in the transactions. The role of central banks as Lender of Last Resort (LoLR) acquires an international dimension for the monies at the higher end of the monetary hierarchy, as the liquidity premium attached is also a consequence of the possibility of accessing the central bank balance sheet and thus transforming the private into a public liability (money) at par.

Ultimately, the hierarchy need not be created as a formal institution as discussed by Keynes with his ICU proposal or as enforced with the Bretton Woods System, but it can operate as a ‘non-system’ (Ocampo, 2017). Such non-system reflects the national origin of the quasi world money replacing the institutionalisation of world money; the only structural requirements are the combination across payment systems and the liberalisation of monetary and capital flows, whilst the operational requisite is the provision of liquidity used for international settlements. This, in turn, is the most fundamental aspect of the international monetary hierarchy in the time of fiat money, which confers the role of organising principle proper of domestic of money not only in an incomplete way upon the currency per se, but also upon the balance sheet of the hegemon’s monetary authority, which is the ultimate supplier of quasi world money liquidity.

The official/public hierarchy

The public form of the currency hierarchy is intertwined with the asymmetric levels of monetary sovereignty of different countries, not only as its primary cause, as argued by Keynes (Keynes, 1935, 1969; Prates, 2020). ‘Official’ refers to the source of the demand for quasi world money balances, which is to be found in the official sector (i.e., Central Banks and governments), and the form of quasi world money itself, namely

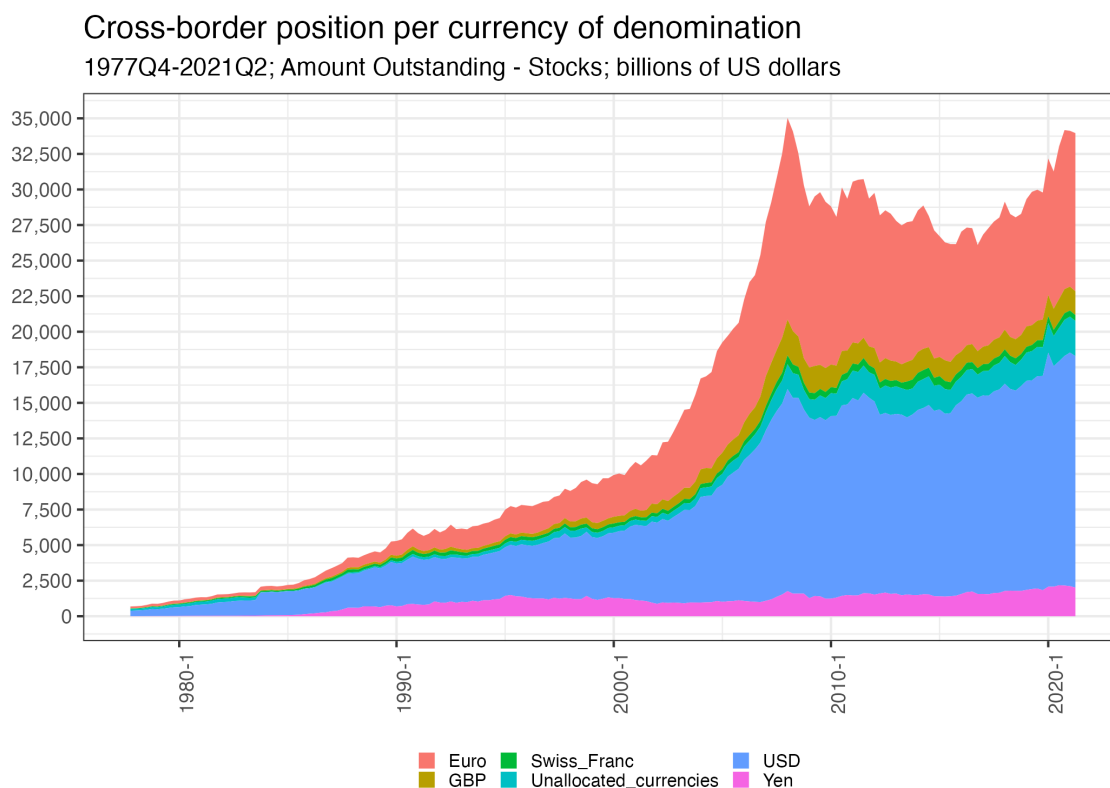


Figure 3.3. Banks' Cross-border position per currency of denomination, Amount Outstanding - Stocks (bn USD), 1977Q4–2021Q2.

Notes: Type of reporting institutions: All reporting banks/institutions. Counterparty: All sectors.
Source: Author's own elaborations on BIS Data.

liabilities of the core's monetary authority.¹¹ Such official demand is primarily shown by FX reserves balances, which underlines the role of the quasi world money as the primary store of value in an international monetary system characterised by the coexistence of multiple national currencies with different levels of liquidity premia. These currencies have in common that they are all central bank credit money.

The peculiarity of the current international monetary system lies in the absence of a supra-national reserve asset that is not credits-driven, given that gold was removed from such a position with the end of Bretton Woods and the IMF's SDRs have failed to take off. As Figure 3.4 shows, there is a hierarchical tiering of key currencies used as store of value as well as means of payments: the US dollar at the top with a consistent share

¹¹SDRs are more commonly used to acquire dollar liquidity in times of need, thus storing value but not acting in the other roles of money.

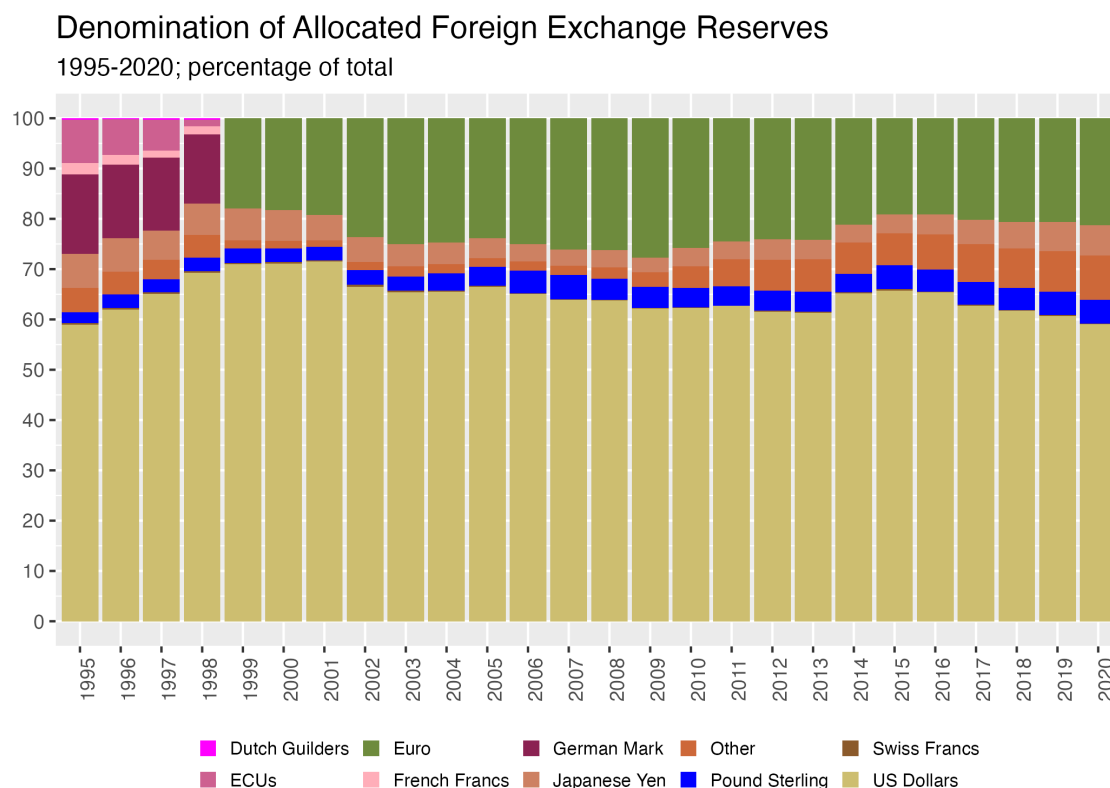


Figure 3.4. Denomination of Allocated Foreign Exchange Reserves (share of Allocated Reserves), 1995–2020.

Notes: *ECU (European Currency Unit) balances refer to both the ‘Official’ and the ‘Private’ ECUs, hence claims on both the European Monetary Institute and on private banks, primarily in the form of ECU-denominated bonds and deposits. The rapid decline of ECU in the graph between 1998 and 1999 represents the reconversion of Official ECUs into US dollars and Gold, with the remaining ECUs in 1999 depicting the private ECUs reserves.

Source: Author’s own elaborations on BIS Data.

above 60% since 1995, some European currencies then replaced by the euro account for 20-25% of the total reserves and then small shares allocated to GBP and Japanese yen; the recent increase in ‘others’ reflects the rapid rise of China and the use of the renminbi by its trade partners.

The accumulation of FX reserves and of official liabilities of the reserve asset issuers shows the form that the currency hierarchy takes. Two main features should be remarked: first, the key currencies are issued by countries (or the Eurozone) that have large domestic markets, integrated trade patterns, and deep financial markets –hosting

the largest financial institutions;¹² and second, these currencies coexist in the same world-economy even if there is a concentration in the two key currencies used –the USD and the euro.

3.5.2 The liquidity of monies

The technical functioning of a monetary system hinges on a payment system in which a money plays the role of means of payment. In a domestic ‘modern’ economy, such role can be played by credit money issued by commercial banks (i.e., deposits) for transaction in the retail markets and occasionally in the interbank market too; alternatively, the use of central bank money is used to settle interbank transactions. Crucially, only the central bank fiat money can settle a payment with *finality*. Thus, two different forms of money play the role of means of payment, namely commercial bank credit money and central bank money, each being issued in different ways. The liquidity of these two forms of money is provided in different ways and in different quantities: whilst the former is endogenous to the banking system and to the operations of credit, the latter is a policy choice dictated by the monopoly of issue detained by the central bank.

At the international level, the payment system requires the interaction amongst national payment systems, amongst banks and correspondent/counterparty banks, and a form of money to settle the cross-border balances with finality. The lack of a means of payment characterised by finality at the international level arises from the fact that modern central bank money remains a unique form of credit money issued by the central bank and backed by the state. Outside the borders of the state’s sovereignty such money remains a promise to pay and thus it cannot be a ‘means of discharging debt finally’ (Rossi, 2007, p.91). Nevertheless, the ability of making such a form of money accepted for international transactions reflects the role of the issuing state-central bank in the world economy (Lapavitsas, 2013a; Labridinis, 2014): the presence of quasi world money dictates the monetary structure of a tiered system shaped by a core issuing such money and a periphery being in a subordinate position and having to secure such form of international balances.

The provision of liquidity denominated in quasi world money, thus, is crucial to the working of the monetary system primarily as a means of –international– payment, but also due to its acquired role as store of value. Such provision revolves around the economic

¹²The rise of the Chinese Renminbi coincided with the expansion of Chinese banking institutions (ICBC, China Construction Bank, Agricultural Bank of China, and Bank of China) to become the largest worldwide (for example, ICBC held in 2021 twice the amount of Tier1 capital held by JP Morgan, the first non-Chinese institution in the list).

activity of the core country, both on the trade and the financial side, in which liquidity needs to flow out of the quasi world money-issuing country to sustain the demand from the rest of the world (Eichengreen, 2019). Crucially, for it to flow out, the core country needs to be running BoP deficits, which gives the possibility of using either the trade or the capital ‘channel’.

A third channel, which may indirectly shape the capital account position of the core as well, to provide liquidity was theorised by Kindleberger (1981) and Despres et al. (1966, 1981) who stressed the role of financial centres and of financial intermediation, both primarily present in the core country, as the sources of temporary liquidity. Temporary liquidity is understood as the more or less continuous flow of quasi world money funds and assets between the core and the periphery through the borrowing of long term capital in the core’s deeper financial markets, and the lending of short term funds in terms of deposits in the core’s banking system (Bordo, 1992), a practice that is known as ‘maturity transformation’ and that is carried out as part of the role of the core as a financial intermediary.

The store of value role of quasi world money is particularly important for countries outside the core because of the added incentive to hoard quasi world money. Indeed, whilst the accumulation of FX reserves is primarily driven by the precautionary need to store up foreign exchange to be used in the case of capital flow reversal (Ocampo, 2001, 2017),¹³ the possibility of also storing value by hoarding foreign exchange and quasi world money denominated assets (i.e. the core country’s securities such as government bonds) increases the incentives to demand (and hoard) liquidity.

Nevertheless, the increase reserves of quasi world money entails costs for the country storing them because of the low yield offered and, more importantly, because of the domestic policies needed to sterilise such hoarding and the subsequent changes in the domestic market structure. This is typically characterised by the issuance of domestic public bonds with interest rates higher than the ones on the core’s securities accumulated and the developing of domestic financial markets leading to domestic financialisation characterised by the subordinate position of the ‘non-core’ quasi world money accumulators (Lapavistas, 2009a; Powell, 2013). This can be seen clearly in Figure 3.5, which depicts the increase in FX reserves (currency and other assets) of the selected emerging markets countries.

Thus, the asymmetry between core and non-core countries with respect to the provision and hoarding of quasi world money highlights two features of a monetary world

¹³Developing countries following the neoliberal precepts of financial and trade liberalisation usually become subject to large and volatile capital flows.

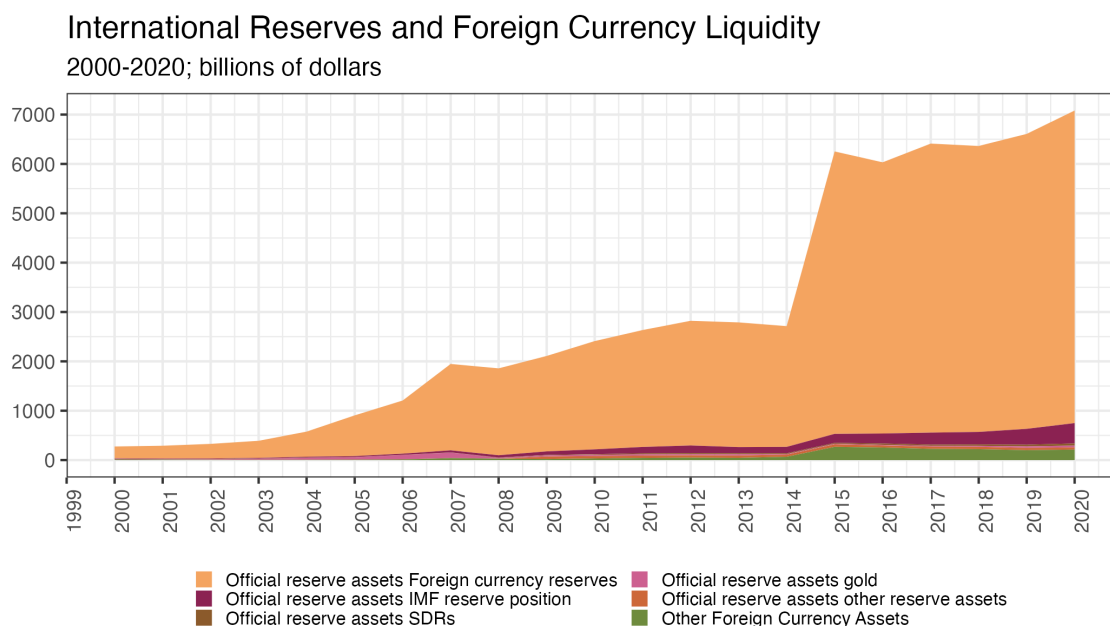


Figure 3.5. International reserves and Foreign Currency Liquidity (bn USD), 2000–2020.

Notes: Countries Selected: Argentina, Brazil, Chile, China, Colombia, Czech Republic, Hungary, India, Indonesia, South Korea, Malaysia, Mexico, Peru, the Philippines, Poland, Russia, South Africa, Thailand, and Turkey

Source: Author's own elaborations on BIS Data.

economy. On the one hand, the hierarchical positioning of countries in the production sphere spills over in the monetary system by defining the role of the domestic currency beyond national borders. This entails that money is a catalyst for the reproduction of subordination, as the integration in the world economy of a country will be shaped by its subordinate position in capital relations towards a subordinate position in monetary terms.

On the other hand, the specific architecture of the monetary system is the key tool that perpetrates the subordinate position of non-core countries by recreating Core-Periphery structures at the monetary and financial level. The architecture, in other words, removes the reliance on agency for the explanation of Core-Periphery tensions and subordinate relations, and replaces agency with the structural features of monetary exchange. The features and tensions of the monetary hierarchy are the symptoms of a structural feature of a monetary system that inherently relies on the tiering of agents and instruments.

3.6 The way forward: the data and key arguments of monetary subordination in the EMU

Each chapter of this work follows the theoretical framework of Classical Political Economy in their tackling of specific and distinct issues. At the same time, the chapters belong together to the conceptualisation of the multidimensional relations of subordination, and thus are building blocks for the conceptualisation and empirical testing of subordination in the EMU. The aim of the different methods employed is to reconcile the theoretical elaborations and abstractions with the data available. Similar to the novel conceptualisation of accounting treatment of repo offered in Murau, Goghie, and Giordano (2024a), this research develops methodological approach built upon the theoretical considerations and founded in the empirical information available, without abstracting to a degree that removes from reality.

Far from being only quantitative in style, this research adopts a mixed method approach based on quantitative data, balance sheet methodology, and qualitative data. The combination of these distinct methods is based on the complementarity existing in using different approaches to the same topic (Bryman, 2006, 2008), and is congruous with the Political Economic research agenda. The mixed method approach is further substantiated by the three literatures explored above as the starting point for understanding money and monetary relations, and together allow for a cogent and complete analysis of monetary subordination as a multidimensional structural phenomenon.

The qualitative methods employed refer primarily to either archival research of BIS records, or analysis of the legal documents of the European Monetary Institute and later ECB. Whilst it was asked to acquire some publicly unavailable documents, these were not allowed and prompted the research to focus primarily on the legal texts shared by the ECB and in interpreting the references of former members of the ECB in academic papers, especially with regard to the topic of Novation (Chapter 5).

There are several lengthy publications written in the 1990s as part of the pathway to the EMU that have been neglected when assessing the actual developments of the Eurozone monetary architecture. Nevertheless, these reports outlined specific requirements or doubts about the viability of sub-optimal structures for project Euro that are found to be congruous with the theory of monetary subordination outlined here: though subordination was not the word used, it is clear that asymmetric effects of the common and single currency were imagined if the monetary and financial structures of the Eurozone deviated from the requirements of a *monetary union*. Such publications are helpful in substantiating the claims made in Part II.

In terms of the quantitative method, the collection of the data followed from the abstraction of balance sheets and the goal of tying together stylised balance sheets and empirical data, an effort that has never been carried out systematically before in the literatures explored. Balance sheet methodology, ultimately, consists in the representation and conceptualisation of the transactions and financial relations amongst agents, requiring both quantitative background (analysis of real balance sheets) as well as non-quantitative foundations. Balance sheet methodology is not only new, but has the tendency of being developed ad hoc for specific papers/topics, thus allowing flexibility in terms of the specifications. The balance sheet methodology developed in this work is closely related to the one developed in collaborations outside of the specific research on subordination, such as Murau, Goghie, and Giordano (2024b), Giordano and Pulieri (forthcoming), and Giordano and Goghie (2023), and reflects the importance I place in making balance sheets ‘reality-specific’, and the data ‘balance sheet-coherent’.

In terms of the empirical material, some portions of data was not made available and thus is missing from the research. This is valid especially for data concerning financial markets and more precisely short-term markets, mainly due to privacy concerns. The full extent of the data collected by the ECB, which was shown in the bulletin or other internal publications, is not open to the public and is not shared even upon request. The same is valid for the minutes of the meetings of the ECB council, which should have been considered differently under Freedom of Information Requests. The avenue of proceeding with such legal challenge to acquire confidential documents was explored unsuccessfully for Chapter 5, though upon further research and a preliminary request, such confidential documents were declared to be non-existing and thus impossible to be disclosed.¹⁴

Similarly, there are limitations to the data collected by the ECB, especially in terms of the money market survey used in Chapter 7. I was made aware of these limitations when I discussed with International Capital Market Association (ICMA) during interviews –under Chatham House Rules– where I brought up the discrepancies between the data shown by the ECB and the one shown by ICMA in their yearly reports. However, being ICMA a private organisation, I was not given permission to access the data except for what I could re-construct from the published reports.

In other words, this research had to struggle with access to data that was known to be existing, but kept within the Institutional walls. A clear example is the TARGET data, which is shared only in net format. Internal publications by members of the ECB or

¹⁴In relation to Chapter 5, a paper was coauthored with Steffen Murau (Murau and Giordano, 2022, 2024) for which requesting the minutes of the ECB Council meetings was explored for the introduction of Novation to settle TARGET balances. Such legal challenge was then aborted when we were informed that there were no documents to be released.

NCBs can make use of wide datasets of gross and granular data (granted through a non disclosure agreement) that is not made available to scholars or researcher from outside the Eurozone bodies. For example, one argument originally put forward in this work but that had to be removed because it remains partly speculative due to the inability of securing the necessary data is the fact that TARGET imbalances arise from microeconomic decisions in a macroeconomic environment, thus needing to be examined as both. Although some help was found at the statistical desks of the Banca d'Italia and Statistical Data Warehouse (SDW), such help only counted toward informal agreeing or disagreeing with the questions posed, without offering satisfying answers and providing the data requested, neither at all nor in limited format.

As for the data this research managed to collect, consolidate, and use, several novel datasets were built harvesting data from European institutions, the BIS, and national statistical bureaux. Whilst all chapters make use of quantitative data, two are most focused on comparative studies, Chapter 6 and 8.

In the former, the large decompositions of the Balance of Payments employed in Chapter 6 sought to replicate, improve, and complete Minenna et al. (2018), who do not provide details about the process or data. The data used for the analysis put forward was retrieved from three main sources: the ECB's Statistical Data Warehouse, the NCBs' statistical databases for the BoP items, and IMF data for the composition of Portfolio Investments. Appendix to Chapter 6 shows in detail the methodological breakdown of the sectors and the origins of the data, as well as the aggregation rules.

For the latter, domestic inter-class relations are studied to analyse the financialisation of Eurozone Economies in light of Monetary subordination to assess the presence of a subordinate behaviour of domestic inter-class relations. This Chapter uses Flow of Funds (FoFs) data for six main Eurozone economies (Germany, France, the Netherlands, Italy, Spain, and Greece) to account for the flows of money and financial assets across three main sectors: Households, Non-Financial Corporations (NFCs), and Monetary and Financial Institutions (MFIs). Such FoFs data and methodology allow for a comprehensive assessment of the changing compositions of financial assets (i.e., 'balance sheets') of the selected sectors to show first the effects of financialisation on the individual countries, and second the comparison within the key Eurozone economies. Thus the large figures employed in the chapter replicate balance sheets in an empirical manner.

This analysis is then coupled with two further elaborations. One the one hand, deeper empirical analysis into subordinate financialisation in the EMU periphery is carried out by looking at specific evolutions of NFCs and MFIs. On the other hand, I explore cross-border bank exposures both per domestic sector and per country of residence of the foreign banks. Such empirical exercise shifts the focus of the chapter from the subordinate

financialisation focus on NFCs to the role of banks and cross-border claims and liabilities in representing and causing subordination within the EMU. For such exercise, the data was collected from national databases, the ECB, and the BIS, which offer thorough datasets on banking statistics that are rarely used in the extensive way achieved here, especially combining different datasets to map the banking flows.

3.6.1 The thread of the chapters

The reminder of this work is divided into two parts: Part II focuses on the establishing the presence and form of monetary subordination in the EMU, whilst Part III puts forward two studies of the *consequences* of said subordination. Such structure is warranted by the need of finding subordination first to then look at its effects, a question specific to the Eurozone given the alleged equality of its members. As explained, the need for a ‘part II’ would not be necessary in the same extensive way if the subject of analysis were Emerging Market Economies in the asymmetric and tiered global world-economy.

The thread of the argument is, simply put, *if, how, and why* member countries in the EMU seem to experience very asymmetric paths of integration that lead to the creation of intra-EMU imbalances. Such a puzzle can be divided into two components: on the one hand, the different *behaviour* of the countries –and in a Classical Political Economic fashion of national and transnational classes– subject to the same currency and monetary architecture; and on the other hand, the structure within which such countries and classes interact. In other words, it is necessary to first establish asymmetric and hierarchical tiering of participants in the structure of the Eurozone, to then proceed with the analysis of the different behaviours, which are argued here to be subordinated in line with the broader literature on EMEs.

Finding monetary subordination in the EMU is not simple. Chapters 4, 5, 6, and 7 delve each into one of the three dimensions of monetary subordination that I conceptualised above (Section 3.3). First, Chapters 4 and 5 analyses the nature of money in the EMU and establishes the presence of competing monetary hierarchies within the Eurozone, one Official and one Private. Clearly defined jurisdictions –and the balance sheets at each apex– can then be tiered in a hierarchy.

The cross-border interactions of these jurisdictions is analysed in Chapter 6, which first looks at the appearance of subordination in the liquidity flows, and then expands on how the working of the single and common currency facilitates the asymmetric development of imbalances and prevents the Eurozone from breaking down. This chapter begins also the introspection into the behaviour of actors by looking at the sectoral decomposition of the Balance of Payments and more closely the class decomposition of portfolio

investments, which are found to be particular drivers of the intra EMU imbalances.

However, to arrive to the conclusion that different money-instruments are hierarchically tiered, one must depart from the idea of a *union* and of a single and common currency, and find monetary jurisdictions as well as financially unitary markets. This is found to be the case by examining the process of *fragmentation* in the Eurozone, which is argued to be structural in Chapter 7. To be tiered in a hierarchy, units or jurisdictions need to be clearly defined in their unitary nature –i.e., fragmented.

These four chapters allow for monetary subordination to appear as a structural feature of the EMU. The task is then to assess the consequences of subordination for the countries involved, which is achieved in two different ways.

On the one hand by comparing the experience of key Eurozone countries, it is possible to evaluate the similarities and differences in the form of financialisation –given that the euro is first and foremost a *financial* project– compared to the subordinate financialisation found by the literature for EMEs. Chapter 8 carries out such endeavour and combines the study of inter-class behaviours (primarily by looking at Households, Non-Financial Corporations, and Monetary and Financial Institutions) with a further EMU-specific focus on the banking sector. Subordinate financialisation is found to appear in subtle ways in the EMU, particularly mediated by the national banking sectors. Subordination is, however, found to appear in subtle ways in the EMU: national banking sectors reflect subordination in a clear way by pointing at combination of domestic financialisation and cross-border exposures.

On the other hand, by looking at the process of integration for Italy it is possible to understand monetary subordination as a catalyst for the reproduction and deepening of subordination from a dynamic perspective (Chapter 9). It is shown that Italy enters the Eurozone in a subordinate position *vis-à-vis* the dollar-based international monetary system, and the eurozone architecture replicates such subordination but with a different ‘apex’ –the euro and Germany. In other words, the asymmetric starting position, coupled with the specific structure of the EMU gives rise to monetary subordination for Italy.

In conclusion, the next six chapters outline the three pillars of monetary subordination as a structural feature of the EMU, and then proceed with establishing at least two consequences, the replication of asymmetries via *subordinate integration* and the asymmetric features of financialisation affect by the monetary structure and the behaviours of national banks.

Part II

Structures of Monetary Subordination

Chapter 4

The European Currency Unit between Official and Private Monetary Hierarchies

4.1 Introduction

In the several iterations of monetary systems introduced in Europe since the London Gold Pool and the collapse of the Bretton Woods System, new forms of money have been artificially introduced, culminating with the creation of the single and common Euro. The European Monetary System (EMS) entailed the creation of the European Currency Unit (ECU). However, the ECU suffered from two inconsistencies: first, the existence of unrelated Private and Official forms of ECUs led to a monetary arrangement devoid of backstops provided by the central banks to commercial banks issuing ECU denominated deposits; second, the contingent backstop across central banks in the form of ECU-denominated foreign exchange reserves was neither automatic nor unconstrained, thus failing to properly act as backstop.

In terms of money-balances, the EMS system of fixing exchange rates and connecting individual and separate central banks via contingent provision of foreign exchange reserves is not fundamentally different from the working of the Eurosystem, given that euro-balances only allow access to the National Central Bank (NCB) of the jurisdiction they are located in. Technically speaking, one euro located within the Italian jurisdiction allows access only to the Banca d'Italia and not to other NCBs. The fact that euros then in practice are used smoothly across jurisdictions stems from the Eurozone's payment system –TARGET2– and the accumulation of TARGET balances by each NCB, as is examined in the next chapter.

Despite the technical similarity, the evaluation of monetary hierarchies in the Eurozone is complicated by the single and common currency, for euro-balances appear in the same form in multiple jurisdictions. Conversely, the system in place prior to the euro –i.e., the ECU– is a much clearer starting point to understand the forms and tensions of the monetary hierarchies in a regional monetary system, given that it combines a common, but not single, currency with the national legacy-currencies.

Hence, to understand the hierarchical tiering of the European monetary infrastructure, it is instructive to look into the European Currency Unit (ECU) as the predecessor of the single and common currency, and into the setup of the early EMU in 1998-2000, which was shaped by the decisions of the ECB Governing Council, amongst which Novation played a crucial role.¹

For this reason, the present chapter introduces the analysis of monetary hierarchies in the Eurozone by studying the ECU and the forms of the monetary hierarchy in a monetary system that saw the combination of national monies with a new synthetic one. In other words, this chapter applies the theoretical elaborations on the monetary hierarchies and the distinction between official and private established in Chapter 3 to the ECU to develop the lens that is used in the next chapter to analyse the existence and forms of hierarchies in the European Monetary Union (EMU). These in turn are peculiar in the EMU due to the single and common currency, blurring the differences across different euro-balances which appear to be distinct because of the ‘money-confusion’ occurring by using the term ‘euro’ to denominate a wide array of monies.

The ECU allows for the bipartite understanding of monetary hierarchy elaborated in Chapter 3: the Official and the Market hierarchy. The former can be defined as the hierarchy of money and of balance sheets of official institutions. These settle private payments with finality, and are demanded primarily by the official sector. In fact, as Section 4.2 shows, the Official ECU was a form of synthetic money introduced by central banks to be held only by other central banks. The latter, on the other hand, should be understood as the hierarchy of claims issued by private financial corporations, whether banks (the typical money issuers), or other non-bank financial institutions (issuing a form of money recently dubbed as ‘shadow money’, see Abad et al., 2013). As part of the market hierarchy it is possible also to include the private demand for official balances. This is usually intermediated by the correspondent banking system, which relies on bank deposits and thus implicitly on central bank reserves. And in this regard, the Private

¹The minutes of such meetings are not available to the public. The only way to access is through a ‘Freedom of Information’ request, which however share very little details on the actual meetings and tend to reiterate material already public.

ECU described in Section 4.3 represents money-balances issued by commercial banks and used by other financial and non-financial private institutions –though central banks are not forbidden from holding such private monies,² thus competing with other forms of credit-money issued by private agents.

The introduction of the ECU began with the launch of the European Monetary System in 1979, when the ECU took the place of the former European Unit of Account (EUA),³ maintaining its nature: the –official– ECU, much akin to the Special Drawing Rights (SDR) issued by the IMF, consists of the basket of currencies of EMS members, each with a different weight. The ECU, in essence, originated as a ‘synthetic’ form of money to be used by the EMS institutions and not to be traded or issued either as fiat or as credit money. Three main functions were attributed to the ECU (Louw, 2017; Bordo and Schwartz, 1987): unit of account for the currency parities within the EMS, unit of account for the mechanisms of credit and intervention in the EMS and thus means of settlement for the national monetary authorities intra-EMS liabilities and assets, and reserve asset. Vaubel (1980) further identifies additional roles of the ECU as the reference unit of divergence (for exchange rates), ‘as the solution to the nth currency problem’, and ‘as the nucleus of a European parallel currency’ (p.181).

The ECU was a particular form of quasi-world money, which was originally exclusively for the use by monetary authorities (national EMS central banks or other allowed holders), and thus insulated from the private markets. Similarly, the process of issuance of ECUs also characterises it as a development on previous forms of synthetic money, be it the Special Drawing Right (SDR) or the European Unit of Account (EUA). Ultimately, the privately issued ECUs gained a more relevant role than the official counterpart, but the two remained intrinsically related as shown by the re-joining of these two forms of money with the creation of the euro.

The chapter proceeds as follows. Sections 4.2 and 4.3 analyse the ECU and make the distinction between its private and official forms, the former issued by private agents whilst the latter issued by the Very Short Term Financing Facility (VSTFF). The functions and roles of the official and private ECUs are discussed in each section respectively, to show what form of money they were and hence in which hierarchy they should be placed. In fact, the theorisation of the official and private hierarchies of the previous chapter is

²Central banks in fact can and do demand private forms of credit money like commercial bank deposits for commercial purposes (i.e., payments) as well as just diversification of their assets.

³Different forms of European Units of Accounts had been used since the 1950 with the establishment of the European Payment Union. During the period of the Bretton Woods System, such Units of account maintained a 1:1 par with the US dollar by being convertible to the same amount of gold (1 EUA = 0.88867088 grams of fine gold).

underpinned by the study of the EMS. Ultimately, Section 4.4 shows the inconsistencies of the ECU, namely that it suffered from competition from alternative quasi-world money internationally as well as from the domestic currencies of the European countries. Such competition was eliminated with the introduction of the euro and its specific architecture, as discussed in the next chapter. Section 4.5 concludes.

4.2 The Official ECUs

Official ECUs were supposed to play the role of world money in terms of being the highest form of unit of account for members of the EMS, and was also supposed to supplement national currencies as Foreign Exchange instruments via the inter-central bank borrowing through the Very Short Term Financing Facility (VSTFF), which recorded ECU assets and liabilities against the borrowing and lending central banks respectively.

The technical creation of official ECUs was carried out by the European Monetary Cooperation Fund (EMCF) as a 3-month revolving swap operation with the EMS members' central banks. The swap exchanged 20% of the central banks gold and dollar reserves for the ECUs equivalent calculated at market price.⁴ The EMCF would be allowed to receive reserves from central banks of the European Economic Community and issue ECU-denominated instruments in return. The EMCF balance sheet was simple: reserves at each central bank denominated in their national currency and gold on the asset side, and reserves in ECU held for each of the central bank as deposit liabilities. Importantly, whilst this is how official ECUs would be created in normal times, it is the *contingent* VSTFF that plays the crucial role in funding cross-border interventions in times of crisis, as explained below.

This means that the ECU was not created as a system to implement foreign exchange liquidity, but as a system of claims on the EMCF by the EMS central banks denominated in ECUs and paid in dollars and gold (Vaubel, 1980). These claims, then, served as means of settlement alternative to gold or dollars for intra-central banks positions, thus becoming quasi-world money in the EMS by maintaining the same characteristics ('legal tender' and finality) as gold or dollars in international transactions.

⁴For the gold-ECU rate, the market price of gold was calculated as the average ECU price in the preceding 6 months. For the dollar-ECU rate was calculated based on the prior 2 working days.

The aforementioned function of unit of account for both exchange rate parities and for credit instruments in the EMS, acquired by the ECU *by law*, were applicable only to the official ECUs. The former entails that asymmetries within the post-war European monetary systems were recognised; the latter that in a regional monetary system there is a form of money that at the same time transcends the borders, acquires a form distinct from the national money, and that is not separate from the monetary arrangement and thus national monies. These point to the presence of a ‘new’ form of money, namely one with features of a quasi-world money within the circuits of a regional monetary union.

These functions can be interpreted as an effort to decrease the ‘exorbitant privilege’ of the anchor of a monetary system like the US dollar during Bretton Woods but introducing a *parallel currency* (Bordo and Schwartz, 1987, p.18). However, this effort did not prove able to de facto decrease the monetary dominance of the leading country in Europe. In the EMS, Germany retained the characteristic of maintaining a degree of monetary autonomy and independence despite being in a pegged exchange rates system proper of the ‘nth country’ (Reade and Volz, 2011). This was already present during the 1970s in the ‘Snake in the tunnel’, a period in which Germany was the only country able to meet its commitment to the peg without hampering its domestic monetary policy, primarily due to the large monetary base that was lesser affected by foreign exchange intervention vis-à-vis the rest of the European countries, especially the ones with weak currencies (Vaubel, 1980; Fratianni, 1980).

Weak currencies, on the contrary, underwent numerous and significant realignments within the monetary systems EMS/ERM. For example, the French Franc was realigned six times against the Deutsche Mark (DM) throughout the 1980s, and the Italian Lira depreciated by almost 40% against the DM through eight realignments between 1979 and 1987. Whilst the creation of the ECU de jure removed the nth currency issue, in practice the disparity in strength of the national currencies and monetary policies, coupled with the fact that the ECU was a composite synthetic currency based on national monies (De Grauwe and Peeters, 1978, 1989), did not remove the asymmetric effects of a system of (adjustable-)peg exchange rates. This led to a dichotomy between the core country –which remained Germany, in the case of the ECU not even the issuer of the quasi-world money, and the rest of the union.

The second function, namely that of unit of account (or denominator) for intra-EMS assets and liabilities, is crucial for the study of later systems to record such balances within the Eurozone (TARGET). This function came with the formalisation of the mechanism that was tasked with keeping the EMS together by providing foreign exchange liquidity to the countries needing intervention to maintain the bilateral peg under the ERM. The ready provision of liquidity was at the heart of the EMS and was carried out

through the EMCF –which played a role much similar to the ECB’s in the current ESCB– with the VSTFF.

Under this system, strengthened in 1987 with the Basle-Nyborg Agreement, national central banks would gain claims on and debts to the VSTFF denominated in ECUs in exchange respectively for domestic currency to be spent on the foreign exchange market to ease the pressure on the exchange rate. Table 4.1 shows the balance sheets of such provision of liquidity. In this scenario, the Banca d’Italia needs liquidity denominated in a Deutsche Mark (DM) to maintain the par, which is provided by the German Bundesbank through the VSTFF.

Failure by an EMS central bank of a strong currency country to be ready to provide liquidity in its own currency would translate in the mechanism of matching liabilities and assets depicted in Table 4.1 to break down, for the weak currency country to fail intervening in the foreign exchange market and thus to exit the band of the bilateral exchange rate. Eventually, this failure occurred with the ERM crisis of 1992, in which Germany was unwilling to provide unrestrained short-term quantities of Deutsche Mark (DM) to Italy (and the UK), which was driven off the peg.

Table 4.1 shows the balance sheet mechanics of public cross-border funding of payment imbalances utilised by the Banca d’Italia when it sought to borrow from the Bundesbank via the VSTFF. The need for the ECU-denominated instruments (in red) stems from the inability of the Italian Commercial bank to finance a payment to its German counterpart via traditional correspondent banking, and thus requiring the backstop of its own central bank, Banca d’Italia. In other words, the items in lack in Table 4.1 represent the private payment and lack of funding requiring central bank intervention (for a detailed working of cross-border payments in correspondent banking systems and how they may lead to the need of central bank funding, see Murau and Giordano, 2024).

The items in red point to the loan by the Bundesbank to the VSTFF (‘ECU claim at VSTFF’) and the loan by the VSTFF to the Banca d’Italia (‘ECU liability at VSTFF’). Crucially, these are no longer denominated in DM but ECU, thus improving the cross-border funding for deficit central banks as the interest rate charged –computed as the weighted average of the discount rates of the currencies in the ECU basket (Commission of the European Communities, 1984)– is lower than in the alternative case of a bilateral loan. It also distributes the exchange rate risk more evenly between both central banks because in case of an ITL devaluation, the value of the ECU would drop, affecting both the Bundesbank’s asset and the Banca d’Italia’s liability.

The unwillingness of a central bank to provide credit was primarily driven by two consequences of the VSTFF mechanism. First, the acquisition of exposure to market risk

of the Bundesbank by accepting ECUs, since a devaluation of the mark would entail a loss for the bank. Second, the effects of mark-denominated credit to be injected in the foreign exchange market on the monetary base would need to be sterilised in order to maintain control over domestic German monetary policy: only the acceptance of higher inflation rates in Germany (due to more accommodating monetary policy) could be coupled with VSTFF assistance to Italy (Garber, 1998). Inflation differentials, but also inflation *targets* by the individual central banks would determine capital flows from high inflation (and high inflation tolerance) to low (and low inflation tolerance) jurisdictions, and the VSTFF was supposed to preserve the exchange rates by facing off unilateral capital outflows.

Whilst Official ECUs remained scantily used together with the VSTFF (Szász, 1999), a different form of ECUs –the privately issued ECUs– gained a more relevant role than the official counterpart. The two forms of money remained, however, intrinsically related as shown by the re-joining of these two forms of money with the creation of the euro.

Very Short Term Financing Facility			
ECU claim on BdI		ECU Liability on Buba	
Bundesbank		Banca d'Italia	
ECU claim at VTSFF	BdI deposit (DM Reserves)	deposit at BuBa (DM reserves)	ECU liability at VSTFF
Other Assets	Deposits of German Banks Reserves (DM reserves)	Other Assets	Deposits of Italian Banks Reserves (Lira reserves)
	Other Liabilities		Other Liabilities
German Commercial Bank		Italian Commercial Bank	
Reserves at BuBa (DM)	Deposits	Reserves at BdI (Lira)	Deposits
Other Assets	Other Liabilities	Other Assets	Other Liabilities

Table 4.1. The Very Short Term Financing Facility

Notes: Example of the change in Balance Sheets of the central banks involved in the provision of foreign exchange liquidity under the EMS and of the balance sheet of the VSTFF (part of the EMCF). Source: Author's own elaborations.

4.3 The Private ECUs

Official ECUs were a peculiar kind of quasi-world money only used by formal EMS institutions and member governments, which thus was money only in part. This was complemented by the spontaneous rise of private ECUs, originally in commercial banks' books and successively being used in financial markets. Despite the two forms of money maintaining the same name ('ECU') and the same basket composition,⁵ they differed in use and nature. Although being born later, privately issued ECUs came to be the more important form of ECU of the two as early as the mid-1980s, as shown by the number of banks involved in interbank transactions denominated in –private– ECUs, around 200 by 1984, and the rapid increase of the use of ECU-denominated assets, from naught in 1980 to around \$9.4 billion ECU-denominated bonds and around \$30 billion of bank assets and liabilities in 1985 (Bordo and Schwartz, 1987; Louw, 2017). At the same time, the use of private ECUs was not limited to the euro-market participants, but saw increasing interest both from non-European countries (private and public) and in international bodies, such as the World Bank (Commission of the European Communities, 1984).

The rise of the private ECUs is interesting for two reasons. First, the use of ECU-denominated financial instruments differed between countries in the EMS in a manner that resembles a weak Core-Periphery division, and that began to be institutionalised in the 1980s only to later become the Eurozone as we know it. Second, private ECUs were a form of financial innovation and a private form of money that acquired a special position without de facto exiting national borders in the embryonic monetary union and by providing a channel to domestic financialisation. Both offer insights into the form of monetary integration defined in this work as 'subordinate'.

The incentives to use private ECU as a currency of denomination for money markets instruments were primarily found in the conditions of the domestic economy, which saw countries in a subordinate economic position vis-à-vis Germany, whose weight in the basket composition of the ECU was 37.37%, undergoing a process of financial innovation in order to use private ECUs. Only successively ECU became used as the unit of account for balance sheets operations of large and multinational corporations (e.g. the French Saint-Gobain) operating in multiple European countries and thus needing a harmonised unit of account.

The location of the European institutions in Brussels and Luxembourg led to the banks in these two places to be the first accepting/creating non-bank deposits denominated

⁵Private ECUs followed the specification of the currency composition of the official ECUs and thus both are interchangeable in the function of unit of account.

in ECUs and thus kicking off the use of private ECUs, which was also supported by the creation of clearing houses in Brussels and Luxembourg to trade and settle ECU-denominated bonds (Commission of the European Communities, 1984). At the same time, the interest rate differentials across the members of the EMS were the primary driver for the asymmetric adoption of ECU as a denomination for private financial and banking instruments.

In other words, the creation of private ECUs took place at first as a simple unit of account for new deposits akin to the opening of eurocurrency deposits today –i.e., simply by having the bank accept ECU as the denomination of the deposit. On the bank’s liability and asset management, this could take place by bounding together the amounts of national currencies making the ECU. Originally, ECU deposits implied the convertibility on demand of the ECU into the nine component currencies, effectively forcing the commercial bank to keep or acquire the national currency reserves making the ECU. However, the creation of private ECUs rapidly took the form of fully-fledged credit money, with bank credit and deposits increasing rapidly in the 1980s, pushing the ECU to being the fifth currency for use in international credit/deposits by 1986. As private ECUs became more widely used, payments and settlements in ECU also started taking place, allowing for an interbank ECU money market to arise and thus bring together borrowers and lenders of ECU instruments on a daily basis. Due to the nature as a composite money, repayments of ECU-denominated loans or debt securities could occur in ECUs or in the national currencies according to the proportions in the basket.

ECU-denominated loans presented themselves as attractive to countries with high nominal interest rates on the domestic currency because the ECU offers lower interest rates and exchange rate stability relative to the domestic currency. The twofold nature of private ECUs as a financial tool and a way to guarantee lower costs of interest is supported by the concentration in financial centres or EMS-members with weak currencies of lending denominated in ECU, 90% of which was carried out by banks in France, Italy, Belgium, Luxembourg and the U.K. in 1988 (BIS, 1988; Walton, 1988).

The discrepancies between the legal recognition of ECUs in the single EMS countries bear a significant consequence on the actors in private ECU markets and on the shape of said markets. Indeed, whilst ECUs were considered as foreign currency by most EMS national regulations either overtly or tacitly –U.K. and the Netherlands– (Louw, 2017), only West Germany did not consider ECU as such but as an ‘index-linked unit of account’ (Walton, 1988, p.510), and thus forbade it from use in the Federal Republic of Germany until 1987 to maintain control over money creation and Deutsche Mark money markets.

These different regulations entailed two outcomes: on the one hand, foreign exchange controls applied to private ECUs in the countries recognising it as a foreign cur-

rency, although this constrain was mitigated by the tendency toward the abolition of controls across European countries in the 1980s and '90s and by domestic regulations in France and Italy offering a special position to ECUs vis-à-vis other foreign currency. On the other hand, there emerged a feature of intra-EMS capital flows as driven by the role of different financial centres as mediators for financial transactions that is present, in a mutated version, in the current EMU. In this context, given the forbidding regulations on the use of ECUs domestically, German banks and companies used branches or correspondent banks located in Luxembourg to make transactions denominated in ECUs (Walton, 1988).

The rise of the private ECU as a kind of quasi-world money in the EMS is peculiar in that it did not originate in a domestic economy and then exited the borders, but was caused by the interactions between institutional arrangements that set it as a unit of account and the market that evolved it into a means of transaction and of payment to the point that private ECUs took a logic as organising principle of European money and capital markets of its own, unbridled to large extent from the monetary authorities. Private ECUs, and to a lesser extent the official version, are not a form of quasi-world money proper because they did not 'exit' national borders but were created at the regional level and to serve domestic actors in a regionalised economy. The private ECU is the product of the market in a financialising world, as it was born out of financial purposes and embodied various financial instruments in a currency such as hedging against exchange rates volatility, and then acquired the role of regional quasi-world money because of its growth in acceptability and because it was linked, though legally distinct, from the money that performed the role of quasi-world money at the institutional level, the official ECU.

This unique form of money shaped the process of financialisation in Europe in a way that proceeded with the creation of the euro, and that encompassed every sector of the domestic (and regional) economies with distinct paths between peripheral and core countries. The use of private ECU-denominated debt instruments was pioneered by the 'peripheral' member(s) of the EMS enticed by the possibility of external and cheaper finance coming from either European lenders or international lenders but through European assets (such as ECU-denominated loans and bonds). This process, akin to the subordinate financialisation occurring in developing countries seeking finance in dollar-denominated instruments and markets (Powell, 2013), can be best seen at play in Italy in the 1980s –only member with Ireland of the EMS amongst the current Eurozone Mediterranean periphery⁶– and in France, but the latter was caused by the coincidence of a weak currency with one of the financial centres in Europe (Paris).

⁶Whilst the Greek Drachma was in the basket of currencies determining the value of ECUs, Greece was not a member of the EMS and ERM. Spain and Portugal entered the ERM in 1989 and 1991 respectively.

In Italy, both private and public sectors made use of ECU-denominated bonds since the early 1980s. The Italian Treasury, for example, issued ECU 12.95 billion in Treasury Certificates⁷ between 1982 and 1988, and ECU 5.78 billion in short-term Buoni Ordinari del Tesoro (BOTs) between 1987 and 1988, becoming the first government to issue short-term papers denominated in ECUs (Walton, 1988). The Italian government was the largest borrower in the ECU markets in 1982 and 1983 and remained of significant size for the rest of the period, during which France issued the largest portion of ECU-denominated debt. In the private sector, the Italian firm STET ('Società Torinese per l'Esercizio Telefonico') was the first company to issue an ECU-denominated loan in 1981,⁸ followed by the increasing reliability on the ECU interbank market by Italian banks to fund their lending activities, especially to non-banks.

Ultimately, the primary users of private ECU-denominated financial instruments were private and public actors in 'peripheral' countries or in ones with weak currencies, and the centres for financial intermediation within the EMS, whilst the core country with the strong currency notably forbade ECUs until as late as possible. The growth of such a parallel monetary system became of crucial importance as an embryonic form of the later EMU with tendencies that alluded to an asymmetric integration in a new monetary system (the euro) and to the creation of different areas within the EMS/Eurozone characterised not only by distinct economic performances, but also by a structural position of subordination characterised by dependency on the core and on intermediaries through bilateral relations that are characteristics of a stricter Core-Periphery structure.

4.4 Competing with Whom?

The clear difference between the monetary system hinging on both official and private ECU and the Eurozone is the transition from a 'common currency' (the ECU) to a *single* and common currency, the euro, which not only took over and unified the roles of ECUs but also replaced the domestic national monies through institutional arrangements rather than competition in the currency market. Nevertheless, just as the euro became overnight a potential competitor of the US dollar for the role of global quasi-world money, the evolution of ECU as a competing money was limited by the compartmentalisation

⁷Maturity between 4 and 8 years.

⁸This issuance occurred through its financial branch in Luxembourg.

of its forms and the distinction between official and private. This implied clear legal distinctions between the two types of ECUs and thus between the distinct roles performed by them individually. Consequently, the creation of the euro came as a reaction to the rising competition from the ECU in European markets and with European currencies, not only on the global scale. Even more importantly, it was the private ECU that was competing with the other national currencies, all of which, unlike the private ECUs, were credit money backed by central bank fiat money and thus had a ‘complete’ monetary infrastructure at the back.

Indeed, the two kinds of competition are distinct. The ECU competed against the other indexed money, the IMF’s SDR,⁹ in the same way as it competed against the quasi-world money of the post-WWII era: as an alternative to the US dollar and US dollar-balances. At the same time, the ECU competed with the European currencies based on exchange rate risks and lower costs of interest for weak European currencies (e.g., Italian Lira) and low exposure to exchange rate risk but with higher return due to higher interest rates than in the domestic currency for the strong currency, the Deutsche Mark.

The occurring of these two forms of competition can be appreciated by looking at the fact that the (private) ECU became in 1985 and 1986 the fifth currency of denomination both in terms of bonds issued and bank credits, far from the dominant position of the dollar –which continued to widen– but increasingly closer to the share of the German Mark, the Swiss Franc, and the Japanese Yen. In a similar way, considering the position of the City of London as the main financial centre in pre-euro Europe, cross-border lending by UK-based banks per currency of denomination shows that the ECU became steadily the second European currency of denomination after the Deutsche Mark and surpassed other national currencies as early as 1984 (Walton, 1988, Table G).

The creation and adoption of ECUs bore considerable consequences on the working of the European currencies by affecting the relations between the national economies and the regional counterparts, whilst competing with the other world-wide quasi-world monies only as a by-product of the use of ECUs by developed countries. The dichotomised nature of ECUs, characterised by no link between the official or institutional forms and the private ones apart from the legal composition of the basket of currencies, however, led to ECUs being an ‘incomplete’ money by being in essence two different monies with very distinct roles.

Official ECUs were at best an artificial mechanism for the provision of intra-

⁹The value of the SDR, as amended in 1981, was built on a basket of five currencies: the US dollar (42%), the Deutsche Mark (19%), the French Franc (13%), the Sterling Pound (13%), and the Japanese Yen (13%).

EMS liquidity, which could have been possible through bilateral agreements between the national central banks involved, and thus should perform a very unique and institutionally grounded form of money with which, by law (or ‘by treaty’ given the European context), it is not possible to compete. The effective centrality of the official ECUs in the EMS is highly questionable, given that by 1989 the evidence shows that the emergency credit provision had been used to a limited extent and that interventions had been carried out within the bands and not near to the bilateral limits (BIS, 1988). Ultimately, by being an index currency, it did not acquire the domestic forms of the currencies present in the basket defining its value, but it took over the international forms of its components. It is the properties of this form of money that define the areas of competition between the private ECUs and the legacy currencies.

Whilst the creation of the EMS and of the ECU were supposed to reduce the asymmetry present in the previous monetary systems revolving around the Deutsche Mark, German dominance disguised under the ability to independently carry out monetary policy aimed at domestic targets continued to be a feature of European monetary arrangements and integration. Far from being a hegemonic power, Germany retained and entrenched the autonomy of the Bundesbank concerned primarily with price stability, which in turn delineated the EMS as the mechanism imposing the choice of either following the German disinflationary monetary policy stance or the devaluation of the domestic currency on the member countries. The independence of the Bundesbank was also protected by the German opposition to the use of ECU-denominated instruments in the domestic economy protracted until 1987, which entailed that, whilst ECU-denominated investments could still be made through subsidiaries in other EMS countries, the domestic financial system was partially insulated from the rising cross-national ECUs assets and liabilities.

Ultimately, the ‘competition’ between the privatised form of the EMS institutional money and the national money of the core country is best perceived in times of crisis, as with the turbulence in foreign exchange, money and capital market during 1992 culminating with the ERM crisis. Following the BIS (1993) Annual Report, the behaviour of the private ECUs during times of exchange rate volatility and uncertainty behaved more akin to the Italian Lira, a weak currency at the centre of the market turmoil, than to the DM, which secured its position as the safe currency of denomination in Europe.

Taking for example the securities market –which as previously argued had seen increasing use of ECU-denominated instruments to raise capital in weak currency countries, the second half of 1992 saw significant currency reallocation away from short, medium and long term ECU- and Italian Lira-denominated instruments in favour of US dollars and Deutsche Marks; the German market for commercial paper went from \$5.4 in 1991 to \$10.2bn in 1992, considering that it was only opened in 1991, and the US market in-

creased from \$528.1 to \$545.1bn in the same years (BIS, 1993, p. 112). Similarly, whilst the international bond market increased by 7% in 1992, fixed rate bonds in low-yield but safe currencies like the US dollar and the DM were preferred to higher-yield bonds. This was the case especially in ECUs and Italian Lire, as it can be seen by the drop of net issues in domestic and international bond markets in 1992 (Figure 4.1).

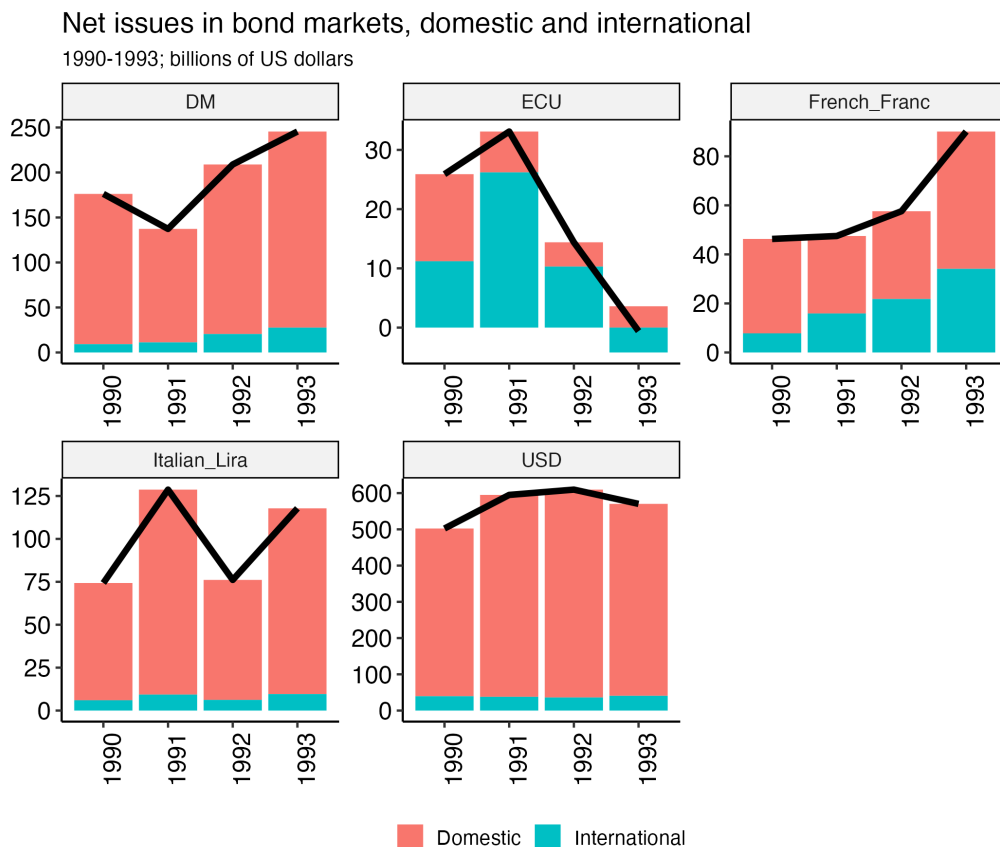


Figure 4.1. Net issues in domestic and international bond markets for US Dollars, Deutsche Mark, French Franc, Italian Lira, and ECU (bn USD), 1990–1993.

Notes: For domestic bonds, changes in amounts outstanding at constant exchange rates; for international bonds, flow data at current exchange rates. Both public and private sectors are included. Domestic: by residents in local currency in the local market only (OECD countries, excluding Iceland and Turkey). International: by residents in foreign markets and in foreign currency in the local market.
Source: Author's own elaborations on BIS (1990a, 1991, 1992, 1993, 1994) data.

Figure 4.1 shows the net issues in domestic and international bond markets for the years around the ERM crisis. The shift to 'safer currency' instruments is shown by the increase in domestic issuance in Deutsche Mark, a market that had begun being liberalised and deregulated in late 1980s and early 1990s, thus easing the funding conditions of German residents through foreign capital looking for Deutsche Mark-denominated instruments (both private and public sectors bonds are shown in Figure 4.1), and by the sharp decrease in net issuance in 1992 in both Italian Lire and in ECUs, especially strong

for the latter in which net issues were lower than repayments (hence the negative value). Importantly, the ERM crisis and the currency competition amongst EMS-members also changed the dynamics of capital flows and the intra-EMS position of the national banking systems, especially with regard to the ECU banking market, which did not recover from the crisis and kept shrinking considerably (-12% in 1994) in the following years (BIS, 1995, 1996).

At the same time, the French and German banking systems increased their activities and external claims during the crisis in 1992 and 1993 for different reasons. Whilst Franc-denominated assets were sought after for speculative purposes and as collateral for repo operations due to the depth of French financial markets, the Deutsche Mark-denominated paper and securities was spurred by the liberalisation of the German financial markets, which in turn expanded the international sector of German Deutsche Mark-denominated banking. Both trends reversed in 1994, but Germany and France remained large recipients of short term inflows due to loan repayments and foreign deposits that counterbalanced their capital account outflows and long(er) term investments abroad (BIS, 1995).

Ultimately, the post-ERM crisis years witnessed the demise of private ECU markets and the inception of a dichotomy within the EMS members that hinged on the expectations on the stability of the exchange rates as well as on domestic economic outlook, depth and liberalisation of financial markets, and the national monetary policy with its consequences on the interest rates of reference for instruments denominated in the different legacy currencies. The failure of ECU to become effectively a common, but not single, currency in the EMS should be explained by its incomplete nature, being itself a ‘fiat unit of account’ without private applications or a private indexed money –a sort of ‘financial innovation’ to hedge exchange rate exposure according to Bordo and Schwartz (1987) –without effectively an infrastructure to support its use and its value. The private market-based money was not backstopped by the official one, thus leading to the impossibility of a coherent monetary hierarchy.

4.5 Conclusion

In conclusion, the purpose of this chapter has been twofold. On the one hand, it explored the presence of monetary hierarchies in the European Monetary System, high-

lighting the incomplete nature of artificial quasi-world monies and establishing the presence of official and Pprivate forms of monetary hierarchy in the EMS with the European Currency Unit. In doing so, the chapter shows the history and nature of ECUs, rising from official balances to unrelated private instruments, and it applies to each of the two forms the theoretical conceptualisation offered in Chapter 3. The chapter argues that the potential tensions between the two forms of monetary hierarchies lie at the heart of the failure of previous monetary projects due to the potential competition amongst these forms of money. The lack of a coherent backing mechanism is the root cause for its demise.

On the other hand, the case study of the ECU prompted the distinction and formalisation between official and private monetary hierarchies in Europe, thus providing the line of analysis for the study of the euro and the Eurozone. In fact, the overarching aim of the chapter was to provide the development of an empirically-rooted lens for the analysis of monetary hierarchies in the Eurozone and with the euro –a single unit of account but with intrinsic *money confusion*– that is carried out in Chapter 5. This latter, in turn, is shown in the next chapter to possess many of the features of the ECU, just in masked forms and combined with backstopping mechanisms that connect the private and official forms of euros.

To be sure, the euro has evolved from the ECU by learning the paramount importance of the official backstop to private forms of money, which was absent in the EMS. However, multiple euros still exist especially given the presence of distinct National Central Banks with their individual balance sheets and catering to the needs of their jurisdictional commercial banks only. The transformation of the ECU into the euro does not entail the elimination of official and private hierarchies, which need to be found based not on the name (i.e., the unit of account), but the issuing balance sheet and the source of demand.

Chapter 5

Monetary Hierarchies in the Eurozone and the TARGET System

5.1 Introduction

This chapter examines the presence of monetary hierarchies within the Eurozone by using the lens developed theoretically in Chapter 3 and empirically in Chapter 4. In fact, it is argued that the Eurozone shows monetary hierarchies in a similar way to the European Monetary System (EMS), but it solved the inconsistencies of the European Currency Unit (ECU). The existence of monetary hierarchies in the European Monetary Union (EMU) is peculiar due to the single and common currency, blurring the differences across different euro-balances which appear to be distinct because of the ‘money-confusion’ occurring by using the term ‘euro’ to denominate a wide array of monies.

From the previous chapter, it was argued the ECU failed because of two inconsistencies, namely the disconnection between private and official forms of the ECU (and thus of the monetary hierarchies), and the absence of contingent backstops that could provide unconstrained and automatic support. Hierarchies in the EMU arise precisely from the existence of distinct ‘legacy-euros’, which are traded at par. These are hierarchically tiered in terms of market preference (private hierarchy). The peculiarity of the euro, ultimately, is the form of the official hierarchy, which hinges on the Trans-European Automated Real-time Gross Settlement Express Transfer system (TARGET), but lacks of a proper world money settling outstanding intra-Euro balances with finality. In brief, this chapter shows that whilst for the Eurozone an official hierarchy of balance sheets was defined in secret by the ECB council through the decision of Novation in the early 2000s and sees the ECB

balance sheet as the apex of the hierarchy, a market preference for liabilities of specific NCBs –primarily the Bundesbank– appears evident especially at quarter- and year-end.

Consequently, the presence of a monetary hierarchy remains puzzling in the Eurozone for one main reason: there are *two* separate though connected hierarchies, one institutional (official) and one market-based (private). Such a bi-polar architecture not only creates the tensions in liquidity flows towards the apex of the market-based hierarchy, but it also shows that the Eurozone lacks a proper quasi-world money at the regional level. This, in turn, reinforces subordination by limiting the policy choices for the peripheral countries to counter the hierarchy, and gives to the ‘common and single currency’ an inconsistent role as organising principle.

Three main arguments are put forward. First, the chapter outlines the form of the official monetary hierarchy in the EMU, shaped by working of TARGET coupled with *Novation* to place the ECB at the apex. Second, it shows that the market preference places the apex of the private hierarchy in the German banking euro-liabilities and hence in euro-liabilities of the Bundesbank. In other words, all NCB liabilities are euros, but not all euros are the same NCB liabilities. Third, the chapter then re-evaluates the nature of TARGET balances (not the mechanism) to define their nature within the monetary hierarchy, showing that rather than being a form of credit money issued by central banks, they should be understood as official FX Swaps to access different NCBs’ legacy-euros –i.e., euro liabilities that allow access only to the NCB of the jurisdiction.

The chapter proceeds as follows. Section 5.2 analyses the inception of the Eurosystem and of its structure via the analysis of the introduction of the Trans-European Automated Real-time Gross Settlement Express Transfer system (TARGET), highlighting the importance of the decision of *Novation* to centralise the ECB balance sheet at the apex of the official monetary hierarchy in the EMU. Section 5.3 then replicates the analysis of private ECUs to outline the private market-driven monetary hierarchy in the Eurozone, showing that there is a hierarchy of liabilities with same unit of accounts but issued by distinct NCBs shaped by private agents’ demand. These two sections show not only that official and private monetary hierarchies exist in the Eurozone in a similar fashion to the ECU system, but also that apices are not the same balance sheet. The connection between the two hierarchies is explored in Section 5.4, which argues that whilst the TARGET mechanism allows for the official hierarchy to backstop the private one. The TARGET balances are not a form of quasi-world money but a set of contracts for the contingent provision of legacy-euros on demand via swap lines. The consequences of this re-interpretation of TARGET balances and of the presence of monetary hierarchies in the EMU are then explored in Section 5.5. Section 5.6 concludes.

5.2 The *official* monetary hierarchy of the EMU: TARGET and Novation¹

The project of the euro was not devised to be a centralised and unified monetary system in the Reports published throughout the 1990s. Indeed, the development of the single and common currency and of its payment infrastructure was advanced in the Angell Report (BIS, 1989) and Lamfalussy Report (BIS, 1990b) and successively under the European Monetary Institute of the BIS, which culminated with the 1992 Padoa-Schioppa Report and the 1993 Report on the *Minimum Common Features for Domestic Payment Systems* (Giovanoli, 1997; ECB, 1999). Whilst these reports discussed the processes for multilateral netting of open claims –as would have arisen in the envisioned EMU– through a Central Counterparty (CCP) system, the topic of cross-border intra-EMU official claims and liabilities was absent from the later publications (EMI, 1995a,b, 1996).

Crucially, the process of monetary unification goes beyond the credible fixing of exchange rates, as it implies the unification of monetary and payment systems, which are interdependent but separate prior to the unification. In the EMU, such process featured the integration of national Real Time Gross Settlement System (RTGS) systems in a standardised platform (TARGET), and foresaw the creation of a system of central banks that would carry out monetary policy in a decentralised fashion. The ECB had little to no operational role in 1999, as its balance sheet was used only for transactions by European institutions, whilst it decided the course of monetary policy. Such a decision was primarily political, as the alternatives would have required a much more significant transfer of power from the NCBs to either one of the NCBs or a Single Central Bank created ad hoc.²

In truth, the move from a decentralised system towards a centralised and hierarchical monetary system took place behind closed doors few months after the creation of the euro and of TARGET, with a decision of the ECB Governing Council to *de facto* centralise and operationalise the ECB balance sheet. Such decision is the first instance of the ‘technocratic depoliticisation’ (van ’t Klooster, 2022, p.16) of ECB’s decisions aimed at solving the problems arisen from the organic process of integration and keeping the euro solid through technocratic resolutions far from democratic scrutiny. Such modus operandi of the ECB through *fait accompli* has characterised other important decisions throughout the 2000s and 2010s, such as the legitimisation of the security purchasing programmes (van ’t Klooster and Fontan, 2020) and the Agreement on Non Financial Assets (Hansen and Meyer, 2017).

¹The material covered in this section informed the paper Murau and Giordano (2024).

²The alternatives and the balance sheet infrastructures they would have implied are explored in more detail in Murau and Giordano (2022, 2024).

The centralisation of the ECB balance sheet occurred with the secret decision of Novation by the ECB Governing Council in late 1999, and became effective in November 2000 (Banca d'Italia, 2000). With Novation, the Council decided that at the end of each business day, NCBs' bilateral claims and obligations against each other should be first netted out, and then all remaining claims and obligations should no longer be directed against each other but shifted against the ECB as an intermediated balance sheet which would thus effectively function as a CCP for NCBs –i.e., novation. The difference can be observed by comparing Table 5.1 with Table 5.2, representing a stylised balance sheet for the ECB and two NCBs before and after the introduction of Novation.

The ECB balance sheet is moved 'above' the NCBs because it becomes hierarchically superior: it is the *elasticity* of the ECB balance sheet that provides the funding for the TARGET imbalances of the NCBs, thus entailing that access to the ECB balance sheet is required for cross-border intra-EMU transactions. Such access is automatic and unlimited by the construction of the TARGET system and the commitment to having the liabilities of the single NCBs trading at par –something that would not happen if capital controls were introduced in the EMU.³ Although the new balances are between a single NCB and the ECB, given that the ECB is owned by the member NCBs, the TARGET balances become multilateral positions, a crucial difference from the Interdistrict Settlement Accounts (ISA) of the Federal Reserve System.⁴

The mechanism of Novation makes the ECB balance sheet resemble the EMCF and the VSTFF shown in Table 4.1 of the previous chapter, which allowed for the central banks to acquire FX reserves and thus settle payments in the foreign currency (or act in the FX market to defend the peg) in a similar way to how the BdI can access Bundesbank-euros to settle payments in such denomination. In both cases, the ECB balance sheet and the VSTFF balance sheet are intermediaries that offer elasticity for funding by acquiring liabilities and assets denominated in their own currency of denomination (TARGET-euro and ECU). The ECB position at the apex of the hierarchy in the Eurosystem is primarily official and serves the purpose of backstopping the working of private-euros and more importantly of the NCBs-issued euros.

³Limiting the access to the ECB balance sheet is equivalent to putting in place capital controls.

⁴The ISA records the net flows of liquidity from one Fed district to the other, but records bilateral positions that are settled once a year, a crucial difference from TARGET.

⁵Autonomous Assets may include TARGET assets if the ECB carries out transactions on behalf of the institutions with an account at the ECB.

⁶Autonomous Liabilities may include TARGET assets if the ECB receives payments for an institutions with an account at the ECB.

Bundesbank		ECB		Banca d'Italia	
TARGET Assets with BdI	TARGET Liabilities to BdI	Autonomous Assets ⁵	Autonomous Liabilities ⁶	TARGET Assets with BuBa	TARGET Liabilities to BuBa
Autonomous factors	Deposits of German Banks (Buba reserves)	Other Assets	Deposits of European Institutions	Autonomous factors	Deposits of Italian Banks Reserves (BdI reserves)
Monetary Policy Instruments	Autonomous factors		Other Liabilities	Monetary Policy Instruments	Autonomous factors
Other Assets	Monetary Policy Instruments			Other Assets	Monetary Policy Instruments
	Other Liabilities				Other Liabilities
German Commercial Bank			Italian Commercial Bank		
Reserves at BuBa (DM)	Deposits		Reserves at BdI (Lira)	Deposits	
Other Assets	Other Liabilities		Other Assets	Other Liabilities	

Table 5.1. Stylised Eurosystem Balance Sheets of the ECB and 2 NCBs Before Novation

Notes: This is the representation of a static balance sheet showing the instruments on the five balance sheets, not a transaction. The **Red** and **Blue** items represent assets and liabilities arising from a liquidity flow from Italy to Germany and from Germany to Italy respectively.

The ECB's 'autonomous' factors can include TARGET positions, but only if the ECB is used by a European institution to make or receive payments, which do not fall under the scope of the analysis of the monetary infrastructure here.

Source: Author's own elaborations.

The need for a superior balance sheet and for a system of cross-border payments settlement points towards a more important fact: 'euro' as a unit of account is a single and common currency, whilst the 'euro' as a means of payment is still fragmented around the monetary jurisdictions of the EMU. In other words, Italian-euros and German-euros, by being issued by different institutions and by being used as money only within the respective monetary jurisdictions should not be thought of as a single currency, but more akin to the legacy-currencies of the member states. The difference with the EMS and the private hierarchy of legacy-currencies lies, however, in the presence of an official backstop, the ECB and the TARGET system, that is directly connected to the private euros unlike it was argued for the ECUs.

To quantify the role of the ECB as the provider of the elasticity behind the funding for cross-border imbalances, it suffices looking at the *Accounting Balance Sheet* of the ECB, a balance sheet that is often neglected. The data compiled for such balance sheet is offered in Figure 5.1 for the assets and Figure 5.2 for the liabilities. These show the acquisition by the ECB of a central role in netting cross-border liquidity flows by creating positions between each NCB and itself, and eventually also a key role in *financing* imbalances by allowing for the expansion of the ‘CCP department’ of its balance sheet (Murau and Giordano, 2024).

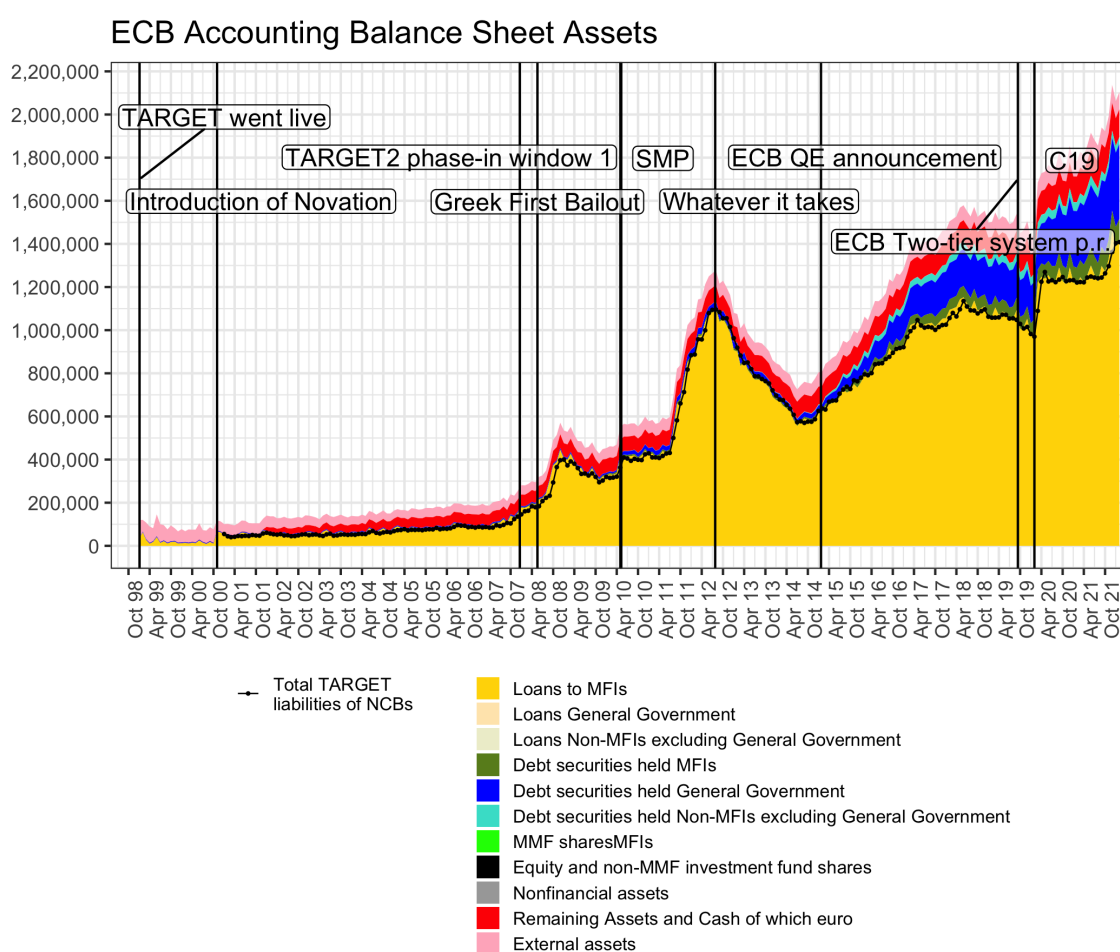


Figure 5.1. ECB Accounting Balance Sheet Assets (mn euros), 1999–2022.

Notes: Accounting Balance Sheet. This is a ‘disaggregated’ balance sheet as it does not net out intra-Eurosystem claims.

Source: Author’s own elaborations on ECB (2022a) and ECB data.

Furthermore, the ‘Loans to MFIs’ and the ‘Deposit liabilities of MFIs’ are compared with the gross TARGET assets and liabilities for the NCBs. This shows that whilst the ECB records such loans and deposits as related to MFIs in general, in reality they

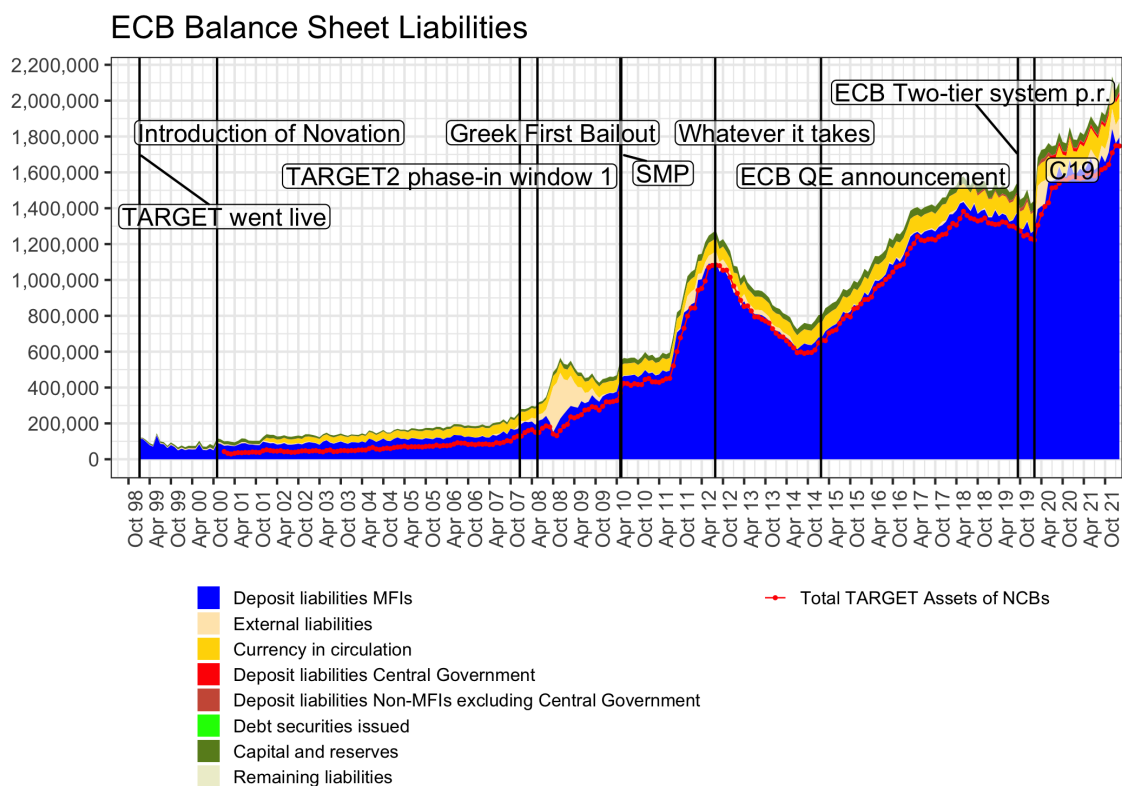


Figure 5.2. ECB Accounting Balance Sheet Liabilities (mn euros), 1999–2022.

Notes: Accounting Balance Sheet. This is a ‘disaggregated’ balance sheet as it does not net out intra-Eurosystem claims.

Source: Author’s own elaborations on ECB (2022a) and ECB data.

are mainly made of TARGET balances of NCBS, only one of the three sectors encompassed by the term MFIs.⁷ These two graphs show that when the ECB balance sheet is disaggregated, the centralised role of the ECB as provider of financing for the NCBS becomes not only apparent, but the item making such balance sheet the second largest in the Eurosystem.⁸ For an algebraic explanation of the adaptation of the Accounting and Statistical Balance Sheets with the TARGET position of the ECB, see Equations 5.1 to 5.4:

⁷MFIs are defined by the ECB as central banks, deposit-taking corporations except central banks and money market funds.

⁸Second only to the Bundesbank.

$$\Sigma(\text{LOANS TO MFIS}_{ECB}) = \Sigma(\text{T2 } L_{NCBs}) \quad (5.1)$$

$$\Sigma(A_{ECB}^{BS}) = \Sigma(A_{ECB}^{FS}) + |\Sigma(\text{T2 } L_{NCBs})| \quad (5.2)$$

$$\Sigma(\text{DEPOSITS OF MFIS}_{ECB}) = \Sigma(\text{T2 } A_{NCBs}) + \text{RESIDUAL} \quad (5.3)$$

$$\Sigma(L_{ECB}^{BS}) - |\Sigma(\text{T2 } A_{NCBs})| + |\text{T2 BALANCE}_{ECB}| = \Sigma(L_{ECB}^{FS}) \quad (5.4)$$

Where A = Total Assets, L = Total Liabilities, BS = Balance Sheet also known as the *Statistical Balance Sheet* and FS = Financial Statement which is also known as the *Accounting Balance Sheet*. The item T2 BALANCE_{ECB} corresponds to the discretionary or autonomous TARGET balance of the ECB unrelated to its role as Central Counterparty (CCP) of the Eurosystem; the fact that it is negative when looking at the data reveals that the ECB has net outflows of liquidity to outside its monetary jurisdictions, which is in line with the *operationalisation* of the ECB balances sheet for asset purchases and for the carrying out of the European Commission's transfers.

5.2.1 An example of the ECB's positioning: swap lines

The preparatory work of the European Monetary Institute (EMI) assumed that monetary policy would be carried out by the NCBs with TARGET participants in their jurisdiction, using their national RTGS systems. The ECB, in this original design, was conceptualised as a passive balance sheet, on which no sizeable TARGET balances would emerge (EMI, 1995b). The ECB balance sheet played this attributed role for most of the time in the Eurozone up to the global financial crisis. There is no clear information about the ECB's TARGET balances in the early years of the monetary union as the ECB's positions have only been officially published from May 2008. Nevertheless, the residual of all NCB balances, which can be treated as proxy of the ECB's TARGET balances, never deviates much from zero.

In 2003, the Agreement on Net Financial Asset (ANFA) –concluded between the ECB and the NCBs– enhanced the operational autonomy of the ECB balance sheet in the Eurosystem. Much like the Novation decision, it was taken by the Governing Council and remained essentially secret until 2016 (ECB, 2019). When EMU went live, only parts of NCBs' balance sheets related to monetary policy operations were integrated and limited by the ECB's capital key and monetary policy decisions, while the rest –the net financial assets– was left unrestrained, following the principle of subsidiarity. With ANFA, the ECB imposed limits on the independent and nationally regulated operations of the NCBs, which were administered independently from the ECB and affected the amount of euro-liquidity

in circulation (Hansen and Meyer, 2017).

The ECB first operationalised its balance sheet for autonomous firefighting in 2007 when it set up reciprocal emergency swap lines with the FRBNY to provide liquidity insurance to offshore USD deposits in the EMU. Prior to 2007, the ECB balance sheet had not been used in significant ways for monetary policy, given that the principle of *decentralised implementation* of monetary policy operationalised National Central Bank to carry out operationally monetary policy in its jurisdiction. Figure 5.3 shows both the TARGET balances for the highest surplus (Germany), the highest deficit (Italy), and the ECB, and the use of the USD swap lines by the Eurosystem (red line) together with the total amount of dollar swaps provided by the Fed (green line). The short-term hikes in the ECB's TARGET positions in 2008 and 2022 were driven by the drawing on the Federal Reserve swap lines and their repayment at maturity,⁹ whilst the longer trend that puts the ECB in negative net TARGET balances is related to the operationalisation of the ECB balance sheet with regard to unconventional monetary policy.

The figure shows the centralisation of the ECB, which acts as an intermediary in the acquisition by the NCBs of dollar liquidity. Such intermediary role is allowed by the TARGET system, which behaves opposite to the flow of dollar liquidity. When a commercial bank makes a request for dollar funding to the NCB of its own monetary jurisdiction, the NCB passes the request on the ECB which then taps in the Fed's Swap Line.

The distinction between the intra-EMU leg and the cross-currency leg can be seen in Table 5.3 as the former is depicted in red whilst the latter in blue. The ECB is the apex of the Eurosystem, and such position is allowed and sustained by the unlimited amount of TARGET balances that can be overdrafted. Furthermore, it is not possible to distinguish the different origins of the TARGET balances, which are all claims and liabilities cleared with the ECB as CCP. Novation has allowed the centralisation of the ECB balance sheet as well as its positioning at the apex of the hierarchy, acting as conduit of official funds between the Eurosystem and other central banks and official balance sheets.

When swap lines are used and the Eurosystem borrows USD-denominated instruments from the FRBNY, the ECB balance sheet functions as a conduit between NCBs in need for emergency USD liquidity and the FRBNY. Table 5.3 depicts this process on-balance-sheet. The Bundesbank and the Banca d'Italia are assumed to be in acute need of emergency USD liquidity to pass it on to their domestic banking systems and ask the ECB for an activation of the swap lines. The ECB balance sheet serves as the EMU's

⁹The maturity of the swap lines varied from overnight to three months.

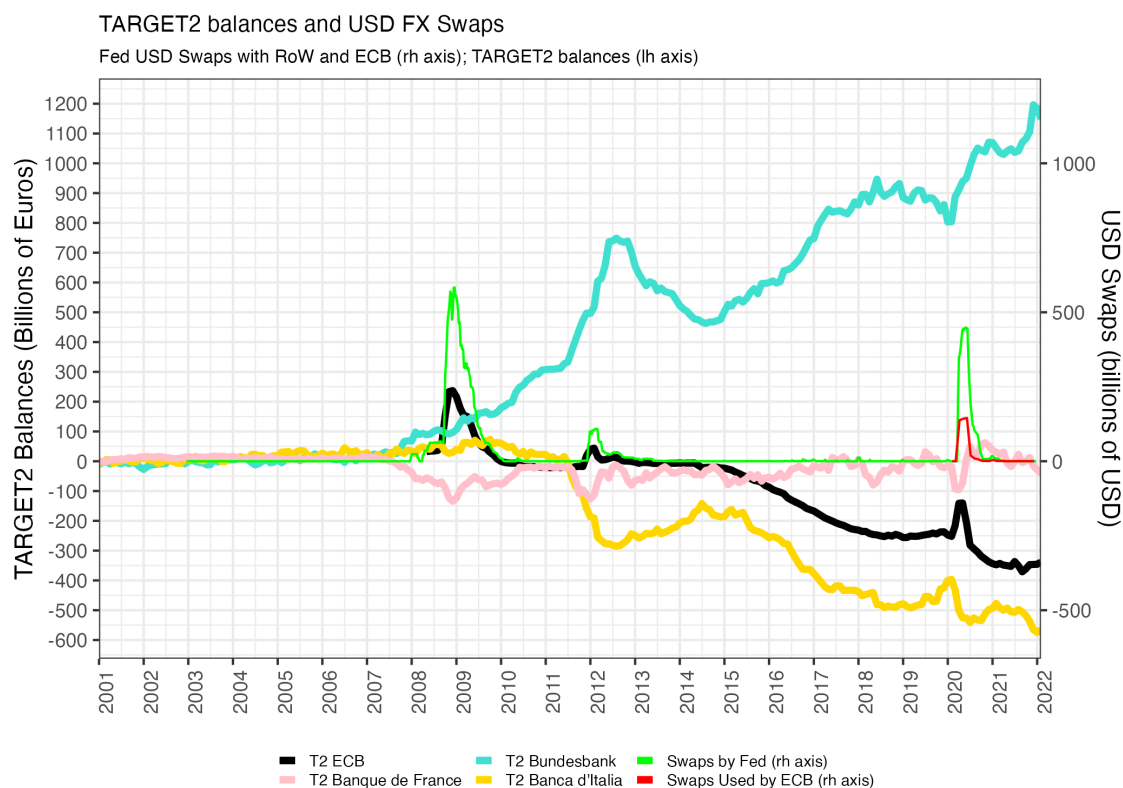


Figure 5.3. TARGET2 balances and USD FX Swaps (mn euros and USD), 2001–2022.

Notes: Fed USD Swaps with RoW and ECB on right-hand axis; TARGET2 balances for ECB and, Bundesbank, and Banca d'Italia on left-hand axis.

Source: Author's own elaborations on SDW, ECB, FRBNY data.

entry-point of the FRBNY's USD liquidity and exchanges EUR-denominated against USD-denominated reserves. Subsequently, the ECB passes on the USD reserves to the NCB balance sheets.

In this specific example, the Bundesbank has net TARGET2 claims against the ECB as starting point and sees a decrease in its TARGET2 balance, whereas the Bdi starts with net TARGET2 obligations against the ECB and sees them increase further. The reverse transactions would occur at the maturity date, typically three months later, when the ECB would return the euro-liquidity to the NCBs and thus record a decrease in its TARGET2 claims or an increase in its TARGET liabilities. While the USD loan for this international lender of last resort operation is outstanding, the ECB's TARGET2 account exhibits a positive spike.

ECB			
TARGET Assets with BuBa		TARGET Liabilities with BuBa	
TARGET Assets with BdI		TARGET Liabilities with BdI	
Other Assets		Other Liabilities	

Bundesbank		Banca d'Italia	
TARGET Assets with ECB	TARGET Liabilities with ECB	TARGET Assets with ECB	TARGET Liabilities with ECB
Autonomous factors	Deposits of German Banks (Buba reserves)	Autonomous factors	Deposits of Italian Banks Reserves (BdI reserves)
Monetary Policy Instruments	Autonomous factors	Monetary Policy Instruments	Autonomous factors
Other Assets	Monetary Policy Instruments	Other Assets	Monetary Policy Instruments
	Other Liabilities		Other Liabilities

German Commercial Bank		Italian Commercial Bank	
Reserves at BuBa (DM)	Deposits	Reserves at BdI (Lira)	Deposits
Other Assets	Other Liabilities	Other Assets	Other Liabilities

Table 5.2. The Eurosystem Balance Sheets of the ECB and 2 NCBs after Novation

Notes: The Red and Blue items represent a liquidity flow from Italy to Germany and from Germany to Italy respectively. At the end of the day, NCBs would net their position as to only have one item in their balance sheets, either an asset or a liability. Whilst the ECB too has only one balance recorded at the end of the day, such balance masks the 2 parts of the ECB's TARGET balances: the CCP one and the autonomous one.

Source: Author's own elaborations.

ECB		Fed	
+ FX Reserves (\$)	+ Reserves (€)	+ FX Reserves (€)	+ Reserves (\$)
- FX Reserves (\$)	Other Liabilities	Other Assets	Other Liabilities
+ TARGET Claim on BuBa			
Other Assets			

Bundesbank		Banca d'Italia	
+ FX Reserves (\$)	+ TARGET Liability to ECB	Other Assets	TARGET Liability to ECB
Other Assets	Other Liabilities		Other Liabilities

German Commercial Bank		Italian Commercial Bank	
Reserves at BuBa (DM)	Deposits	Reserves at BdI (Lira)	Deposits
- Collateral	Other Liabilities	Other Assets	Other Liabilities
+ FX Reserves (\$)			
Other Assets			

Table 5.3. The use of the Federal Reserve's Swap line by the Eurosystem and the distribution of USD liquidity in a single Jurisdiction.

Notes: Only the Bundesbank has made use of the Swap line in this example, as can be seen by the *unchanged* balance sheet of the Banca d'Italia.

Blue items indicate the cross-currency leg of the Swap, Red items indicated the distribution of dollar liquidity between ECB and NCBs and the respective TARGET transaction. The collateral posted by the German commercial bank is recorded off balance sheet by the Bundesbank.

Source: Author's own elaborations.

5.3 A *private* ‘market’ hierarchy in the EMU?

Much like the ECU, there exists a clear division between official and market hierarchies in the EMU, appearing as a tiering of the official balance sheets of the EMU structural components, the NCBs. The dichotomy appearing with the ECU between market and official monies can be found within the EMU under the single and common currency. Whilst it was argued that there can be found institutionally hierarchical EMU with the ECB as the apex, it is also true that there is another apex within the region that acts as the spontaneously risen top of a ‘market’ or ‘private’ monetary hierarchy. Such second centre is the Bundesbank and by extension the system of liabilities issued by German banking and financial actors.

Whilst the infrastructure of the EMU gives rise to the ECB as a superior balance sheet in terms of the official flows amongst NCBs, the ECB balance sheet remains considerably closed to the public, using the NCBs as intermediaries for its partaking into various monetary policy programmes. The ECB balance sheet is the institutional apex, but the daily operations of the ESCB and the connection between commercial banks and their respective jurisdictional NCB entail the tiering of the single NCBs.

Considering the ECB as the only centre of the EMU would be incorrect for two main reasons. First, the ECB itself cannot play the role of centre for market transactions, as access to its balance sheet is restricted to official institutions (EU organisations and NCBs) and few others and especially as it does not usually issue reserves to commercial banks –which are absent in the ECB’s monetary jurisdiction. Second, monetary hierarchies arise spontaneously in the market, reflecting the intrinsic features of the structure of the markets and the power of the actors, and organically one or few jurisdictions come to cover a hierarchically higher position and eventually play the role of ‘centre’. These countries are characterised by two features: they attract the domestic liquidity and capital, and they behave as conduits for transactions with non-Euroarea actors. Such a specification of monetary centres offers a theoretically coherent definition of the ‘core’ of the EMU.

I define this second form of hierarchy as private or ‘market’ driven because it arises spontaneously in the monetary union and is shaped by the behaviour of market participants, although it still relies on access to the NCBs as linchpins of the Euro-system. The market hierarchy represents the decisions of independent actors on how and where to access the official hierarchy. If the latter is a representation of the institutionally designed infrastructure of the EMU, the former displays the interpretation of the EMU by the markets.

The presence and shape of the *structural* monetary hierarchy within the EMU can

be assessed through six: dimensions 1) the flows of liquidity across jurisdictions; 2) the location of excess liquidity by banks in certain jurisdictions; 3) the cross-jurisdiction bank exposure; 4) the (bank) exposure to non-Euroarea residents; 5) the fragmentation of money markets and the collateral used for repos; 6) the composition of portfolio investments, both across jurisdictions and with the rest of the world. These six areas determine the presence of a core as the hierarchy of the EMU and as the catalyst for transactions between the non-core member states and the foreign investors, and are explored in this as well as the next two chapters. The primary focus of this section is the market hierarchy analysed primarily via its interactions with the Official one, whilst the next two chapters show the presence of a multidimensional market hierarchy, independent of the Official one with the ECB at the apex, by looking at liquidity flows and bank exposure in Chapter 6, and excess liquidity and fragmentation in Chapter 7.

Despite the apparent convergence—for example the closing of the yield spreads, the process of monetary integration has been characterised by asymmetries and imbalances. Whilst during the first ten years of integration the asymmetric nature of the integration was masked by the working of private markets that exploited the untested backing of the European institutions, the Global Financial Crisis and more importantly the Eurozone Crisis made the hierarchical tiering of members appear more clearly. Subordination and Core-Periphery structure is not a feature only of the crisis times, but it shaped the twenty years of integration appearing more evident under stress. The causes of the Eurozone crisis can be traced back to the uneven and asymmetric process of monetary integration coupled with the understanding of the EMU as: integration of financialised and financialising member states (Becker et al., 2010; Becker and Jäger, 2012; Becker et al., 2015), and integration occurring through and along financialisation (Preunkert, 2017; Lapavitsas, 2018; Braun, 2020).

In particular, the asymmetric integration until 2008 was characterised by the flow of loanable capital from Germany and France (and to lesser extents Belgium and the Netherlands) into the southern European countries, leading to increases in the exposure of banks to the latter group of countries (Lapavitsas et al., 2010). With the GFC and the deleveraging of major banks (Koo, 2011), exposure to the Southern European countries was reined in, leading to the halt of the banking flows (both long-term and overnight transactions) that rebalanced liquidity outflows and thus the rise of the need to substitute market finance with institutional one to meet the liquidity needs of Southern banking sectors. Whilst the structural asymmetry between member states was present before the financial crisis, it is in the aftermath of the European financial markets' fragmentation that the main features of monetary hierarchy and financial subordination arise.

One factor of the pre-crisis period points at the presence of a division between

subordinate and non- members: the net foreign assets of Eurozone’s core countries show that the assets acquired against the Eurozone periphery were financed through liabilities in the American wholesale markets, in which European global banks acted as intermediaries with shadow banks (Waysand et al., 2010; Shin, 2011; O’Connell, 2015). Banking institutions located in Germany, France, Belgium, and Luxembourg acted as conduits for financial flows into the Southern European countries extracting rents from the ability of performing carry trade (Hale and Obstfeld, 2014). Such role as conduits or intermediaries between other member states and the rest of the world, in turn, is the dimension necessary to define core-periphery relations within the Eurozone.

5.3.1 The Bundesbank and the market preference

In a similar way, Figure 5.4 displays the liabilities to non-Euro area residents denominated in euro for the main NCBs of the Eurozone and the ECB, showing a clear preference for Bundesbank liabilities over the rest of the Eurozone’s. Even though these are *official* positions as they are accounts held at the central bank, they arise from the preference of market actors to leave the excess euro-liquidity at the Bundesbank at year-end. These liabilities reflect either non-residents institutions with accounts at the specific NCB, or the deposits of non-Euro area central banks used to carry out payments between the banking sectors through the standard correspondent banking system.¹⁰

From Figure 5.4 it can also be evinced how the spikes in liabilities to non-Euro area residents have taken a cyclical tendency to spike in December, the year-end and the quarter-end that shows high volatility in both prices and quantities in money markets due to window-dressing by banks (Munyan, 2015; BIS, 2017; Schaffner et al., 2019; Aldasoro et al., 2022). The spikes in these liabilities combine two phenomena (expanded in Chapter 7). On the one hand, given the Asset Purchase Programmes (APP) and the Public Sector Purchase Programmes (PSPP), the repo markets in the Eurozone experience shortage of collateral and excess supply of liquidity which become more extreme at year-end when banks compile their financial statements for regulatory purposes, as can be seen by the fact that in 2016 the size of Bundesbank’s liabilities was not considerably higher than the other NCBs.

On the other hand, the liquidity held by non-Euro area residents is ‘parked’ in the German jurisdiction, reflecting a preference driven either by risk aversion, or by the

¹⁰This point reinforces the discussion on *official* and *market* hierarchies made in Section 5.2 as the non-Euro area central bank deposits at the Bundesbank reflect the official transactions required to backed the private transaction amongst correspondent banks.

role of German banks as the correspondent banks for non-Euro area institutions, thus minimising transaction costs. Either way, banks' 'window dressing' at the year-end is clearly fragmented as only the deposit liabilities of the Bundesbank increase significantly around the year-end. The ECB can be neglected as it holds official accounts for other NCBs for monetary policy purposes (such as the swap lines).

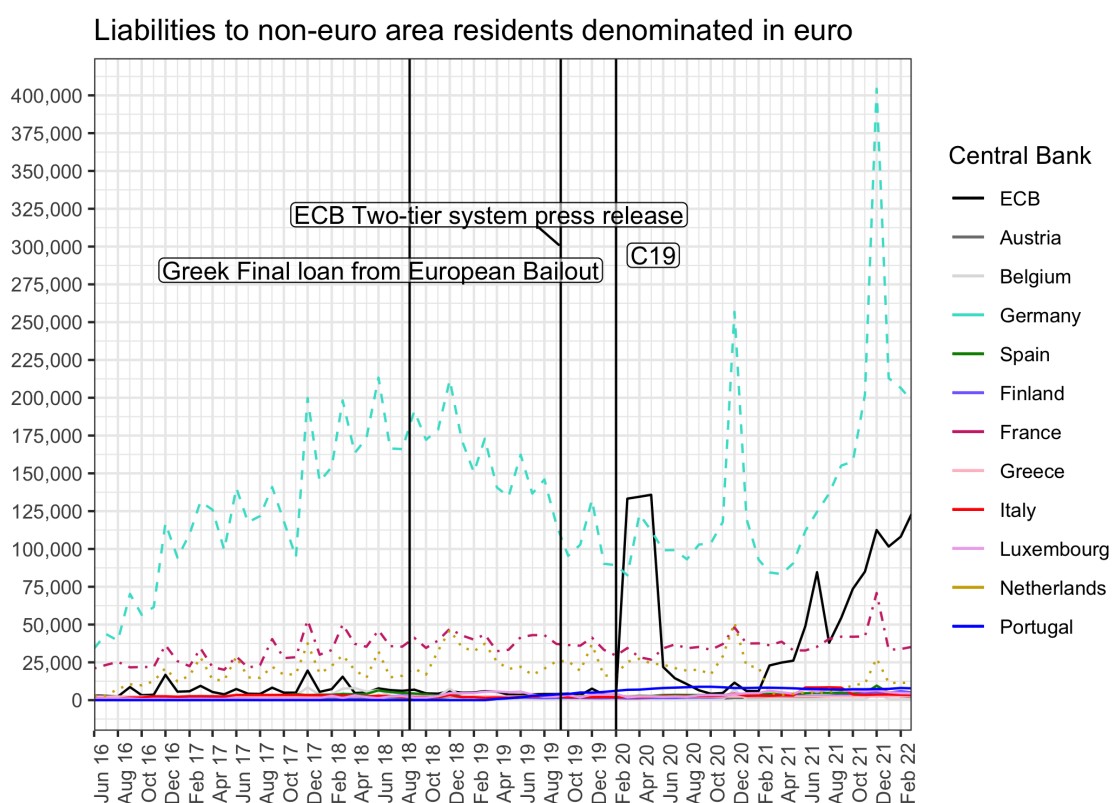


Figure 5.4. Liabilities to non-Euro Area Residents Denominated in Euro (mn euros), 06/2016–03/2022.

Source: Author's own elaborations on SDW and National Central Banks data.

This market preference for German liabilities is reinforced introducing a component of the Balance of Payments used in the next chapter: the Cross-border Other Investment into the Central Bank depicted in Figure 5.5 with the blue circles, and compared to the net monthly TARGET balances showed by the red crosses. Whilst these are explained in more detail in the next chapter, the size of the inflows and outflows is considerably large and has acquired importance since the mid 2010s in Germany as suggested by the presence of heteroscedasticity for the blue dots, whilst it is negligible in the peripheral countries selected. This entails that German central bank liabilities are sought after to a much larger extent than other NCBs' in cross-border transactions, without discriminating between intra-Euro area and extra-Euro area investors.

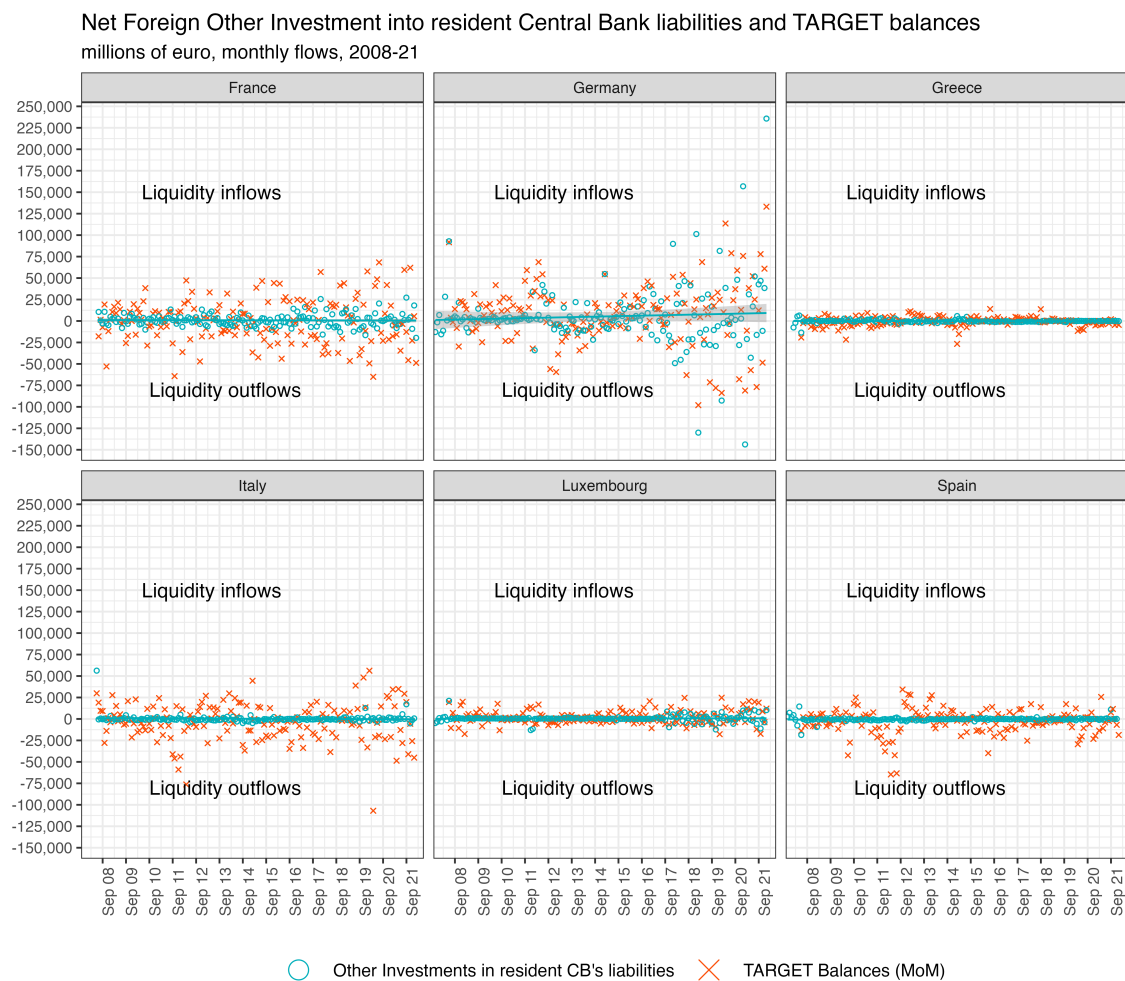


Figure 5.5. Net Foreign Other Investment into resident Central Bank liabilities and TARGET balances for selected countries (mn of euro), monthly flows, 2008-21.

Notes: See Chapter 6 for a detailed explanation of the Net Foreign Other Investment in resident Central Bank liabilities as a key component of the Balance of Payments decomposition.

Source: Author's own elaborations on ECB, NCBs, and National Statistical Offices Data.

5.4 Bi-polar hierarchies and monetary integration: pseudo-FX Reserves?

The consequences of the preference for the Bundesbank's liabilities need be assessed through the catalyst of quasi-world money. The dimensions of the monetary hierarchy at the international level were shown to revolve around the role of a domestic money becoming quasi-world money. The same process occurred with the ECU, which was an effort to develop a hybrid and artificial quasi-world money for its own members. The ECU had a clear institutionally hierarchical position, though, and its failure was due to the inability of connecting institutional and market-based hierarchies.

The euro, conversely, achieves such integration of the two at the cost of strengthening the monetary hierarchy: Bundesbank's liabilities are not supposed to be different from other NCBs' liabilities but they are considered so. It was shown in the previous sections that there are clear monetary hierarchies in the Eurozone, one institutional and the other market-driven. This prompts the question of what form quasi-world money takes in the EMU, which has never been answered or formulated.

The proximate answer to such question has been given implicitly in the discussion of TARGET balances, when it was argued that the negative TARGET balances allow for an indirect financing of capital or trade outflows, phenomena that in developing countries would be observable with the declining FX reserves on balance sheet. TARGET balances have been argued to play a similar role as FX reserves in the EMU (Auer, 2012; Cecchetti et al., 2012), not only because they are accounted for in the same area of the Balance of Payments according to international accounting standards, but also because curbing the automatic provision of TARGET balances would be equivalent to a country running out of FX reserves, in that cross-border payments would fail to be carried out. Indeed, TARGET balances have a common feature with quasi-world money, namely that both are obligatory rather than voluntary.

Nevertheless, there are at least four reasons for which considering TARGET balances the same as FX reserves reserves or world money is not satisfactory and that prompt more careful thought about what TARGET balances are, rather than the focus on what causes their rise.

First, TARGET balances are not a creation of central banks. Whilst they appear on the balance sheets of the NCBs, TARGET balances are an *automatic* creation of the payment system (TARGET2), and only then, they mean a claim on a central bank balance sheet. There is no deliberate act of issuing TARGET liabilities or limits to their size, unlike the creation of central bank reserves (via monetary policy operations or other liquidity-issuing operations). For example, there is not an explicit decision of a NCB to extend

‘TARGET credit’ to another NCB, as would have been through the VSTFF, but the central banks are automatically connected, and the TARGET balances represent claims or liabilities of the rest of the Eurosystem, not a specific NCB or the ECB. In this sense, they are qualitatively different from the idea of a domestic ‘central bank-credit money’ that becomes internationalised: there is no domestic dimension to TARGET balances.

Second, although TARGET is a gross real time payment system using ‘central bank money’, the TARGET balances themselves have no *finality*, as they do not discharge the claims and liabilities between the two central banks due to the fact that they are not settled (Rossi, 2007, 2016). Conversely, they are kept on official deconsolidated balance sheet until they rebalance –unlike the Interdistrict Settlement Accounts (ISA) of the Federal Reserve System that are settled once a year (Wolman, 2013), with no clear legal obligation of payment in case of a country exiting the Eurozone. The only claims that these balances would have to be paid in full were made in unofficial documents and letters (Draghi, 2019), or hearings of the European Parliament Committee on Economic and monetary Affairs (ECON, 2018). TARGET is a system for book-keeping rather than settling transactions, and consequently possesses only in part the feature of world money: the lack of finality classifies it as *quasi*-world money, but the fact that it is not central bank-issued makes it no money at all.

Third, TARGET balances are not quasi-world money of FX reserves in that, during a crisis, there cannot be a flight to TARGET balances by private agents as TARGET balances cannot be held by the public. This is in strong contrast to what happens with quasi-world money in international markets, where dollar balances are chased in times of financial turmoil. Rather, when a flight to safety towards assets located in ‘core’ countries occurs, the TARGET system and its balances allow for such flights to take place. Indeed the pursuit of assets located in ‘core’ countries reflects the market perception that the liabilities of single NCBs are contingent on their jurisdiction and thus that access to specific NCB balance sheets matters in the EMU. TARGET balances do not reflect access to a NCB balance sheet, but the guarantee par value of the reserve liabilities issued by all NCBs.

Fourth, TARGET balances cannot be accumulated as a policy choice. Although technically they could be accumulated as Germany has done, there are no direct policies that can be implemented to accumulate them as a preventive move to insure against possible capital reversal. Such inability is shown by a peculiar feature of TARGET imbalances: whilst the waves of FX reserves accumulation have historically followed major financial crises (Ocampo, 2017), the aftermath of the Eurozone crisis saw worsening positions for the crisis-hit countries, entailing a further *depletion* of the alleged FX reserves instead of a move to self-insure against potential future crises. TARGET balances, in other words,

cannot perform the role of store of value and insurance mechanism that FX reserves and quasi-world money have played for developing countries.

Ultimately, TARGET and the automatic creation of TARGET balances is the mechanism that connects the market to the official hierarchy by allowing market participants to access the balance sheets of the different NCBs –i.e. acquiring reserves in the different jurisdictions and carrying out cross-border payments. Such an instrument is the distinctive feature of the EMU compared to its predecessors, and is the reason for the euro being a successful evolution of the ECU. At the same time, such connection also allows for the market hierarchy to supersede the official one, for the latter becomes merely mechanical. In turn, this entails that the liabilities of the NCB(s) at the apex of the private monetary hierarchy –and not the TARGET balances– become ‘euro quasi-world money’. The balances are the recording of exchanging from euro-denominated non-quasi-world money (liabilities of ‘peripheral’ NCBs) to euro-denominated quasi-world money (liabilities of core NCB). The liabilities of the Deutsche Bundesbank, if anything, have acquired the status closest to quasi-world money for euro-denominated exchange.

The absence of quasi-world money as such in the Eurozone is replaced by a mechanism allowing for the unbridled conversions of ‘peripheral euros’ into ‘core euros’, which however remain within their distinct monetary jurisdictions defined by the NCB balance sheet they allow access to. Such role is played by the TARGET system, whose balances resemble a key component of the hierarchical international monetary system other than FX reserves: *Foreign Exchange Swaps* mediated through NCBs akin to the ‘swap lines’ shared by the main central banks in the world economy. Such swaps occur between the euro liabilities of the single NCBs, and indicate how banks from other jurisdictions can indirectly access the NCB balance sheet without having to hold the euro-denominated quasi-world money. Whilst the accounting of general FX swaps (inclusive of private-to-private transactions) is not homogeneous in the literature, the accounting of official FX swap lines is facilitated by the role of the two central banks involved (Aldasoro et al., 2020).

A comparison between what happens in the monetary union and what happens without a monetary union is instructive; in the examples provided here, only the first leg of the swap, which needs to be reversed at maturity, is taken into account and the interest paid to enter the swap is abstracted away for the sake of simplicity. Suppose that an Italian bank has to make a payment to a German bank, but does not have enough Deutsche Marks (DM) and does not have the possibility to acquire DM in the FX market. Table 5.4 shows the steps of the FX swap that the Banca d’Italia (BdI) would draw on the German Bundesbank (BuBa) after the BdI auctions DM to its domestic banks (including the one needing DM liquidity), provided that an official FX line was established between

BdI and BuBa.

Step 1 (Table 5.4a and 5.4b) shows the BdI drawing on the swap line and acquiring DM liquidity. Such a transaction is understood as a swap of liabilities (Lira for DM), and expands the balance sheet of both NCBs. Step 2 (Table 5.4c and 5.4d), then, shows how the commercial bank would acquire the DM denominated reserves through a subsidiary or correspondent German bank. This is what would occur if there was not single and common euro, and if the countries were not integrated through TARGET. The result of the FX swap is an expansion of both NCBs balance sheet and of the balance sheet of the two commercial banks.

Eventually, whilst Table 5.4 shows only the borrowing leg of the swap, if the Italian bank has to make a payment to a German bank then the DM deposit acquired at the German Commercial bank in Step 2 (Table 5.4c) is used to carry out such payment at another (or the same) German commercial bank, causing a fall in the DM deposits of the Italian Commercial Bank.

With the euro, TARGET balances can be represented in a similar mechanism, which does not take place on balance sheet, but which is in line with general principles of FX swaps, notably off-balance sheet transactions (Murau and Pforr, 2020; Borio et al., 2022). Indeed, TARGET balances are the on-balance sheet representation of the FX swap required in the EMU for accounting purposes given that the swaps entail central bank money creation. Crucially, the clear difference between Table 5.4 and Table 5.5 is that in the latter, the Italian commercial bank does not require a subsidiary or correspondent bank in Germany, but the *payment system* carries the off-balance sheet exchange between €ITA and €DEU.

Table 5.5 shows what a FX swap would look like if we took into consideration that single NCBs issue their own liabilities –the legacy euros €ITA and €DEU. Again, an Italian commercial bank needs to make a payment to a German bank, each acting on behalf of a customer. The assumption that the Italian bank does not have the possibility to acquire €DEU in the FX market (cross-border euro interbank market) is not necessary for the mechanical interpretation of the payment, but is required if TARGET assets and liabilities between two NCBs do not clear at the end of the day. Whilst Table 5.4 only showed the borrowing leg of the swap, in the case of TARGET the single and common currency removes the need for subsidiary or correspondent banks in the foreign jurisdiction. Indeed, it is the NCB of the payee that acts akin to a correspondent bank by acquiring the duty of providing access to the foreign NCB.

Step 1 (Table 5.5a and 5.5b) show the accounting of the implicit FX swap lines drawn by the BdI, denominating the two assets and liabilities in the euros issued by the

Banca d'Italia (€ITA) and those by the Bundesbank (€BuBa). This step is identical to the one provided in Table 5.4 except for the currencies of denomination.

(a) Step 1: BuBa offers Swap line to the BdI.

Bundesbank	
+ Reserves at BdI (Lira)	+ Reserves of BdI (DM)
Other Assets	Other Liabilities

(b) Step 1: BdI draws on BuBa Swap line.

Banca d'Italia	
+ Reserves at BuBa (DM)	+ Reserves of BuBa (Lira)
Other Assets	Other Liabilities

(c) Step 2: Adding the German bank acting as subsidiary to the Italian bank.

Bundesbank	
+ Reserves at BdI (Lira)	+ Reserves of BdI (DM)
Other Assets	- Reserves of BdI (DM)
	+ Reserves of German Banks (DM)
	Other Liabilities

(d) Step 2: Adding the transfer of DM to the Italian bank.

Banca d'Italia	
+ Reserves at BuBa (DM)	+ Reserves of BuBa (Lira)
- Reserves at BuBa (DM)	Other Liabilities
+ Loan to Italian Banks (DM)	
Other Assets	

German Commercial Bank	
+ Reserves at BuBa (DM)	+ Deposit of Italian Bank (DM)
Other Assets	Deposits
	Other Liabilities

Italian Commercial Bank	
+ Deposit at German bank (DM)	+ Loan from BdI (DM)
Other Assets	Deposits
	Other Liabilities

Table 5.4. Borrowing leg of a FX Swap Line drawn by Banca d'Italia on Bundesbank with legacy currencies (no euro).

Notes: **Red** items indicate the official transactions between the two Central Banks as part of the Swap lines; **Blue** shows the transmission of the foreign denominated liquidity from the Central Bank balance sheets to the commercial banks that can now use it; **Green** items indicate the cross-currency leg of the Swap.

Source: Author's own elaborations.

In Step 2 (Table 5.5c and 5.5d), the payment started with the decrease in the deposits at the Italian Commercial Bank (ICB), which in turn sees a fall in the €ITA-denominated reserves it holds at the BdI. The BdI, then, has the role to record the de-

crease in €ITA reserves, and carry out the €DEU-denominated payment (of the equivalent amount due to the 1-1 exchange rate), which is financed through the swap line received. The blue items in Subtable 5.5d show in brief such process, which in its complete form is just a form of traditional mutual discharge between assets and liabilities of the two central banks. The payment in €DEU by the BdI to the BuBa is recorded in the liability side of the Bundesbank, where the equivalent amount of €DEU-denominated reserves is added to the account of the German Commercial Bank (GCB) receiving the payment.

What transpires at the end of the transactions if the NCB balance sheets are consolidated is Tables 5.5e and 5.5f, which show an increase in central bank reserves in the BuBa jurisdiction (i.e., providing access to BuBa balance sheet and held by German banks), a decrease in the central bank reserves in the BdI jurisdiction, and the increase in BuBa's assets against the BdI and BdI's liabilities to BuBa matching the €ITA-denominate side of the original swap line. If we were to change the name of these positions to 'TARGET balances' and to simply ignore the difference between €ITA and €DEU using the simple euro (€) as unit of account, then the final NCB balance sheets would record exactly the same position usually represented in the literature (see the tables in Cecchetti et al., 2012; Cecioni and Ferrero, 2012, for example). In other words, TARGET liabilities and claims represent the contract that allowed for the swap of €ITA for €DEU, rather than the creation of some new form of money balances.

The steps shown in Tables 5.5c and 5.5d show that such result can be thought of as the result of a FX swap in which the reserves issued by BdI to carry out the swap (in *italics* in Step 2 of Table 5.5) are then called 'TARGET' claim and liability respectively. If TARGET balances do not need to be settled, then the swap line is rolled over indefinitely and automatically –i.e., it has de facto no maturity.

(a) Step 1: BuBa offers implicit Swap line to the BdI

Bundesbank	
+ Reserves at BdI (€ITA)	+ Reserves of BdI (€DEU)
Other Assets	Other Liabilities

(b) Step 1: BdI draws on implicit BuBa Swap line.

Banca d'Italia	
+ Reserves at BuBa (€DEU)	+ Reserves of BuBa (€ITA)
Other Assets	Other Liabilities

(c) Step 2: Italian bank has to make a payment to German bank.

Bundesbank	
+ Reserves at BdI (€ITA)	+ Reserves of BdI (€DEU)
Other Assets	- Reserves of BdI (€DEU)
	+ Reserves of GCB (€DEU)
	Other Liabilities

(d) Step 2: The BdI carries out the matching of €ITA and €DEU, and discharges the payment with BuBa.

Banca d'Italia	
+ Reserves at BuBa (€DEU)	+ Reserves of BuBa (€ITA)
- Reserves at BuBa (€DEU)	- Reserves of ICB (€ITA)
Other Assets	Other Liabilities

German Commercial Bank (GCB)	
+ Reserves at BuBa (€DEU)	+ Deposits
Other Assets	Other Liabilities

Italian Commercial Bank (ICB)	
- Reserves at BdI (€ITA)	- Deposits
Other Assets	Other Liabilities

(e) Step 3: Consolidating BuBa balance sheet in single unit of account (€).

Bundesbank	
+ TARGET (€) against BdI	+ Reserves of GCB (€)
Other Assets	Other Liabilities

(f) Step 3: Consolidating BdI balance sheet in single unit of account (€).

Banca d'Italia	
Other Assets	+ TARGET (€) to BuBa
	- Reserves of ICB (€)
	Other Liabilities

Table 5.5. Borrowing leg of a hypothetical FX Swap Line drawn by Banca d'Italia on Bundesbank with euros.

Notes: The Commercial Banks in Step 3 are the same as Step 2.

Red items indicate the official transactions between the two Central Banks as part of the Swap lines; Blue shows the flow of reserves from the ICB to the GCB, mediated by the BdI and BuBa balance sheets were the swap of domestic euros (€ITA) for foreign euros (€DEU) occurs; Green shows the initiator of the transaction.

Source: Author's own elaborations.

5.5 The importance of defining TARGET balances

The lack of clarity about the nature of TARGET balances highlights how the issue of quasi-world money in Europe has not been resolved. Indeed, the qualitative difference between TARGET balances being considered as FX reserves and as FX swap lines bears significant consequences for the mechanics of the monetary union, and is at the very heart of the political economy of monetary subordination across member countries. The focus of this section is then the analysis of the economic consequences, which are conditional on the legal interpretation of such balances as is argued by the Legal Theory of Finance and with the conceptualisation of the law as *elastic* (Pistor, 2013, 2021). Importantly, legal interpretations of TARGET balances remain unknown to this day, as the case is yet to be brought up in a national or European court.

The economic relevance of defining TARGET balances as swaps consists in what such mechanism entails for the monetary hierarchy in the Eurozone. Indeed, understanding TARGET balances as FX swaps entails that the apex of the monetary hierarchy in the EMU is not the ECB, but the NCB that has issued the largest amount of swaps to other NCBs to allow their private actors to carry out payments in the apex's jurisdiction. In other words, the Bundesbank remains the true core of the Eurozone, with its liabilities retaining the superior liquidity and ability to store value compared to other NCBs' liabilities.

If TARGET balances were simple quasi-world money issued by the ECB, the ECB would be the apex of the Eurozone monetary hierarchy. Consequently, given that they do appear to be claims against the ECB balance sheet, a simple inconsistency appears in the EMU: private and official monetary hierarchies are separate, with distinct centres, and especially '*competing*' with one another. At the same time, however, the connection between the two hierarchies is necessary for the existence and survival of the euro as overarching organising principle, as shown by the failure of the ECU.

For this reason the TARGET mechanism and the official monetary hierarchy topped by the ECB has been providing *unlimited* and *unrestricted* elasticity to the private hierarchy: the backstop of the official hierarchy in the EMU does not take the same active form as in the dollar-based international system (i.e., with the Fed issuing 'dollar reserves of last resort'), but works in a passive way. The ECB –apex of the official hierarchy– has to allow for the market hierarchy to create elasticity by itself by guaranteeing the access to all NCB balance sheets indiscriminately, using the ECB balance sheet as the transmission mechanism of such elasticity space.

This is what causes the chronic malfunctioning of the euro: the functions of money

are taken over by different instruments denominated in the same unit of account. Without the decision to centralise the ECB, it would appear clearer that TARGET balances do not have any finality in settling payments and instead simply represent the lending by one NCB (e.g. Bundesbank) to another NCB (e.g. Banca d'Italia) of reserves that can be used by private actors to settle *with finality* transactions within the lending NCB's monetary jurisdiction (i.e., on the Bundesbank balance sheet). NCBs remain with open claims and liabilities to one another, and cannot use TARGET balances to settle them in the same way as US dollar are used to settle outstanding balances between two central banks.

The lack of quasi-world money proper underscores the inability of the euro to act as a coherent organising principle. Such failure arises from the tension between the official and private forms of the monetary hierarchy, which show that the properties of euro quasi-world money are to be found to a greater extent in the centre of the market-based hierarchy, namely the liabilities of the Bundesbank, rather than in the liabilities of the official centre, the ECB. Yet, this quasi-world money can be accessed only through the official liabilities of the ECB, acting as a CCP, thus pointing to an internal schizophrenia: the official hierarchy only backs the connections between the monetary jurisdictions whilst the private hierarchy remains backed by the par convertibility with no finality. Such a system, though better equipped than the ECU, only delays the appearance of a crisis of finality (which can be settled only with quasi-world money) that will play out according to the hegemonic control over the technical and legal apparatus of the euro.

The economic effects of reinterpreting TARGET balances are contingent on their legal interpretation, for TARGET balances are external debt (credit for TARGET-surplus countries) positions for each NCB. Consequently, not only is a potential exit strategy for a member state affected by the presence of such external debt obligations, but the very existence of a monetary hierarchy in the Eurozone may be imbued with asymmetric legal architectures. In other words, the interpretation of TARGET balances affects whether the 'Local Law Advantage' (Buchheit and Gulati, 2018) that European countries have usually benefitted from when issuing sovereign bonds applies also to the liabilities of each central bank.

Not only there is a case to consider TARGET balances as different from FX reserves, but there is a case also to consider TARGET balances as the leg of a FX swap denominated in the deficit country's currency. This, in turn, entails that a *default* on a TARGET position could be understood as a default on a FX swap or, similarly, that redenomination would apply to TARGET balances as well given that these can be understood as exchanges of domestic euros for foreign euros. In the example used above, if Italy decided to leave the Eurozone, then the liabilities of the Banca d'Italia issued under Italian law would be redenominated into the new currency, which should include also the €ITA

balances issued in the FX swap with other NCBs –those that were then called ‘TARGET’.

Such idea is supported by one critical factor of the architecture of the Eurosystem: TARGET jurisdictions and the operational modules of the Single Shared Platform (SSP) are owned by their respective NCBs and remain legally separated and under the national law of their geographical location. In other words, TARGET liabilities issued by the BdI are governed by Italian law according to the original plan for the Eurozone devised in the 1990s. However, in a separate and unrelated Decision (ECB, 2007, L 237/89), the ECB states that ‘[t]he bilateral relationship between the ECB and participants in TARGET2-ECB shall be governed by the law of the Federal Republic of Germany’.

This entails that any private and/or public institutions using the TARGET2-ECB module will be doing so under German law. If for example the European Commission decided to use the ECB balance sheet to carry out the spending for the Next Generation EU (NGEU), such disbursements and the involved use of the TARGET system are ruled under German law. However, the decision leaves the issue of TARGET balances resulting from novation as undefined: technically speaking, TARGET balances arise during the day between two NCBs without accessing the TARGET2-ECB module but via the TARGET2 module of the two NCBs. Only with Novation at the end of the day then these outstanding claims and liabilities are moved to the ECB balance sheet. As a consequence, it is unclear whether the TARGET balances arising between NCBs should be considered under German law or not, given that they may not be issued in the German jurisdiction.¹¹

It was the ex post decision of *Novation* that transformed the TARGET balances from bilateral between NCBs to bilateral between one NCB and the ECB, thus centralising the ECB acting as a central counterparty. This implies two alternatives. First, the forced and technical shifts of the legal jurisdictions of TARGET balances to Frankfurt am Main, regardless of whether their TARGET balances are accrued vis-à-vis Germany, entails that even if TARGET balances can be understood as FX swaps, they are governed by German law and thus it remains legally impossible to redenominate them in the domestic currency, even though they de facto are liabilities of the domestic central bank. This, however, seems to be in contrast with the policy of introducing Collective Action Clauses in all European sovereign bonds since 2013 as a mechanism for potential debt restructuring.

Second, in international law, swap arrangements are usually defined as non-binding or non-legal arrangements at the point of contact of distinct monetary sovereigns, which means that TARGET balances can be argued to be swap lines even without a

¹¹Bundesbank–Banca d’Italia transactions would involve German law, but TARGET balances arising from Banque de France–Banca d’Italia transactions do not touch the German legal system until Novation brings the claims and liabilities against the ECB.

binding legal swap agreement. In this case, the legal interpretation of TARGET balances between domestic law, German law, and European law would be open to discussion, and thus may be re-denominated in the new domestic currency –which would then be easy to be settled. The legal scholarship on such issue is absent, as swap lines have been analysed primarily from the perspective of the Fed (Baker, 2013) or within the context of international law that is not applicable to the EMU (Fawcett, 1968; Gold, 1984).

Indeed, however, it is clear that defining TARGET balances as swaps would be a significant step in clarifying intra-EMU balances as well as the legal nature itself of swap lines, as these are tools that have lacked a formal legal infrastructure as argued by (Baker, 2013, p.645): ‘swap lines can be a significant aid in fostering domestic and international financial market stability during financial crises, but this objective cannot be reached unless and until the swap lines themselves are grounded in a new, thoughtful, practical, and forward-looking legal framework.’ Such a legal framework for intra-EMU balances is currently absent or kept away from the public light.

5.6 Conclusion

This chapter explored the presence of monetary hierarchies in the EMU, highlighting a novel interpretation of the architecture of the Eurozone and Eurosystem based on the approach to monetary hierarchies developed in the previous chapters. In doing so, the chapter replicated the analysis of the ECU for the euro to introduce a clear parallelism with the EMU, within which private–official forms of currency hierarchy can be established. Whilst the official hierarchy is topped by the ECB, the private form can be found in terms of the deposit liabilities to non-Euro area residents of commercial banks or of the single NCBs.

Three key arguments were put forward in this chapter. First, it was shown that the euro displays monetary hierarchies along the same forms of the ECU, namely along official and private axes if different ‘legacy-euros’ are identified: indeed, euro-balances guarantee access only to the NCB in which they reside, and only indirectly they offer access to other official balance sheets. In other words, there is a different legacy-euro for each jurisdiction (each NCB). Second, the chapter then established the forms and pieces of each of the two monetary hierarchies, namely the ECB and the Bundesbank balance sheets respectively. Third, these legacy-euros are connected through the official monetary

hierarchy that sees the ECB playing the role of CCP for all other NCBs. The euro-system improves the ECU by creating the backstop of the private hierarchy by the official one. Such backstop is guaranteed through a unique mechanism, though: the TARGET system and the creation on demand of TARGET balances to maintain the par valuation across legacy-euros. Ultimately, it was shown that TARGET balances do not appear to be a direct form of quasi-world money, but a contractual system of access to official balance sheets, thus resembling official FX swap lines extended by central banks.

Finding multiple euro-balances issued by distinct balance sheets that are hierarchically tiered in the Eurozone brings forth two key consequences. First, rather than being a monetary *union*, the European project appears to be a simple case of monetary and financial *integration*. Second, the monetary architecture acts as a structural constraint on membership in the Eurozone and shapes the subordination of members at lower tiers of the monetary hierarchy compared to the apex.

The next two chapters expand on both consequences. TARGET balances and liquidity flows are explored in Chapter 6 to show the composition of the asymmetric liquidity flows across jurisdictions and the conflation of the domestic and regional roles of money that allow for the polarisation of liquidity in the EMU. Successively, Chapter 7 elaborates on the idea of the Eurozone being far from a union and closer to a poorly integrated system by analysing *fragmentation* as a characteristic of the structure of the Eurosystem's plumbing, showing that it is a deeper source of subordination rather than just a price phenomenon.

Chapter 6

TARGET2, Between Capital and Liquidity Flows towards Hybrid Money

6.1 Introduction

This chapter explores the dimension of liquidity flows within the European Monetary Union (EMU) by looking at the TARGET¹ balances for the National Central Banks (NCBs) belonging to the Eurosystem. To do so, this chapter employs first a Balance of Payments (BoP) decomposition for seven countries,² then delves into two elaborations. First, it argues against mono-causal explanations of TARGET balances by clarifying the difference between liquidity and capital flows and showing that the causes for the liquidity outflows from TARGET deficit countries do not have to coincide with the causes for liquidity inflows in TARGET surplus countries. Second, it explores the composition of capital flows for the member countries analysed. The focus on Portfolio Investments derives from the finding of the BoP decomposition and show that Portfolio Investments in TARGET deficit countries are primarily driven by the non-financial sectors (Non-Financial Corporations and Households).

The chapter puts forward an innovative stylised fact about the difference between

¹Trans-European Automated Real-time Gross Settlement Express Transfer system (TARGET).

²The countries were selected based on two criteria: first, a comparison of ‘core’ and ‘periphery’ requires the inclusion of core and peripheral countries; second, data availability acts as a constraint, given the large dataset used and the various time-series requirements. For this reasons, the countries selected were: Italy, Spain, Greece, France, Germany, Luxembourg, and the Netherlands.

TARGET surplus and TARGET deficit countries: whilst the former show liquidity outflows through gross capital outflows in the form of portfolio investments, they also show liquidity inflows through MFIs net foreign funding (and other components such as the Current and Capital accounts or the other liabilities of the central bank for Germany, or the foreign investments in domestic government and private debt securities for France and Luxembourg). Conversely, TARGET deficit countries tend to show the peculiar feature of euro liquidity outflows through both portfolio investments and interbank lending. As a consequence, it is the conclusion of this chapter that money markets in the EMU not only froze and became fragmented during the Eurozone crisis, but they actually reversed –in a perverse way– the direction of net flows from the crisis hit countries to primarily Germany and France.

After a short review of the literature and of TARGET balances in Section 6.1.1, the chapter proceeds as follows. Section 6.2 discusses the methodology employed in decomposing the BoP. The main findings of the BoP decompositions are then discussed in Section 6.3 for six countries. Section 6.4 explains the difference between *capital* and *liquidity* flows and offers empirical evidence on the direction of Portfolio Investments within the EMU. As the main gross flows were argued to be Portfolio Investments in foreign securities, Section 6.5 focuses on this type of capital flows to examine the composition of gross liquidity outflows. Section 6.6 discusses the role of TARGET as a hybrid funding mechanism and begins to look into the interbank market not only as fragments but as distorted to a higher degree shown by the importance of banks as agent of net liquidity outflows flows from TARGET deficit countries both in terms of sources and conduits. Section 6.7 concludes. Appendices A.II and B.II provide further data and a detailed account of the components used for the Balance of Payment decomposition respectively.

6.1.1 The relevance of TARGET

The way to understand the asymmetric functioning of the EMU is to focus on liquidity flows within the EMU. Whilst Becker et al. (2010) argue that ‘[I]nternationally, periphery financialisation has been critically dependent on over-liquidity in the core’ (p.242) and describe the first years of the monetary union as characterised by flows of liquidity to the Eurozone periphery, net intra-EMU liquidity flows for both the core and the periphery were balanced during these years, as shown in Figure 6.1. The balance masks euro-denominated financial liquidity inflows from the core to the periphery and trade-related liquidity outflows from the periphery.

The peculiarity of liquidity flows in the EMU arose with the Global Financial Crisis (GFC) and the building up of TARGET imbalances, as shown in Figure 6.2. The

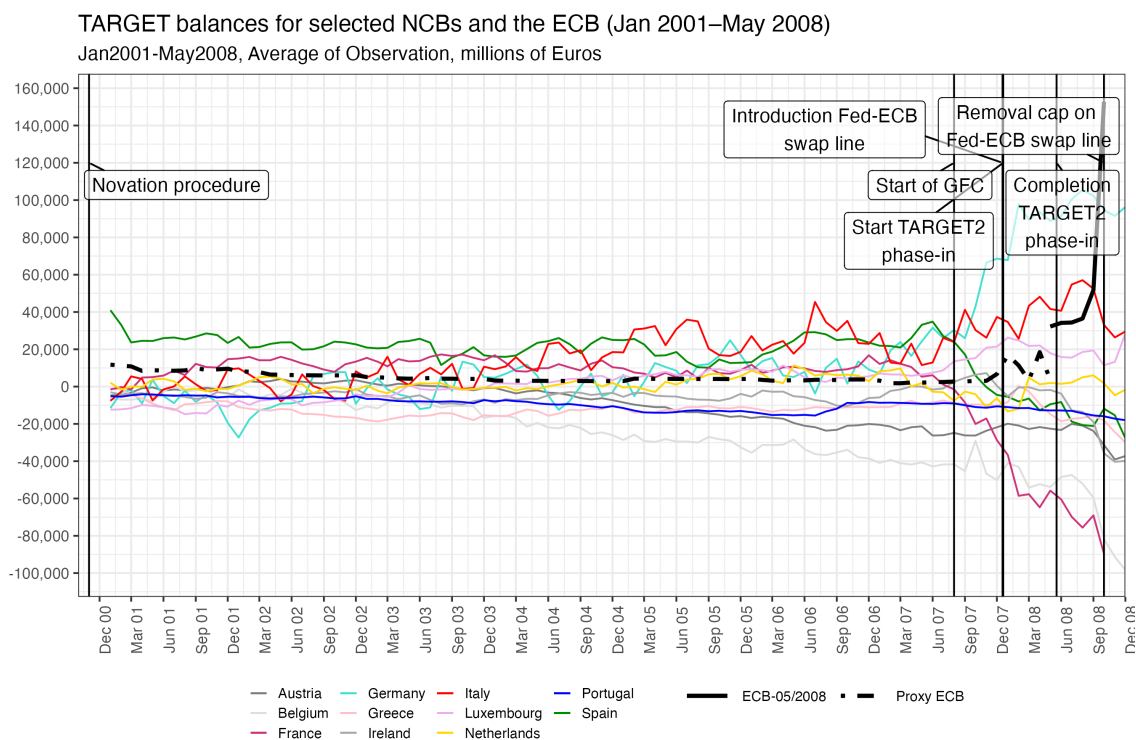


Figure 6.1. TARGET Balances for selected NCBs and the ECB (mn euro), 2001–08.

Source: Author’s own elaborations on ECB, NCBs, and National Statistical Offices Data.

liquidity flows show steady and significant outflows from the countries dubbed as ‘dependent’ by Becker et al. (2010), which calls into question the dependency argument, if the outflows of liquidity are higher than the simple repatriation of the core’s capital. Indeed, it is shown that such liquidity outflows from the periphery as more than just driven by the failure of refinancing Current Accounts, but are the result of specific investment decisions. The sustained diverging of TARGET balances for two sets of countries shows that a different approach is needed to theorise asymmetric integration in the EMU.

The explanations for the TARGET balances have focused on the technical specification of the issue rather than placing such divergence into the context of monetary integration. Indeed, the analyses of TARGET balances have relied mostly on a mechanical interpretation focusing primarily on three classes of explanations for the drivers of TARGET balances: the Current Account (CA), the Capital Account/Capital flows, and the Monetary Policy.

TARGET2 attracted attention in the aftermath of the GFC and during the Eurozone Crisis in which Sinn and Wollmershäuser (2012b) argued that it represented an implicit or ‘stealth’ bailout for the countries that could not finance their current account

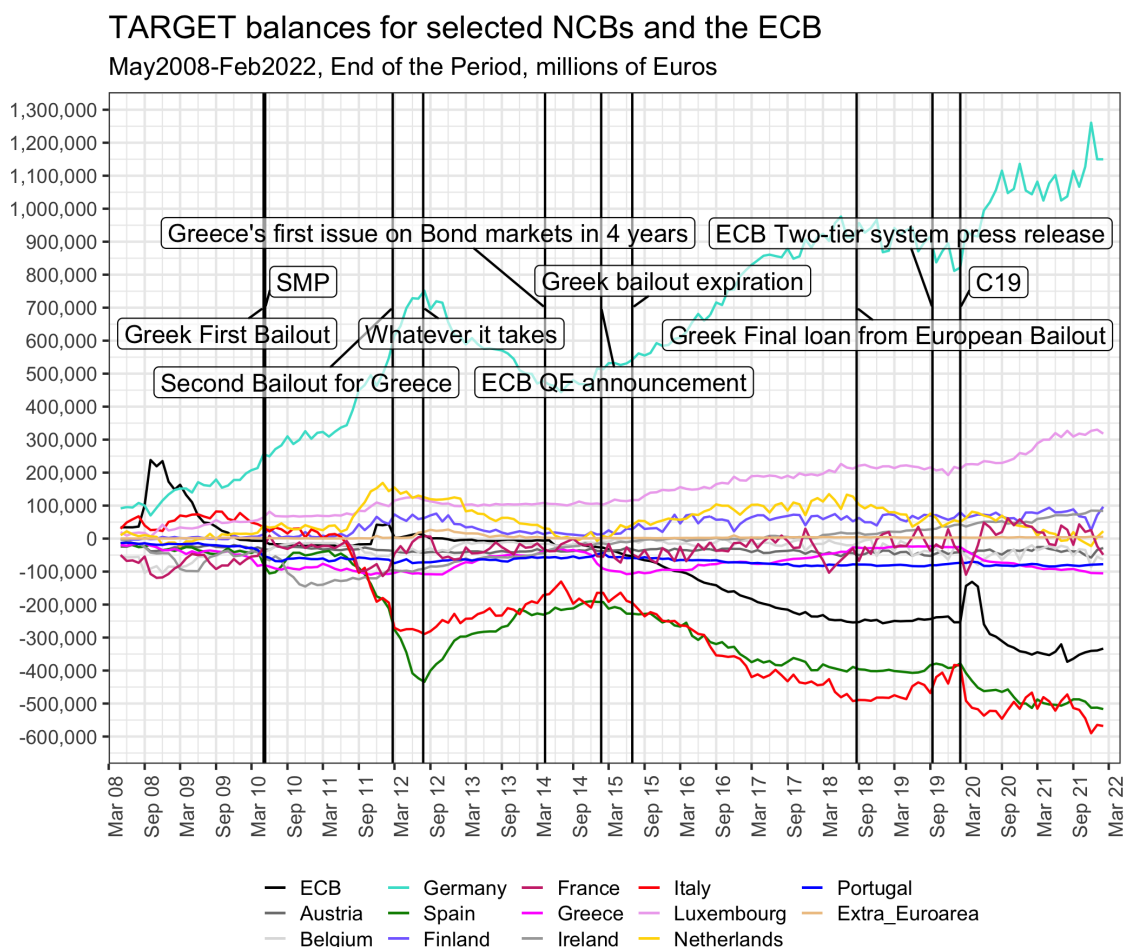


Figure 6.2. TARGET Balances for selected NCBs and the ECB (mn euro), 2008–22.

Source: Author's own elaborations on ECB, NCBs, and National Statistical Offices Data.

deficits through private capital inflows due to ‘sudden stops’. These countries, located in the ‘periphery’, made use of the automatic provision of liquidity provided through and by the TARGET system³ to smooth the Current Account adjustment imposed by the halting of capital flows from the core and even the increase in flows to the core from the periphery, primarily to hedge against higher risks in the periphery.

This view is also shared by Blake who argues that ‘Target2 debits are therefore an unambiguous sign that liquidity is being created in one part of the Eurozone to finance the acquisition of goods imported from another part’ (Blake, 2018, p.29), transforming private loans used to finance such Current Accounts deficits into liabilities for the NCBs and by

³This is required to avoid bouncing back payments between actors in different jurisdiction.

default of the national governments. By doing so and by not having a formal limit to the size that balances can reach, TARGET2 is argued to be the system that keeps the Euro afloat bailing out the BoP deficit Southern peripheral countries. Similarly, Auer (2012) finds that before the 2007 crisis there was no correlation between current accounts and TARGET2 balances, but this changed with the fragmentation of the interbank markets from 2007 supporting the CA financing thesis of the rising TARGET2 balances.

As an alternative to the CA-related explanation of the TARGET2 imbalances is the KA-driven interpretation of the polarisation of the EMU. Authors within this approach tend to highlight specific causes for capital flights to the core (Germany mainly) in times of crisis, amongst which the eagerness of European big banks to reduce exposure to redenomination risk –following a breakup of the Euro– (Cecchetti et al., 2012) and speculative capital flows and their movements driven by ‘fear and panic’ (De Grauwe and Ji, 2012; Whelan, 2014b; Cheung et al., 2020). In opposition to these arguments, the figures shown in this chapter show that whilst the capital flows out of the periphery explain the TARGET deficit, they do not explain the German TARGET surpluses, corroborating the view offered by Minenna et al. on the reallocation of non-bank sector’s portfolios and private wealth ‘from government bonds to foreign bonds, mutual funds, and shares’ (Minenna et al., 2019, p.152).

A third line of enquiry discusses the institutional explanation for the capital account drivers of TARGET2 imbalances putting forward the mechanical nature of such balances as a by-product of the ECB’s monetary policy –in particular its Asset Purchase Programmes (APP), which are carried out in a decentralised fashion and spur rebalancing flows of capital across European jurisdictions (Eisenschmidt et al., 2017). This explanation tries to account for the experience of the post-crisis experience in which unorthodox monetary policy continued to be present and implemented in a decentralised way, leaving the role of creating central bank liquidity to the single NCBs. The main line of thought of this mechanical approach to TARGET2 balances converges on the capital flows explanation by arguing that the cause for the rise of such (im-)balances should be found in the consequences of the decentralised implementation of monetary policy which may (or may not) stimulate capital outflows from the periphery.

This remains the ECB’s formal position on the cause of TARGET2 balances, which remarks how TARGET2 balances are seen as a ‘normal’ feature of a monetary union built on the institutional structure of the EMU. These balances should be not considered as signs of distress or fragility in the national economies and their banks’ funding markets, but they can be symptoms of market fragmentation during periods of stress like 2007-08 and 2011-12 (ECB, 2011, p.35-40). This position evolved successively with the introduction of APP, with the ECB stating that ‘[c]ross-border APP transactions

are common owing to the integrated nature of euro area financial markets and give rise to changes in TARGET balances' (ECB, 2016b, p.20), underlining especially the correlation (and for the ECB even the causation) between the Public Sector Purchase Programmes (PSPP) begun in 2015 and TARGET2 balances, which implies that the government debt purchased by each NCBs was held primarily outside of its national jurisdiction (ECB, 2016b; Auer and Bogdanova, 2017).

More elaborate views find a more balanced relationship between the ECB's monetary policy and the rise of TARGET2 balances, primarily through private capital flows spurred by the liquidity injected by NCBs. Two arguments have been made to outline the complexity of this capital flows-monetary policy combination onto TARGET2. First, the idea of certain jurisdictions like Germany and to a lesser extent the Netherlands and Luxembourg behaving as conduits between NCBs carrying out PSPP and owners of government bonds outside of the EMU/TARGET2 system, who themselves use these conduits to access TARGET2 and thus give rise to internal TARGET2 balances reflecting the movements of the bonds (Eisenschmidt et al., 2017; Minenna et al., 2018, 2019).

Second, the 'monetary policy configuration' (Terzi, 2019, p.167) matters in setting the environment in which private capital flows then lead –or not– to changes in TARGET2 balances, as shown by Eisenschmidt et al. (2017) differentiation between supply- and demand-driven injections of liquidity and how it affects the TARGET2 balances. Two examples suffice: during crisis time, monetary policy may provide the refinancing needed to fund capital flights from the periphery to the core (Whelan, 2014b); and during the aftermath of the Eurozone crisis, by affecting the liquidity and overnight balances of banks in different jurisdictions, monetary policy was able to affect T2 balances by affecting the behaviour of banks in the interbank market, which Terzi (2019) argues to be key to the absence of rebalancing of T2 positions (the role of excess liquidity for TARGET2 was discussed in Cecioni and Ferrero (2012) and has only been re-explored recently by the ECB in Duca-Radu and Friz (2020)).

6.2 TARGET and BoP: the process of disaggregation

TARGET balances display the net position of each NCB and against the ECB and of the ECB against the rest of the NCBs. Data on the gross TARGET positions of

each NCB with a single other NCB is not available.⁴ Whilst the net TARGET positions show in aggregate the net flows of euro-liquidity across jurisdictions,⁵ they mask the composition and size of gross, cross-border flows of liquidity. A first step to assess such flows is decomposing BoP for the countries in the EMU, a task that would not be possible in the US given the mismatch between federal reserve Districts (12 in total), and the ‘fiscal’ States (50 in total).

The Balance of Payments is an accounting identity and thus does not describe or restrict behaviours of the sectors analysed. As an accounting identity, it is true by definition and prevents one from inferring causal relationships amongst its components, such as any sectoral financial flow and TARGET balances. Thus, the accounting identity of the BoP cannot be used as a tool to describe the mechanics that reinstate an equilibrium, but can provide an image of the composition of gross financial flows. Rather than understanding the exercise of decomposing the BoP as one aimed at explaining the TARGET balances of the countries studied, it is argued here that the TARGET balances show an asymmetric flow of liquidity which prompts investigating starting with the Balance of Payments for the sake of understanding where the imbalances lie.

Decomposing the BoP is the necessary first step for two reasons. First, TARGET balances arise only when euro-liquidity crosses borders, entailing that establishing a connection between the rise in TARGET liabilities of one NCB with the monetary policy stance of the Eurosystem remains limited and unverified without looking into the cross-border flows (cf. ECB, 2011). Second, it allows to move back from *net* flows to the possibility of looking at *gross* flows. The distinction between net and gross flows, especially with regard to financial flows, was outlined by Borio and Disyatat (2011), who showed that gross capital flows are not captured in size and composition by net capital flows, thus implying that net flows cannot explain the composition and fragility of cross-border interbank lending. Crucially, net –liquidity– flows, and by extension the stress on the CA⁶ fail to encompass the form and features of the process of monetary integration just as net capital flows fail to accurately describe the financial integration of a country in the international financial system (Prates, 2020).

This work offers a novel BoP decomposition based on on both type and sector

⁴The positions are netted via *novation* at the end of every business day.

⁵The EMU’s decentralised nature implies as many monetary jurisdictions as NCBs plus the special ECB jurisdictions. Each of these correspond to the geographical area of National sovereignty of the respective government, apart from the ECB’s, which is located on German ground. In other words, the ECB balance sheet is ‘located’ in a separate jurisdictions from the Bundesbank.

⁶Current Accounts as origins of imbalances is a proposition put forward by what Borio and Disyatat (2011) dub the ‘Excess Saving’ view, which connects sees net capital flows originating in the current account surpluses of developing countries the source of excess liquidity that then is argued to have fuelled the Global Financial Crisis.

of the flows, combining gross and net flows depending on the component. I proceed with decomposing the monthly (or quarterly due to data limitations) BoP flows, which are then used to estimate the monthly net TARGET balance for the NCB of the country in question. A correct decomposition will yield a TARGET estimate that is in line with the value recorded in the *Financial Account – Other Investments*⁷ of a country and with the TARGET balance published by the Statistical Data Warehouse (SDW) of the Eurosystem. Such estimation relies on the technical nature of TARGET as a residual from all transactions that cross the border and on the important peculiarity of the EMU that monetary jurisdictions and national borders coincide. For this reasons, the ECB TARGET balance cannot be estimated, as there is no BoP to decompose; rather, the ECB TARGET balance will be considered a residual, namely the difference between all TARGET liabilities and all target surpluses, or alternatively:

$$- \sum_{j=1}^n TARGET_{j,t} \tag{6.1}$$

where n is the number of NCBs, and $TARGET_{j,t}$ is the TARGET balance of NCB_j at time t , positive if it is a net asset and negative if it is a net liability.

The monthly flows are then cumulated in order to show the size and direction of liquidity flows during the 2010s, and to depict a better picture of the sector and type of flows behind the sustained increase in TARGET imbalances. A granular analysis of the composition of the monthly flows as compared to the cumulative tendencies has not yet been done, and it offers insights into gross positions, the appearance of financial stress, and the cyclicity of flows.

The BoP decomposition cannot provide an ultimate explanation of the *drivers* of TARGET balances, but it can offer the sectoral imbalance underpinning the TARGET assets or liabilities. From the decomposition of the BoP, one can assess the disequilibria between inflows and outflows of liquidity, and thus find the components of the drivers of TARGET2 balances: it is improper to argue that through the BoP identity we can derive the single drivers of the TARGET balances, as by definition they arise with the presence of an imbalances between two or more components. Crucially, however, it is important

⁷“Transactions and positions corresponding to claims and liabilities among CUNCBs and the CUCB (including those arising from settlement and clearing arrangements) are to be recorded for the central bank under other investment, currency and deposits or loans (depending on the nature of the claim) in the balance of payments and IIP of member economies. If changes in these intra-CU claims and liabilities do not arise from transactions, relevant entries are to be made under the ‘other adjustment’ column of the IIP. Remuneration of these claims and liabilities is to be recorded in the balance of payments of CU member economies as income on a gross basis under investment income, other investment.” (International Monetary Fund, 2009, Annex 3 A3.46).

to stress that whilst the BoP is calculated for a country and the rest of the world as counterparty, TARGET balances represent only intra-EMU cross-border liquidity flows.

A BoP approach to TARGET balances has been primarily developed by the Banca d'Italia (2017) for Italy, and then elaborated on by Minenna, Dosi, and Roventini (2018, 2019) who focus primarily on the balances for the sectors rather than kinds of flows. The BoP decomposition offered in this section improves both approaches by expanding the time frame, the number of countries reconstructed, the level of decomposition, and the components identified, focusing on the type of flow. Furthermore, it also corrects the inaccuracies present in the original BoP decomposition by Minenna et al. (2018), such as arguing that the cumulative interbank lending is counted as part of the Portfolio Investments (liabilities) of Monetary and Financial Institutions other than the Central Bank, whilst actually overnight lending and repo transactions are recorded in the 'Other Investments' of the Financial Account.

6.2.1 The technical decomposition

The BoP decomposition developed here reconciles the standard International Monetary Fund (2009) Manual and the ECB (2016c) Manual with the availability of data from the *Balance of Payments and International Investment Position (BP6)* data set compiled by the NCBs and National Statistics Offices in Eurozone member countries and Eurostat. The aggregation of monthly flows was compiled from the first date in which all components for the country in question were available (unless stated otherwise), implying that the aggregations have different starting points.⁸

The BoP decomposition offered is constructed on one main observation: whether a transaction –financial or non– causes a *liquidity* outflow from or inflow to the reference jurisdiction. Adding together the sum of inflows and the sum of outflows yields the TARGET2 balance for the NCB in question. Whilst we can arrive to the intra-EMU TARGET balance from the total BoP of a country, the flows analysed represent transactions with the rest of the world and not only with Eurozone counterparties; as such, section 6.4 and 6.5 will offer more details specific to intra-EMU flows.

The BoP of a country is decomposed here in the following way:

⁸Given that some countries have data available from 2008 and others only from 2013, it was decided that removing 5 years and having all BoP aggregations starting in 2013 removed significant information from the analysis of the single country. Hence, the aggregation was started as early as possible, neglecting the potential issues with the comparability of the figures.

$$\begin{aligned}
 \hat{T}2_t &= (CA + KA)_t^{Tot} \\
 &\quad + FPI_{Govt,t}^* + FPI_{Private,t}^* \\
 &\quad + OI_t^{MFIs} \\
 &\quad + DI_t^{Tot} \\
 &\quad + PI_{CB,t}^* + PI_{Govt,t}^* \\
 &\quad + OI_t^{CB} + OI_t^{Govt} + OI_t^{OS} \\
 &\quad - PI_t^{Residents} - Derivatives_t - \Delta OR_t \\
 &\quad + EO_t
 \end{aligned} \tag{6.2}$$

where $(CA + KA)_t^{Tot}$ is the sum of the Current Account balance and Capital Account balance for the domestic economy, $FPI_{Govt,t}^*$ is the Foreign Portfolio Investment in domestic public debt securities, $FPI_{Private,t}^*$ is the Foreign Portfolio Investment in domestic private sector securities, OI_t^{MFIs} is the net Other Investments of the Financial Account for resident Monetary and Financial Institutions other than the central bank, DI_t^{Tot} is the net Direct Investment of the domestic economy, $PI_{CB,t}^*$ is the Foreign Portfolio Investment in Liabilities of the domestic Central Bank, $PI_{Govt,t}^*$ is the Foreign Portfolio Investment in Liabilities of the domestic Government, OI_t^{CB} is the net Other Investments of the domestic Central Bank, OI_t^{Govt} is the net Other Investments of the domestic Government, OI_t^{OS} is the net Other Investments of resident Other Sectors, $PI_t^{Residents}$ is the Portfolio Investment in foreign financial assets by domestic residents, $Derivatives_t$ is the net assets of Total Derivatives transacted, ΔOR_t is the change in Official Reserves, and EO_t is the Net Errors and Omissions; t is the month or quarter for the respective flow.

Item	Accounting Entry	Meaning	When Positive, liquidity...
$(CA + KA)_t^{Tot}$	Current Account Balance + Capital Account Balance	Current Account and Capital Account Balance	inflow
$FPI_{Govt,t}^*$	Long-term (over 1 year or no stated maturity) + Short-term maturity (up to 1 year) debt securities	Foreign Investments in domestic government debt securities	inflow
$FPI_{Private,t}^*$	Long-term (over 1 year or no stated maturity) + Short-term maturity (up to 1 year) debt securities + Equity	Foreign Portfolio investment in Italian private sector securities	inflow
OI_t^{MFIs}	Liabilities - Assets	Resident MFIs other than central bank net foreign funding	inflow
DI_t^{Tot}	Liabilities - Assets	Net Foreign Direct Investment into the resident sectors	inflow
$PI_{CB,t}^*$	Liabilities	Net Foreign Portfolio Investment into the resident Central Bank liabilities	inflow
$PI_{Govt,t}^*$	Liabilities	Net Foreign Portfolio Investment into the resident Government liabilities	inflow
OI_t^{CB}	Liabilities - Assets	Net Foreign Other Investment into the resident Central Bank liabilities	inflow
OI_t^{Govt}	Liabilities - Assets	Net Foreign Other Investment into the resident Government liabilities	inflow
OI_t^{OS}	Liabilities - Assets	Net Foreign Other Investment into the resident Other Sectors liabilities	inflow
$PI_t^{Residents}$	Assets	Residents' portfolio investment in foreign securities (item G)	outflow
$Derivatives_t$	Assets - Liabilities	Residents' net Purchases of Derivatives (item F4)	outflow
ΔOR_t	CB Reserve Assets	Change in Official Reserves (item F8)	outflow
EO_t	Errors and Omissions	Error and Omissions	inflow
\hat{T}_2	TARGET2 flows estimated according to Eq.6.2	TARGET2 monthly balance	inflow

Table 6.1. Items of the BoP Decomposition and their meanings.

Notes: Items G, F4, and F8 have sign reversed in the figures below to represent their interpretation.
Source: Author's own elaborations.

It is important to remark the distinction of the concept of 'net' flows in conjunction with the liquidity flows caused: given that a positive value is defined as a *net liquidity inflow*, net investments for a domestic sector imply *liabilities – assets*, an increase in liabilities entails liquidity inflows and an increase in assets a liquidity outflow. Table 6.1 offers a condensed overview of the item and their interpretations and more importantly of whether they imply liquidity inflows or outflows when a positive amount is recorded (for more details see Appendix A.II.2). Only three items are recorded as outflows when

positive: gross Portfolio Investments in foreign securities by domestic sectors (all sectors), Derivatives (for which data is available as net assets), and the Change in Official Reserves, recorded as an asset. For these three components, the figures showing the BoP decomposition for the specific countries in Section 6.3 will reverse the sign for graphical purposes.

Section 6.3 offers both cumulative and monthly flows for the BoP decomposition of single countries. The estimation of TARGET balances of each country were carried out both as flows and as stock, thus proving the estimate consistent. Furthermore, such specific monthly flows are better equipped to show the volatility, cyclicality, and shocks affecting single flows. As will be argued, the monthly flows show that the flows with higher monthly volatility and spikes do not coincide with the flows that cumulatively prove to be more diverging.

6.3 TARGET and the BoP: the findings

Although there would be different ways to group the countries analysed here, this section distinguishes between TARGET deficit countries and TARGET surplus ones.⁹ Consequently, the aim of this section is draw some stylised facts on the composition of cross-border flows behind TARGET surpluses and TARGET deficits. No causality is implied in the process of analysis.

6.3.1 TARGET deficit countries

Figure 6.3 shows the cumulative and monthly BoP flows for Italy, with both the estimation of TARGET balances (*T2 Estimate*) and the one reported by the official statistics (T2, ECB, 2022a). From Figure 6.3, it can be appreciated that the major outflows of liquidity from Italy occur in the form of domestic portfolio investment in foreign securities and in Monetary and Financial Institutions (MFIs) other than the Banca d'Italia (BdI) net liabilities, primarily the net foreign funding of the Italian banking sector.

⁹For TARGET surplus countries it is meant those countries that have a positive total TARGET2 balance, not only a positive TARGET2 balance during the period of aggregation. TARGET surplus countries include also the ones with balance close to 0 and/or short periods of negative TARGET balances.

The two have taken different paths: the former has been rapidly increasing since the introduction of the Asset Purchase Programmes (APP), whilst the latter has increased since the onset of the Eurozone crisis, remaining largely stable from 2012 to March 2020. Lastly, the current and capital account also show that they bear little weight in determining the TARGET movement, as the precipitous declines in 2011, early 2020, and late 2021 do not see similar movements in the $CA + KA$ component; undoubtedly, however, the positive $CA + KA$ since 2018 has significantly helped the lull in the Italian worsening TARGET liabilities.

The flow analysis contributes significantly to an understanding of the volatile components of the BoP. Figure 6.3 shows that the monthly TARGET position has been highly influence by the volatility in Foreign Portfolio Investments in Italian government bonds (yellow) and the monthly net liabilities of Italian MFIs other than the BdI (grey). The Italian investment in foreign securities seems to be causing consistent outflows since 2013.

Figure 6.4 and for offer the same decomposition for Spain, though complete data is available only from 2013 onward. The similarity with Italy's BoP rises in the role of Domestic portfolio investments in foreign securities (pink) and in the worsening net liabilities for the Spanish MFIs, primarily commercial banks' net foreign funding, which bore a heavier weight; similarly, the current account has been improving since the data was collected, entailing liquidity inflows that have countered the increase in TARGET liabilities, which increased by €300bn in 2011. The data available for the period prior to 2013 suggests that in 2011 Spain saw decreasing foreign investments in government securities, worsening Current and Capital Accounts, and more importantly a reversal from net inflows to outflows of the component MFIs other than BdE net liabilities (see Appendix B.II). Both can be verified in Figure 6.4, which shows the monthly flows also for the years with incomplete data, where grey bars turned considerably negative.

Compared to Italy, Spain showed a greater extent of net foreign investments in government securities, showing less volatility (Figure 6.4, yellow bars are consistently positive). Another difference shown by the two countries is the immediate aftermath of the Covid Pandemic, where Italy seems to have suffered more consistent outflows of liquidity, especially in terms of investments in government bonds (see the through in March-April 2020 in Figure 6.3).

Ultimately, Spain BoP shows the ESM programme of the 11th December 2012 in figure 6.4 (dark blue), consisting in a liquidity inflow of €39.5bn, a programme never used by Italy and that was repaid throughout the following years, amounting to outflows of liquidity.

Figure 6.5 displays the BoP for the third TARGET deficit country analysed, Greece. Just like Italy and Spain, Greece shows liquidity outflows in the form of increasing domestic portfolio investment in foreign securities, which is aggravated by two factors unique to Greece: the worsening Current and Capital Account balance, and the decline (and reversal) of foreign portfolio investment in Greek government securities. Cumulative net liquidity inflows in Greece can be seen being primarily the rescue packages disbursed by the Greek Loan Facility (2010-2011), European Financial Stability Facility (EFSF) (2012-2015), International Monetary Fund (IMF) (2010-2015), and European Stability Mechanism (ESM) (2015-2018) programmes (blue bars), which are key to explaining the more contained size of TARGET liabilities accumulated by Greece.

On a monthly scale (Figure 6.5), the inflows and outflows are limited due to the size of the Greek economy, showing spikes only at the apex of the Eurozone crisis, where Greece experienced outflows of liquidity primarily driven by sell-offs of Government bonds and reallocation of portfolio investments by Greek residents to foreign securities. Importantly, Greece shows better than Italy and Spain the consequences of the implementation of the two-tier system introduced released by the ECB in September 2019 and implemented since the end of October 2019 (ECB, 2019). Indeed, in September 2019, the Greece banking sector experienced net liquidity inflows in line with a reallocation of central bank reserves to the Greek banks, which did not meet the exemption allowance and hence had space for excess reserves (cf. Deutsche Bundesbank, 2021). However, in the same month Greece experienced significant portfolio investment by domestic residents in foreign securities, thus leaving TARGET balance almost unchanged.

6.3.2 TARGET surplus countries

The size of the BoP components presented in Figure 6.6 reflects the size of the TARGET balances accumulated by Germany, now over €1.2tr. Both as cumulative and monthly flows, five main features of the German BoP need to be highlighted. First, like the previous countries, Germany's liquidity outflows take primarily the form of portfolio investment by domestic investors in foreign securities, roughly two-third of the total outflows.

Second, the primary form of inflows resides in the positive Current and Capital Accounts, which record positive monthly flows for the entire period analysed. The CA, much like all other BoP components, encompasses both Eurozone and non-Eurozone counterparties. Third, the Bundesbank's other investments (light pink) has accumulated a significant portion of liquidity inflows in Germany; this entails that the net liabili-

ties under the other investment functional category of the Bundesbank have increased.¹⁰ These in turn encompass a wide range of positions, such as other equity, currency and deposits,¹¹ loans, and SDR allocations (not holdings). Fourth, residual components of the BoP become of significance for Germany, such as Direct Investments, Foreign Portfolio Investments in German private sector securities, and Financial Derivatives, both accounting for net liquidity outflows. These components did not play a role in the previous examples apart from a small one in the case of Italy.

The fifth peculiar feature consists of the positive cumulative MFIs net liabilities and the FPI in domestic government bonds, both of small size when compared to the CA balance, but of significant importance nominally and for the German mode of integration. For what concerns investments in German government securities, there is a clear decreasing trend since 2015, with the yellow bars consistently showing net monthly outflows in Figure 6.6. MFIs' net liabilities, on the other hand, began increasing again after a 2-year lull in 2015, being affected only marginally by the decision of introducing the two-tier system. Indeed, three monthly flows recorded negative sign July, October and December 2019.

Ultimately, it is worth remarking that there whilst there are no clear short-term impacts of the various programmes or Covid19 on the monthly flows, there are some components that show cyclicalities. The Other Investments by the Bundesbank shows that the Bundesbank acquires liabilities at year-end, allowing for liquidity to flow in. It starts showing cyclicalities since December 2016, gaining in size in the following end of the years, with December 2021 recording a liquidity flows into Germany of around €200bn. These are also followed by outflows of similar size in the following January, as can be seen in Figure 6.6.

The BoP Decomposition for Luxembourg shows a relatively stable TARGET2 balance throughout the 2010s, though caused by a peculiar composition of components as depicted in Figure 6.7 . Differently from the previous countries, the main form of inflows in Luxembourg is foreign portfolio investment in private sector securities, whilst the main outflows are domestic portfolio investments in foreign securities and other investments by other sectors. This last component encompasses NFCs, households, and other financial corporations, which are Money Market Funds (MMFs), non-MMFs investment funds, financial auxiliaries, insurance corporations, and pension funds. This is in line with the

¹⁰'Other investments is a residual category that includes positions and transactions other than those included in direct investment, portfolio investment, financial derivatives and employee stock options, and reserve assets.' (International Monetary Fund, 2009, p.111)

¹¹'Transactions in issued banknotes and coin are recorded under currency and deposits. Transactions by residents with nonresidents using domestically issued banknotes and coin are recorded as transactions in liabilities, and transactions by residents with nonresidents using foreign-issued banknotes and coin are transactions in assets' (International Monetary Fund, 2009, p.140-141)

role of Luxembourg as a financial centre for European capital, especially in terms of productive capital trying to avoid regulations: Luxembourg has been identified as a sink offshore financial centre (Garcia-Bernardo et al., 2017).

BoP decomposition for the Netherlands could only be constructed in quarterly data (Figure 6.8). Whilst the composition of the liquidity outflows resembles the one of the TARGET-deficit countries with increasing domestic portfolio investments in foreign securities and outflows due to MFIs net lending, the main component of liquidity outflows are direct investments. Direct Investment is a broad category in BoP Statistics that encompasses inter-company lending, pass-through funds. This is in line with the finding that the Netherlands act as a conduit off-shore financial centre between European countries and Luxembourg, through the establishment of holding companies in the Netherlands (Garcia-Bernardo et al., 2017).

The inflows, on the other hand, show a position in-between Germany and Luxembourg: the Current and Capital Account balance is the main component like Germany, but Foreign Portfolio Investment in Dutch private sector securities also accounts for a significant part of the inflows (roughly one third), which is similar to Luxembourg. A closer look also reveals that residual items such as other investments by other sectors and financial derivatives also account for an increasing portion of the liquidity inflows, a feature specific to the Netherlands.

Ultimately, there does not appear to be any cyclicalities in the BoP components, though there is a clear outlier in Q4 2020, in which Netherlands recorded a decrease of around €175bn in Foreign Portfolio Investment in Dutch private sectors securities. This occurred at the same time when Germany recorded a one-off inflow of liquidity of around €157bn in the form of Net Liabilities of the Bundesbank.

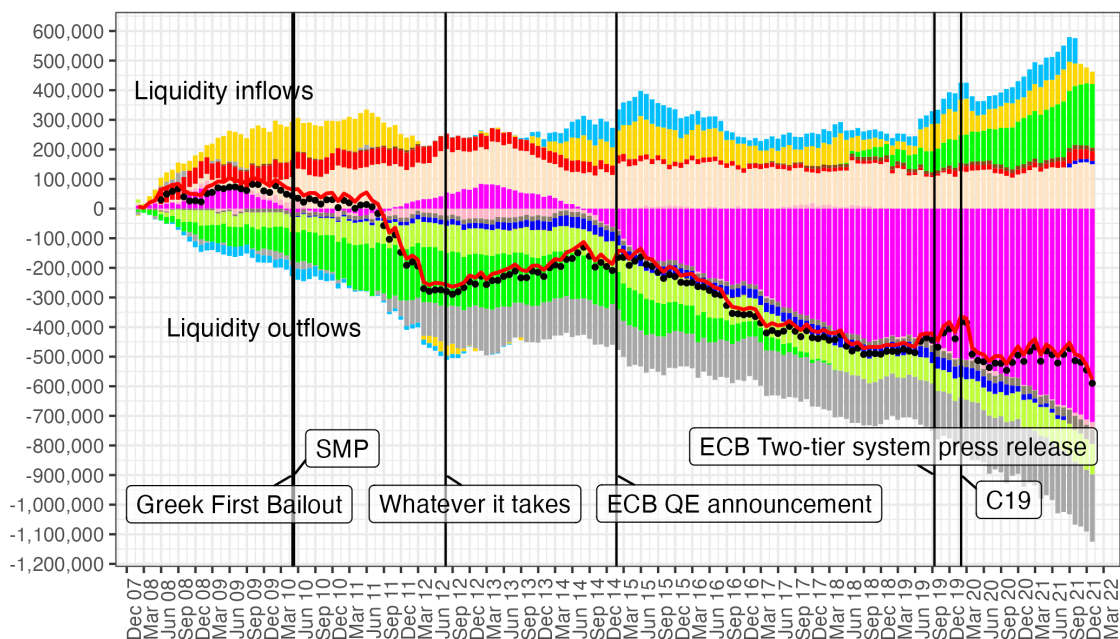
Lastly, Figure 6.9 offers the BoP decomposition for France, for which complete data is available only from 2012. Of all the countries analysed, France is the one that shows the greatest month on month volatility, with no clear persistent trends in the monthly flows (Figure 6.9). In cumulative terms it can be observed that again the liquidity outflows seem driven primarily by French portfolio investment in foreign securities, coupled with Current and Capital accounts, and direct investments. Conversely, the inflows are composed of MFIs net foreign funding, foreign portfolio investment in private sector securities and in French government bonds. The net cross-border activity of French MFIs decreased considerably from July 2012 to October 2017, highlighting the consequences of the prolonged Eurozone crisis on cross-border interbank lending. A small effect of the two-tier decision by the ECB can be seen on the outflows of liquidity in August and September 2019, around €48bn and €10bn respectively, which were however counter rapidly until the beginning of the Covid Pandemic.

In conclusion, it can be argued that the BoP decomposition for TARGET balanced or positive countries shows one important similarity and one difference with the TARGET deficit one. All countries show that liquidity outflows primarily take the form of domestic portfolio investment in foreign securities, all of which have consistently increased throughout the 2010s. However, TARGET deficit countries lack rebalancing flows, especially in terms of foreign portfolio investments and MFIs foreign funding. Leaving the Netherlands and Luxembourg on the side due to their roles as offshore financial centres, the differentiation between TARGET surplus countries (Germany and France) and TARGET deficit countries (Italy, Spain, and Greece) is reflected in the combination of 2 items of the BoP: the former countries acquire liquidity through MFIs balancing the domestic portfolio investment in the rest of the world,¹² whilst the latter countries bleed liquidity both from portfolio investments in foreign securities and in MFI net lending.

¹²The reliance on MFIs net foreign funding is clearly heavier for France than for Germany, which benefits from the large Current and Capital Accounts surpluses to rebalance investments abroad. This is in line with the evidence on the French banking sector and its relevance in European cross-border lending.

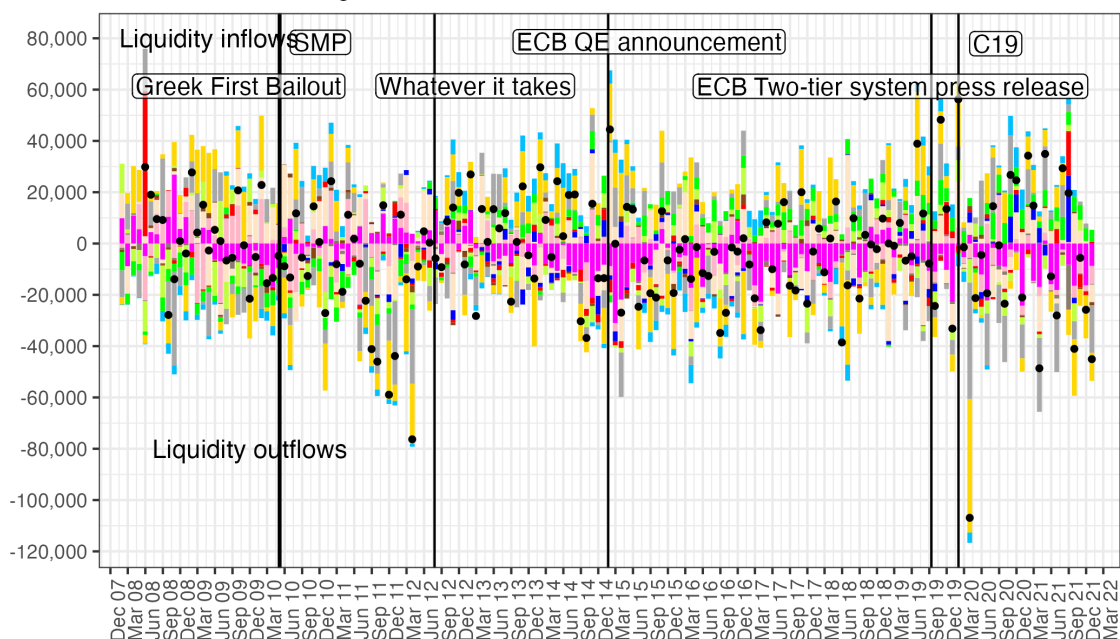
Stocks Italy Balance of Payments and TARGET balances, cumulative flows

G, F4, and F8 have sign reversed, millions of euros, 2008-2021



Flows Italy BoP Flows and TARGET balances, monthly flows

G, F4, and F8 have sign reversed, millions of euros, 2008-2021



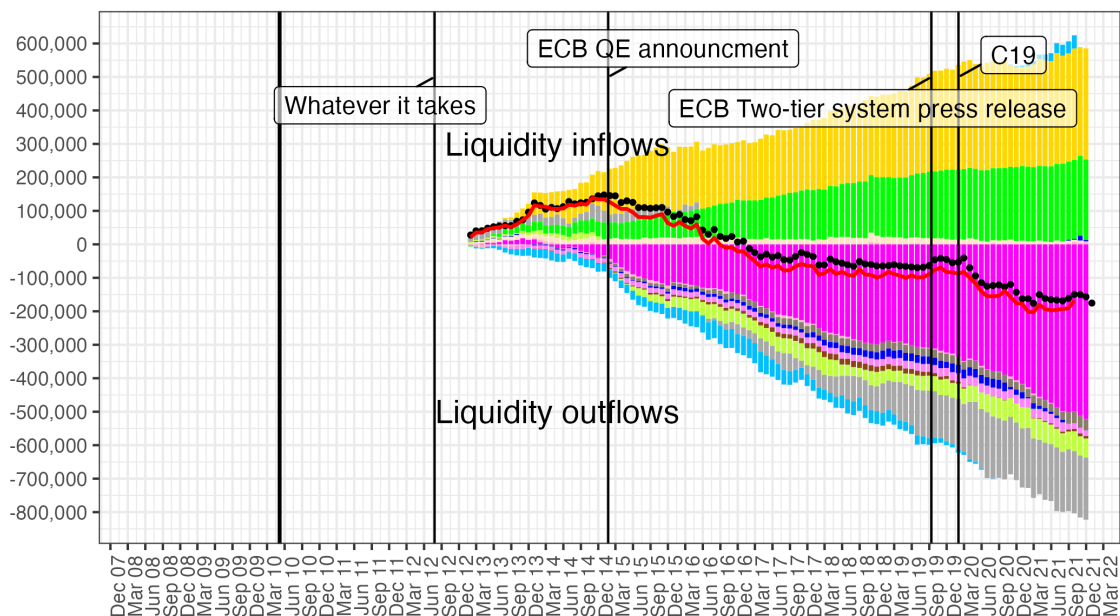
- | | | |
|---|--|---|
| <ul style="list-style-type: none"> ◆ T2 ◆ T2 Estimate | <ul style="list-style-type: none"> ■ FPI in domestic govt bonds ■ FPI in domestic private sector securities ■ Resident MFIs other than CB net foreign funding ■ CA+KA ■ Direct Inv ■ CB Port Inv liabilities ■ Govt Port Inv liabilities (-debt securities) | <ul style="list-style-type: none"> ■ Financial Derivatives ■ Other Inv - CB ■ Other Inv - Govt ■ Other Inv - other sectors ■ Change in Official Reserves ■ Net E&O ■ Domestic Port Inv in foreign securities |
|---|--|---|

Figure 6.3. Italy BoP Decomposition and TARGET Balances, cumulative and monthly flows (mn euro), 2008–21.

Source: Author's own elaborations on ECB, NCBs, and National Statistical Offices Data.

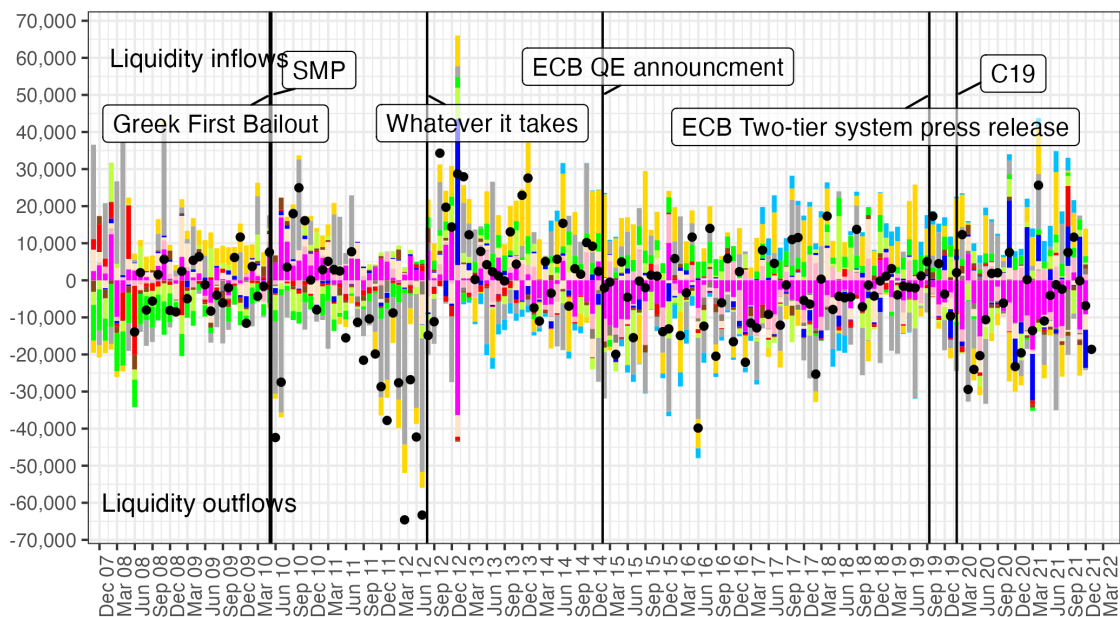
Stocks Spain BoP and TARGET balances, cumulative flows

G, F4, and F8 have sign reversed, millions of euros, 2013-2021, complete data available only from 2013 onward



Flows Spain BoP Flows and TARGET2 balances, monthly flows, 2008-21

G, F4, and F8 have sign reversed; millions of euros; FPI in domestic private sector securities start in 2013



- T2 ● T2 Estimate
- FPI in domestic govt bonds
- FPI in domestic private sector securities
- Resident MFIs other than CB net foreign funding
- CA+KA
- Direct Inv
- CB Port Inv liabilities
- Govt Port Inv liabilities (-debt securities)
- Financial Derivatives
- Other Inv - CB
- Other Inv - Govt
- Other Inv - other sectors
- Change in Official Reserves
- Net E&O
- Domestic Port Inv in foreign securities

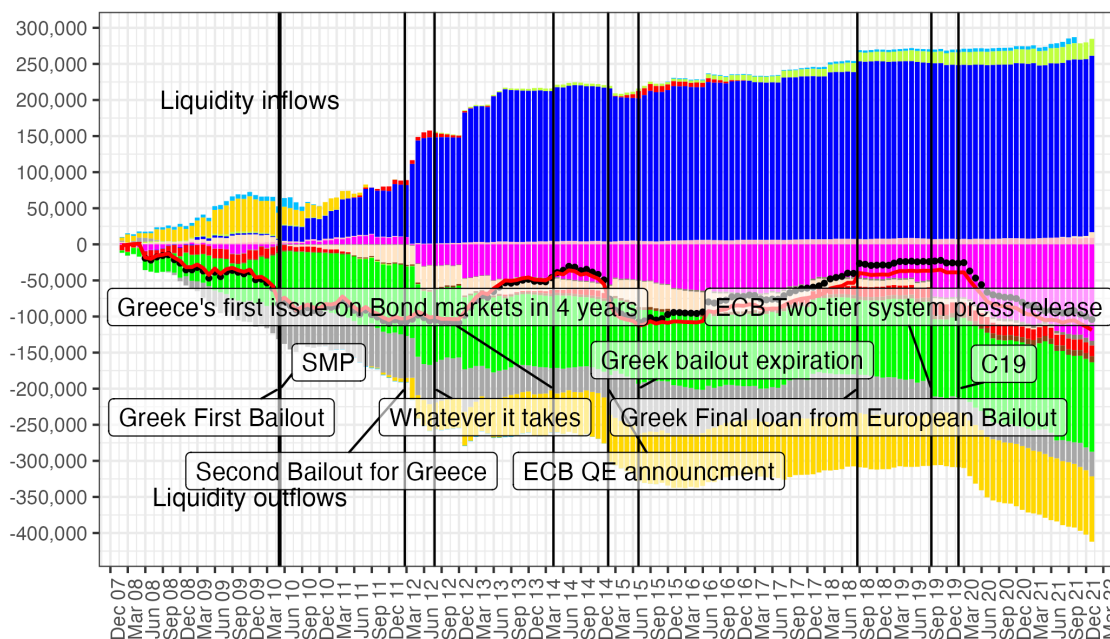
Figure 6.4. Spain BoP Decomposition and TARGET Balances, cumulative and monthly flows (mn euro), 2013–21.

Notes: Complete data is available only form 2013, hence the start of aggregation.

Source: Author's own elaborations on ECB, NCBS, and National Statistical Offices Data.

Stocks Greece BoP and TARGET balances, cumulative flows

G, F4, and F8 have sign reversed, millions of euros, 2008-21



Flows Greece BoP Flows and TARGET balances, monthly flows

G, F4, and F8 have sign reversed, millions of euros, 2008-21

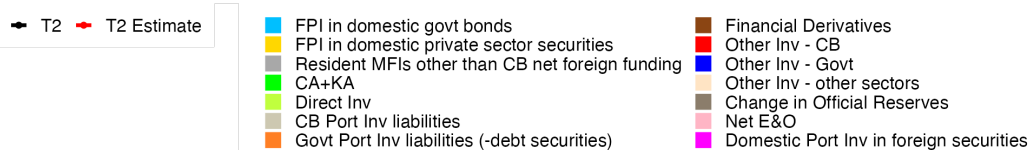
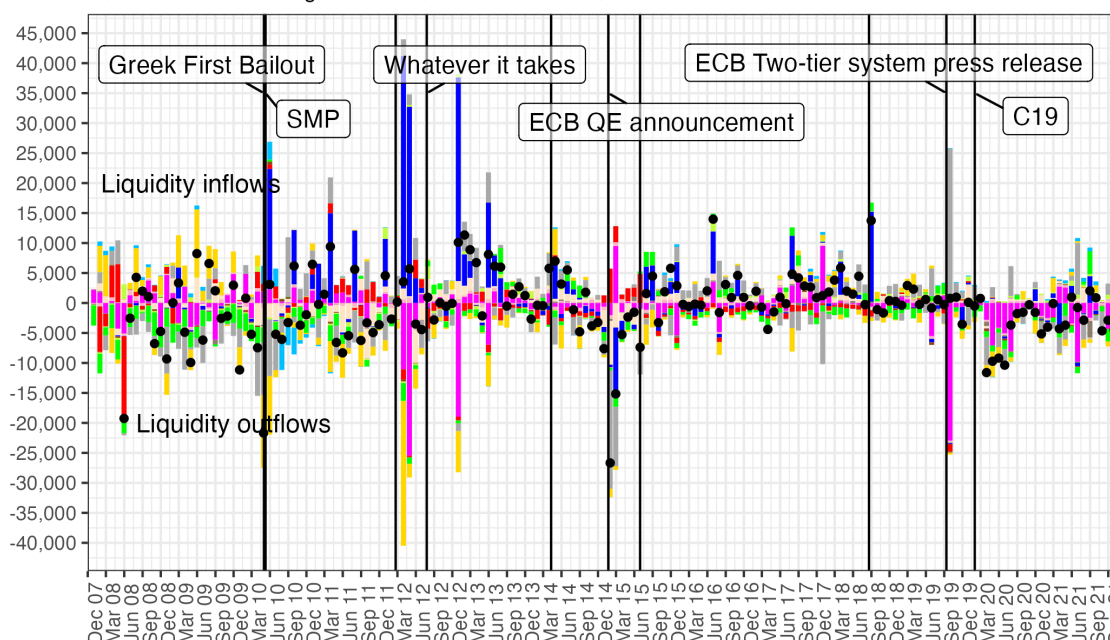
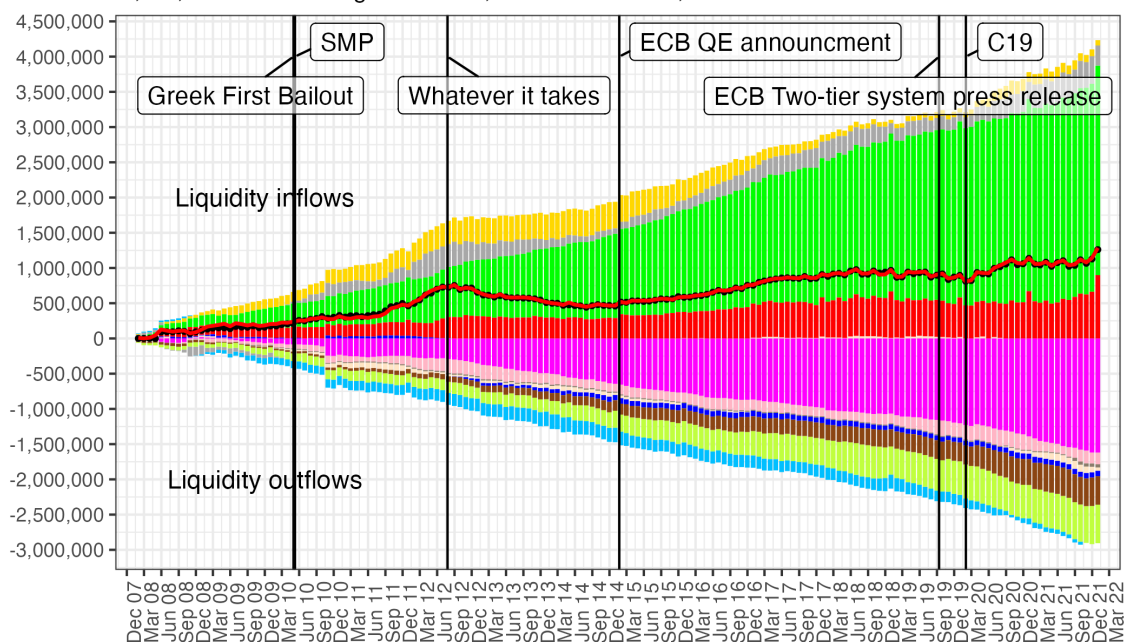


Figure 6.5. Greece BoP Decomposition and TARGET Balances, cumulative and monthly flows (mn euro), 2008–21.

Source: Author's own elaborations on ECB, NCBs, and National Statistical Offices Data.

Stocks Germany BoP and TARGET balances, cumulative flows

G, F4, and F8 have sign reversed, millions of euros, 2008-2021



Flows Germany BoP Flows and TARGET2 balances, monthly flows, 2008-21

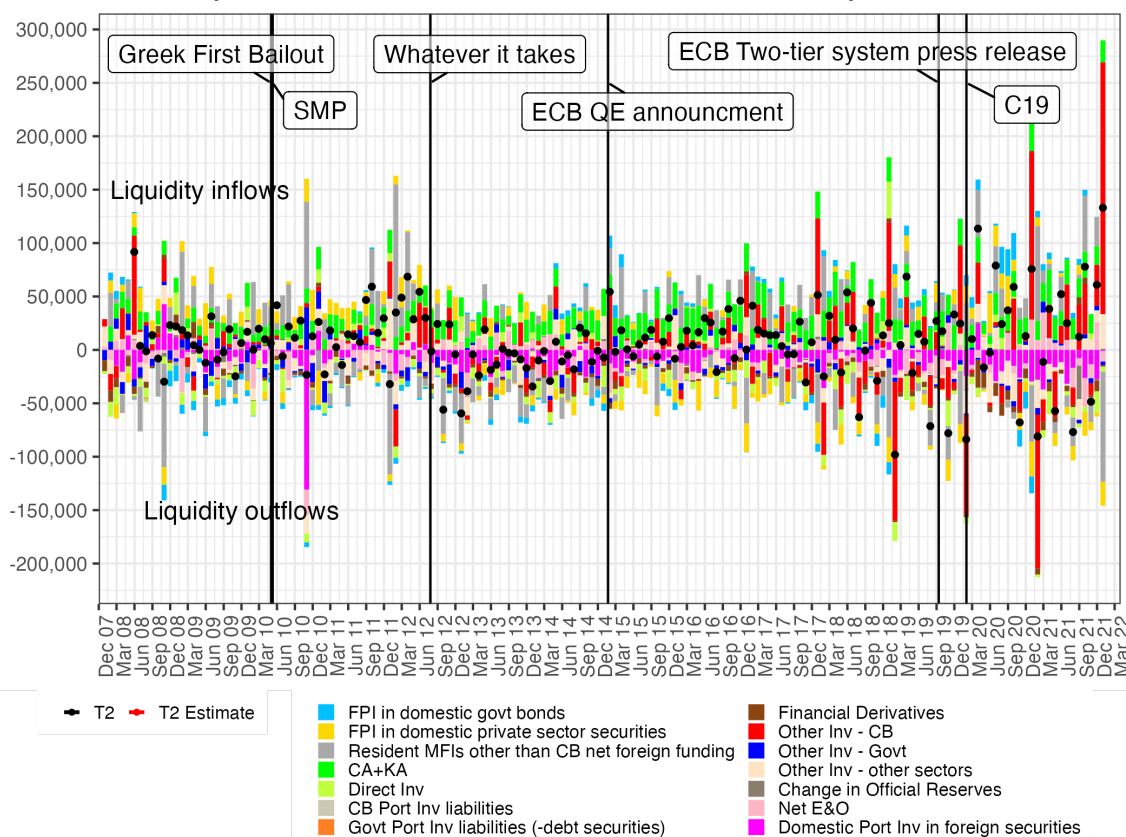
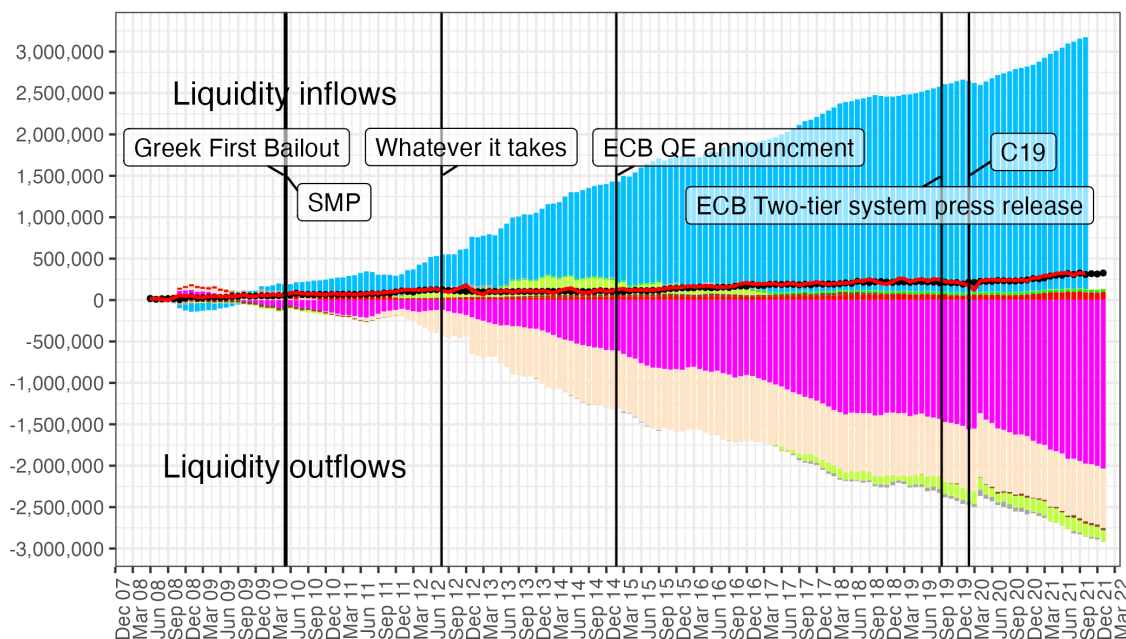


Figure 6.6. Germany BoP Decomposition and TARGET Balances, cumulative and monthly flows (mn euro), 2008–21.

Source: Author's own elaborations on ECB, NCBs, and National Statistical Offices Data.

Stocks Luxembourg BoP and TARGET balances, cumulative flows

G, F4, and F8 have sign reversed, millions of euros, 2008-2021



Flows Luxembourg BoP Flows and TARGET2 balances, monthly flows

G, F4, and F8 have sign reversed, millions of euros, 2008-2021

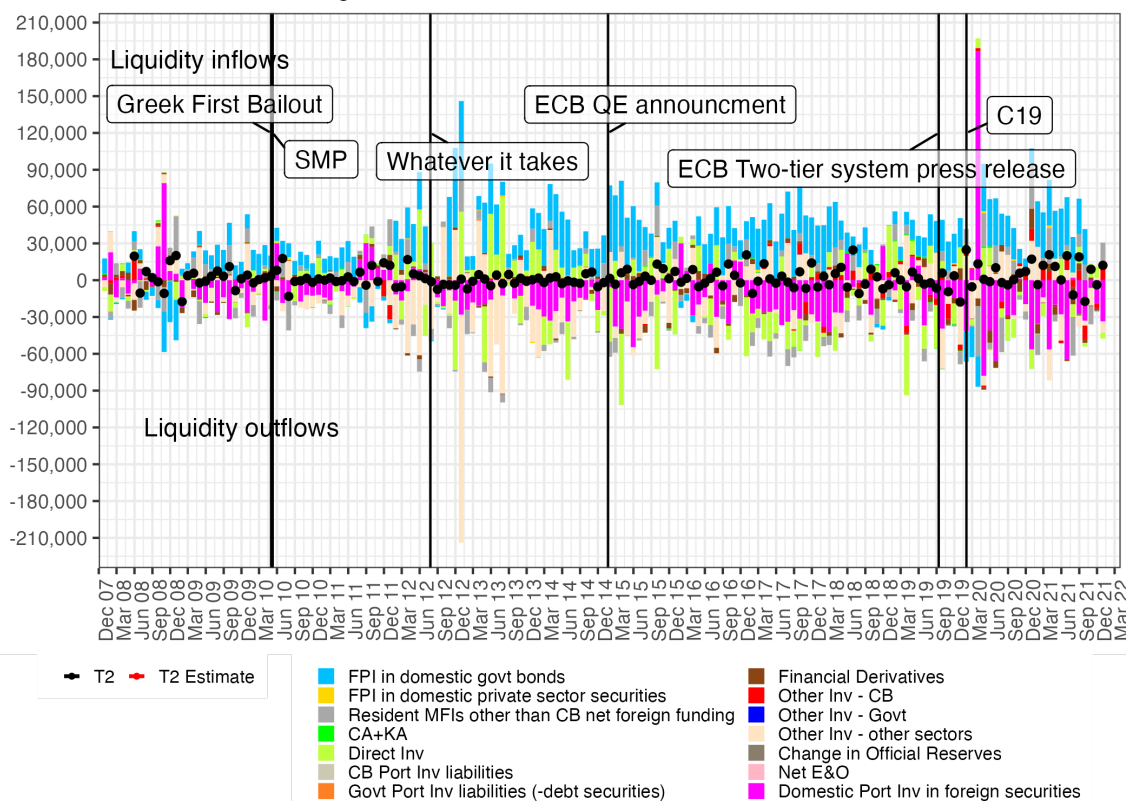
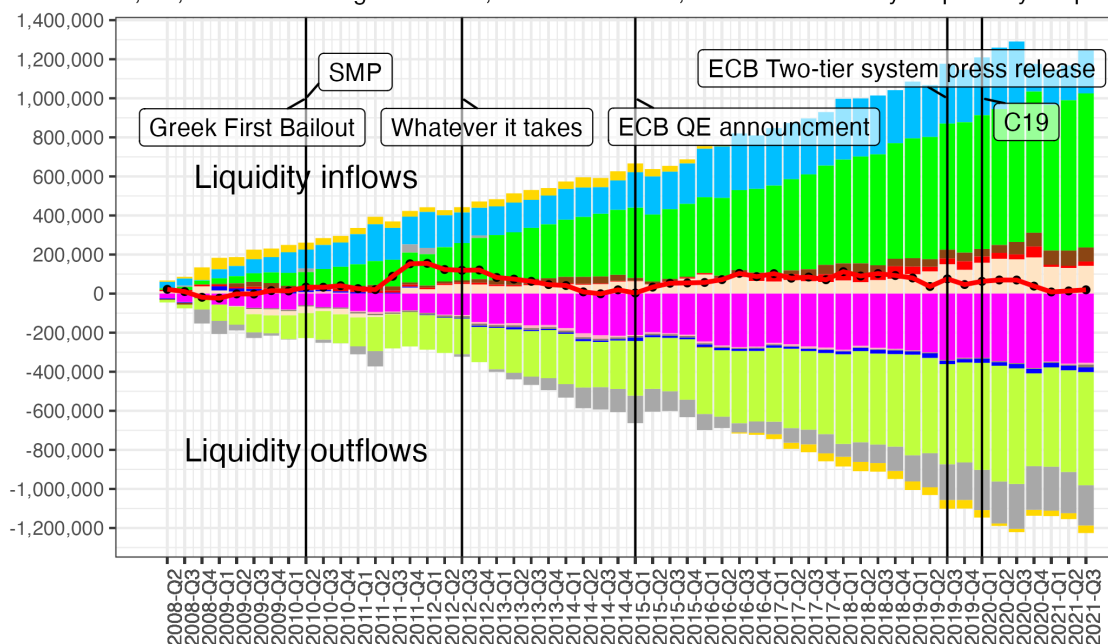


Figure 6.7. Luxembourg BoP Decomposition and TARGET Balances, cumulative and monthly flows (mn euro), 2008–21.

Source: Author's own elaborations on ECB, NCBs, and National Statistical Offices Data.

Stocks Netherlands BoP and TARGET balances, cumulative flows, 2008-21

G, F4, and F8 have sign reversed; millions of euros; Data available only in quarterly frequency



Flows Netherlands BoP Flows and TARGET2 balances, monthly flows

G, F4, and F8 have sign reversed, millions of euros, 2002-21, FPI in domestic govt bonds, FPI in domestic private sector securities start in 2013

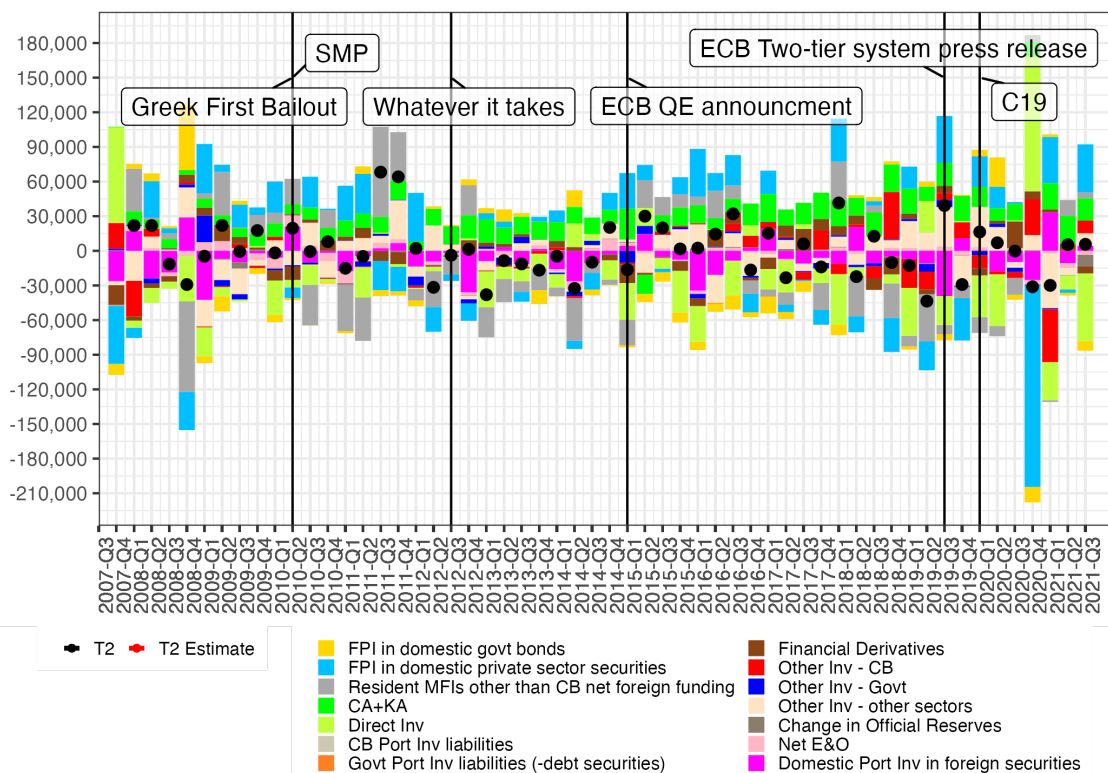


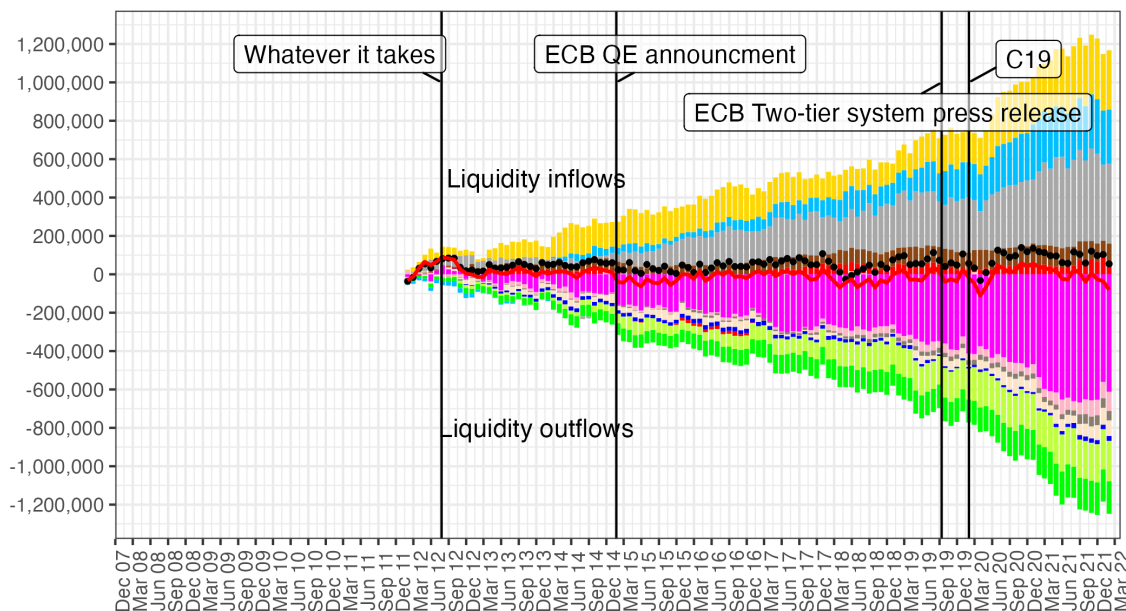
Figure 6.8. The Netherlands BoP Decomposition and TARGET Balances, cumulative and quarterly flows (mn euro), 2008–21.

Notes: Data available only in quarterly format.

Source: Author's own elaborations on ECB, NCBS, and National Statistical Offices Data.

Stocks France BoP and TARGET balances, cumulative flows

G, F4, and F8 have sign reversed, millions of euros, 2012-2021, complete data available only from 2012



Flows France BoP Flows and TARGET2 balances, monthly flows

G, F4, and F8 have sign reversed, millions of euros, 2008-2021, full data for 01/2012-10/2021

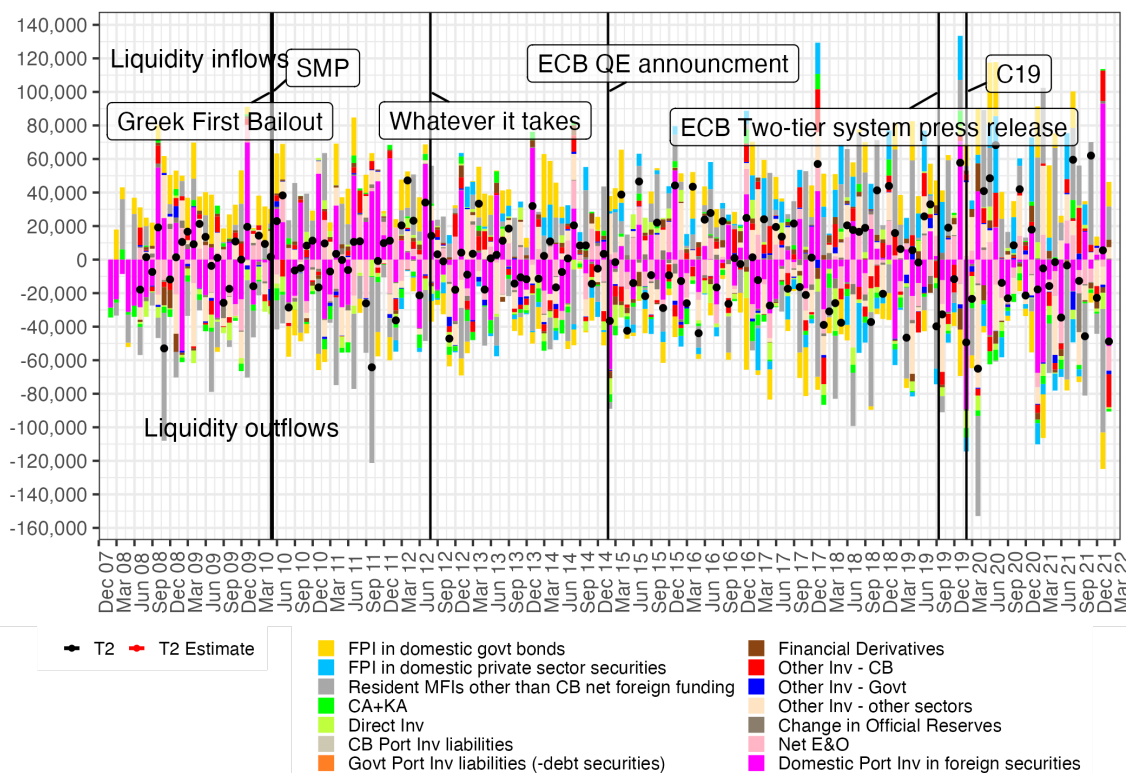


Figure 6.9. France BoP Decomposition and TARGET Balances, cumulative and monthly flows (mn euro), 2007–21.

Notes: Full data availability only starts in 2012. See the lower panel for the available flows dating prior to 2012.

Source: Author's own elaborations on ECB, NCBs, and National Statistical Offices Data.

6.4 The capital-liquidity distinction

The distinctive feature just outlined can be coupled with the definition of BoP components and TARGET balances to offer a fuller, though paradoxical, picture. Whilst the BoP components reflect transactions with the rest of the world, the TARGET balance reflect the movements of euro-liquidity within the Eurozone countries only. Separating the TARGET payment system from the more precise nature of TARGET balances as balance sheet items required to balance assets and liabilities of the NCBs when the quantity of narrow money in circulation in the district differs from the quantity of monetary base created by the NCB helps to make sense of TARGET balances.

Such difference prompts a distinction between *capital* and *liquidity*, or *money*, flows. The two concepts can be defined intuitively in the recognition that whilst all capital flows entail a flow of liquidity (the purchase or selling of a financial asset in exchange for ‘money’), not all liquidity flows have to arise from capital or financial transactions. This distinction belongs to the tradition of Political Economy and draws on the Marxian differentiation between money as capital (‘loanable money capital’) and money as money –used in transactions of any nature (Itoh and Lapavitsas, 1999).

Money as a medium is used in both kinds of transactions, but it points to qualitatively different purposes: the former to acquire financial assets and extract a profit (or interest) from the balances lent, and the latter to simply acquire a commodity (for consumption or production). Either case generates a *flow* of money-balances, and thus makes use of the *payment system* in a digitalised monetary economy. Consequently, gross TARGET balances¹³ are generated whenever there is a –central bank– money flow, including money as capital and money as money.

TARGET2 surpluses and deficits arise in a NCB balance sheet when the liquidity needs (and since the introduction of the APP also of *excess reserves*) do not match the liquidity-providing operations of a NCB, both the ones related to monetary policy (Refinancing Operations and Outright Purchases) and the ‘autonomous factors’ (such as Net Financial Assets and Emergency Liquidity Assistance credits). A mismatch between the central bank liquidity supplied by the NCB and the central bank liquidity held by the private sector must be accounted for by cross-border liquidity flows, which are settled through flows of central bank reserves. TARGET2 balances are independent but treated similarly to the issuance and flow of euro coins and banknotes, reflecting the concept of central bank liquidity flows.¹⁴

¹³The TARGET System is also used to settle transactions in other payment systems, for example SEPA.

¹⁴Central Bank liquidity can be defined as the liabilities issued by the central bank, also known as M0 or

Such similarity between these forms of *liquidity* is also shown by the fact that euro notes and coins have been created heavily as result of foreign demand, entailing that the NCB's supply of notes and coins actually does not meet the quantity of notes and coins in circulation in the monetary district, thus leaving the NCB balance sheet unbalanced unless a rebalancing item is added –which is introduced in the same section of the NCB statistical balance sheet and financial statement.¹⁵ Contrary to the accumulation of TARGET assets, the largest nominal rebalancing item for the issuance of banknotes and coins then flowing out of the monetary jurisdiction is Germany (even in 2009, around 65% of Bundesbank-issued cumulative euro notes found its way out of German jurisdiction, Bartzsch et al., 2011), with Luxembourg showing the highest issuance of notes in relation to the original allocation according to ECB rules (Roche Kelly, 2017).

Of all transactions that caused gross liquidity flows across borders, only some are capital flows proper.¹⁶ Hence, TARGET2 balances show net money flows that may or may not arise from capital flows, and that can equally arise from real transactions as well as from the payment of interest on previous debt, interbank loans, and any other form of liquidity transfer. Such a distinction is buttressed by the the findings of Section 6.3, in which liquidity outflows from the TARGET deficit countries were shown to be driven primarily by capital outflows and interbank loans outflows, whilst the liquidity inflows in the TARGET surplus countries were shown to be characterised by capital outflows and either current and capital account inflows or MFIs-driven liquidity inflows. Not only are liquidity flows not reducible to movements of capital with investment purposes (i.e., capital flows), but they provide only a portion of the picture underlying the rise of TARGET imbalances in the EMU: net liquidity flows cannot be explained by single causes but require the analysis of the missing rebalancing effect of different liquidity flows.

An example of the consequences of failing to separate capital from liquidity flows is shown in the role of capital flows in the EMU, specifically of the Portfolio Investments mentioned above. Indeed, almost paradoxically, from the figures examined so far, we can deduce that all Eurozone countries have capital outflows in the form of portfolio investments both with Eurozone and non-Eurozone counterparties, and yet TARGET deficit countries are sending euro liquidity to the TARGET surplus countries.

base money, and which include coins and notes in circulation as well as central bank reserves.

¹⁵In the NCBs financial statements, one can find in both assets and liabilities the category of 'Intra-Eurosystem assets', which collects: 'Participating interest in ECB' (only in the asset section), 'Claims equivalent to the transfer of foreign reserves', 'Claims related to TARGET2 and correspondent accounts (net)', 'Claims related to other operational requirements within the Eurosystem'. The last item is virtually identical to the net claims/liabilities coming from the allocation of euro banknotes within the Eurosystem.

¹⁶These are the Portfolio Investments, the Direct Investments and the Other Investments.

As can be seen from figure 6.10, Portfolio Investments of Italy, Spain, and Greece are mostly focused on Euro area counterparties, especially Luxembourg. Germany and France also show high ratios of intra-EMU portfolio investment, whilst Luxembourg and the Netherlands show around 30% of their Portfolio Investments with US and UK, whilst their shares of intra-EMU portfolio investments are focused on Germany and France. Figure 6.10 implies two observations: on the one hand, Portfolio Investments indeed seem to drive cross-border liquidity flows within the Eurozone –thus causing net TARGET changes; and on the other hand, TARGET deficit countries do not carry out portfolio investment with Germany in a substantial amount, preferring as counterparties Luxembourg and Ireland, the latter recycling such liquidity inflows into portfolio investments with non-EA countries and thus explaining the increasing TARGET balances. Italy itself receives considerable Portfolio Investments from Greece and Spain.

Portfolio investments by domestic sectors in foreign securities seem to be a major source of liquidity outflows for TARGET deficit countries, whilst they can account primarily for the increase of around €300bn from 2009 and 2022 in TARGET assets for Luxembourg and not for the German accumulation, which in turn is caused by inflows through the current account and the lack of unbalanced banking and financial outflows.

This suggests that the drivers of TARGET surplus for Germany and the drivers of TARGET deficits for the Mediterranean countries are different, which in turn is in line with the distinction between net and gross liquidity flows as remarked for international capital flows by Borio and Disyatat (2011), and which has not been discussed in the literature trying to account for TARGET imbalances. However, this cannot be tested as data on gross TARGET balances is not available.

What can be assessed, nevertheless, is the clear trend of the Eurozone economies shown by the BoP Decomposition and the TARGET deficits: liquidity flows out of the countries hit by the Eurocrisis. Indeed, a proper definition of the Eurozone ‘Periphery’ should rely on the net liquidity flows of the member countries, as these show structural imbalances in the process of integration and more importantly in the asymmetric working of the single and common currency. As discussed in Chapter 2, the feature of a Core-Periphery dimension is the monopolisation of interactions by the core, which is reflected in the EMU by the flows of liquidity not to foreign non-EA countries, but to specific centres within the EMU. Liquidity, driven by financial decisions and by the Real Effective Exchange Rates (REER) affecting net exports, is the true dimension of Core-Periphery.

Country Portfolio Investment by Counterparty Country, % of tot Portfolio Investments

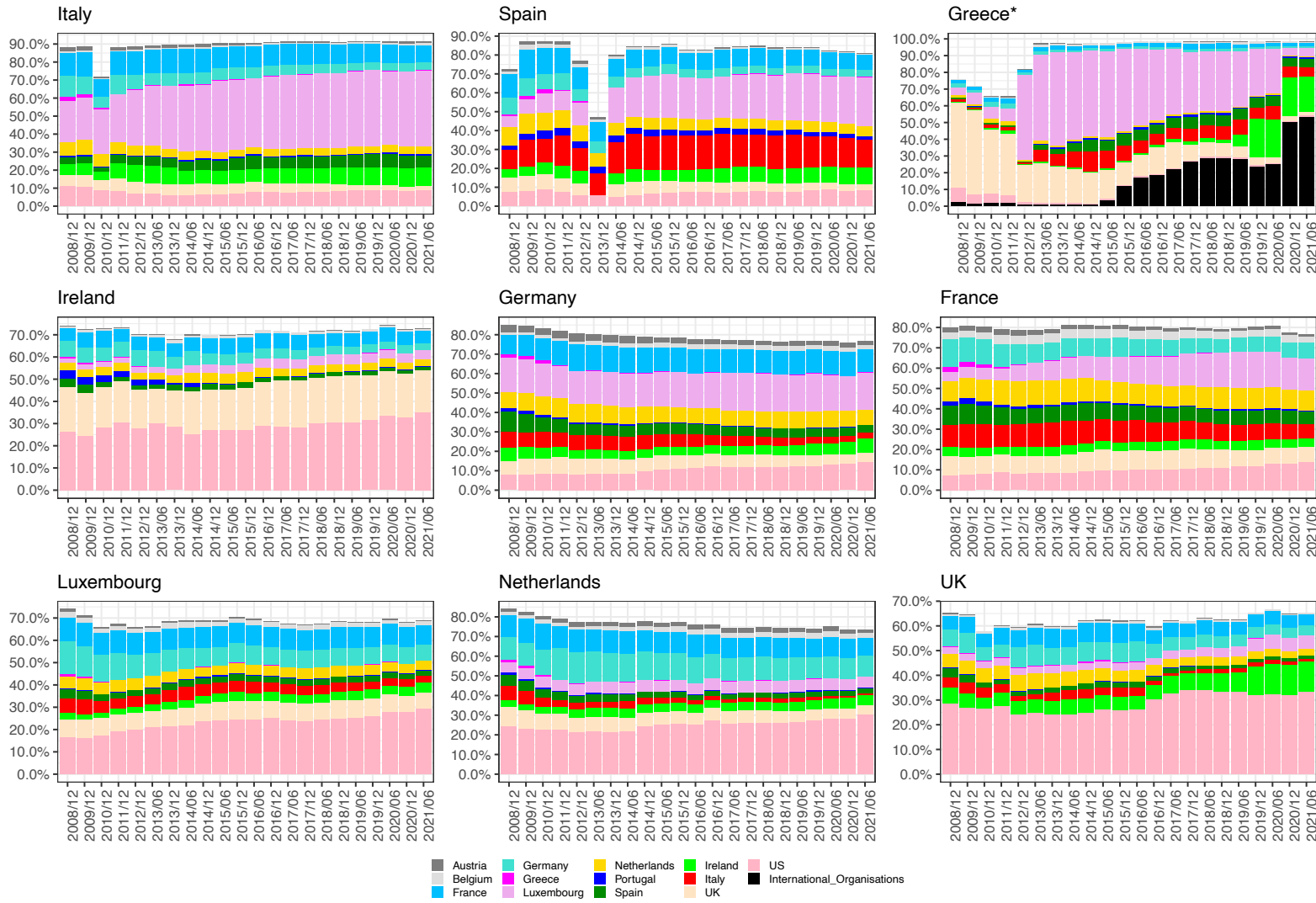


Figure 6.10. Portfolio Investment Per counterparty country (share of total), 2012–2021.

Notes: Spain: data missing in 2013 for Luxembourg and UK and for Greece 2013-2017. Greece*: International Organisations were added to explain the 2020-2021 period. These are likely to be the repayment of IMF quotas.

Source: Author’s own elaborations on IMF Coordinated Portfolio Investment Survey Data.

6.5 The agents of portfolio investments

Essential to the rise of TARGET balances are two components: the originators and the conduits of the transactions. Whilst the conduits are the banks, the originators can be any actors in the domestic economies, both financial and non-financial. The distinction is important as the originators of cross-border transactions determine the gross outflows, whilst the conduits have the ability to rebalance gross outflows with inflows of liquidity, thus affecting the net TARGET balance. However, it must be noted that the net balance is affected by other factors, such as the gross liquidity inflows from other jurisdictions. Whilst Section 6.3 discussed the composition of the gross flows highlighting the type of flows and when possible, the sector, this section focuses primarily on explaining the pink bars, namely the portfolio investments in foreign securities. The role of banks and thus of money markets is then explored in Chapter 7.

The literature on TARGET balances fails to find their roots, which appear to be located in different places for surplus and deficit countries. In this regard, deficit countries offer insights into the original causes of TARGET balances: whilst the TARGET deficits and surpluses are driven by several interconnected factors, the underlying feature is the Core-Periphery dynamics that shapes the subordinate position of the peripheral, or TARGET deficit, countries. The history of TARGET balances is one of regional integration as much as of domestic change of countries that are constrained not only by the common and single currency but also by the distortions of the mechanics that it puts in place.

It was seen that portfolio investment in foreign securities by domestic residents was one of the major causes for liquidity outflows. If banks' decisions represent the conduit that can make TARGET imbalances rise, the portfolio investment are the originators for gross outflows in all the countries examined. This section investigates the composition of such investment for both TARGET surplus and deficit countries, which is less homogeneous than expected or argued in other contributions (cf. Minenna et al., 2018, 2019); details on the components of the portfolio investments are presented in Appendix A.II.1. Figures 6.11 to 6.16 show the net acquisitions of financial assets broken down into sectors and type of asset for the countries in which portfolio investments in foreign securities by domestic residents were a significant cause of liquidity outflows.

Of all the countries analysed, Italy is the only one for which the NFCs and Households have increased substantially their acquisitions of foreign securities, shifting from debt securities (light blue) to Equity and Investment Fund Shares (dark blue). In 14 years, Italian NFCs and households have purchased €330bn of foreign equity and investment fund shares, whilst they have reduced their positions on debt securities by around €100bn.

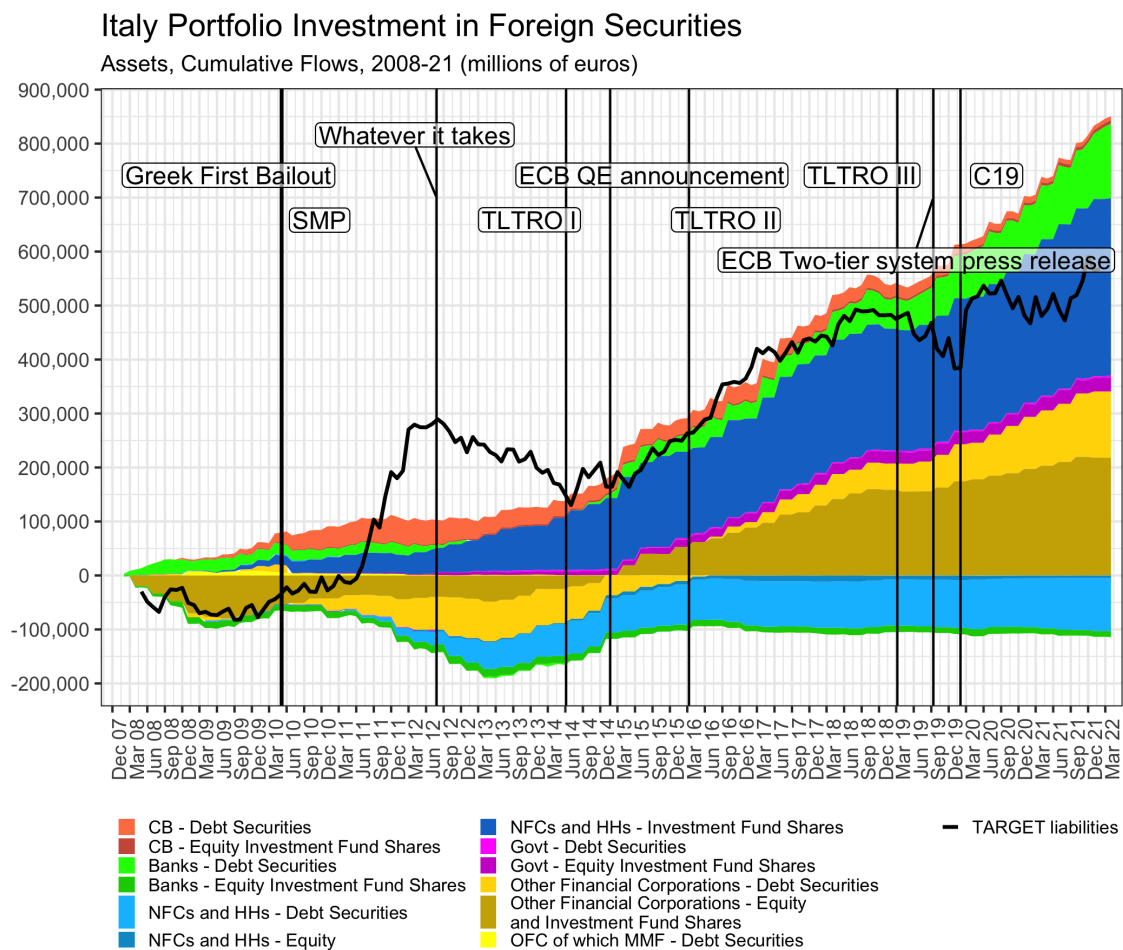


Figure 6.11. Italy Portfolio Investment in Foreign Securities and Total TARGET liabilities (mn euro), 2008–21.

Source: Author’s own elaborations on NCB and National Statistical Office Data.

Furthermore, the crucial agent of Italian portfolio investments have been financial corporations other than deposit-taking corporations and the central bank, a category that includes MMFs, non-MMF investment funds, other financial intermediaries except insurance corporations and pension funds (ICPFs), financial auxiliaries, insurance corporations, and pension funds. Since the introduction of the ECB’s APP (2015), these corporations’s assets have been the fastest growing focused especially on Equity and Investment Fund Shares, counting for about €340bn in 8 years.

Complete data for Spain is available only from 2013 onward (Figure 6.12). Over the last 10 years, there has been one clear sector driving the accumulation of foreign

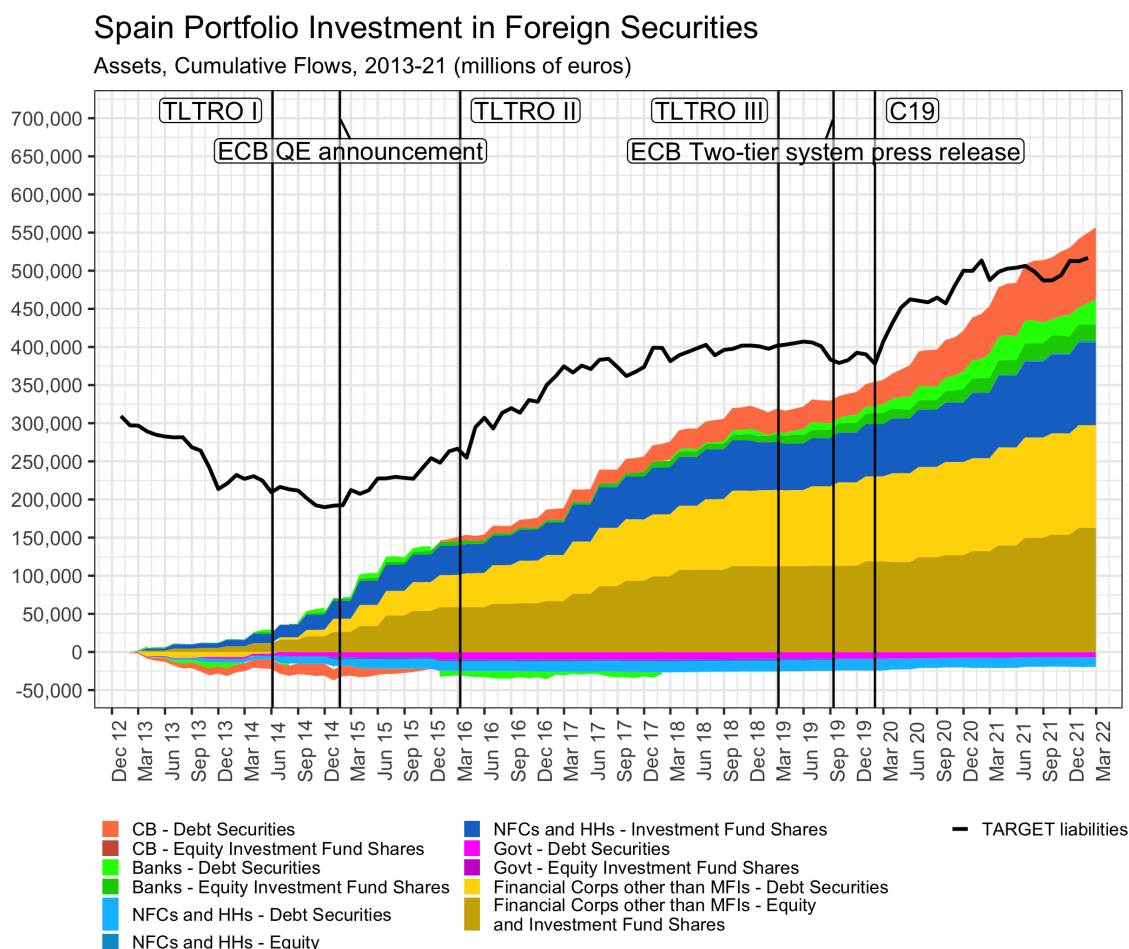


Figure 6.12. Spain Portfolio Investment in Foreign Securities and Total TARGET liabilities (mn euro), 2008–21.

Source: Author’s own elaborations on NCB and National Statistical Office Data.

assets: the financial corporations other than MFIs¹⁷ (deposit-taking corporations and the central bank), similarly to the Italian case, which account for €300bn since January 2013, evenly split between debt securities and equity and investment fund shares. Portfolio investment by NFC and households, on the other hand, accounts only for €120bn in the same period of time, one fifth of the total cumulative flows, which is in clear contrast to the finding by Minenna et al. (2018), who argue that ‘[I]n line with the Italian case, . . . key determinants are responsible for the observed dynamics: *the growth of non-financial private-sector foreign investments . . .*’ (p.154, emphasis added). Much like the Italian

¹⁷Financial Corporations other than MFIs in the graph also include MMFs in order to make it comparable to the ‘other financial corporations’ selected for Italy. The two are equivalent..

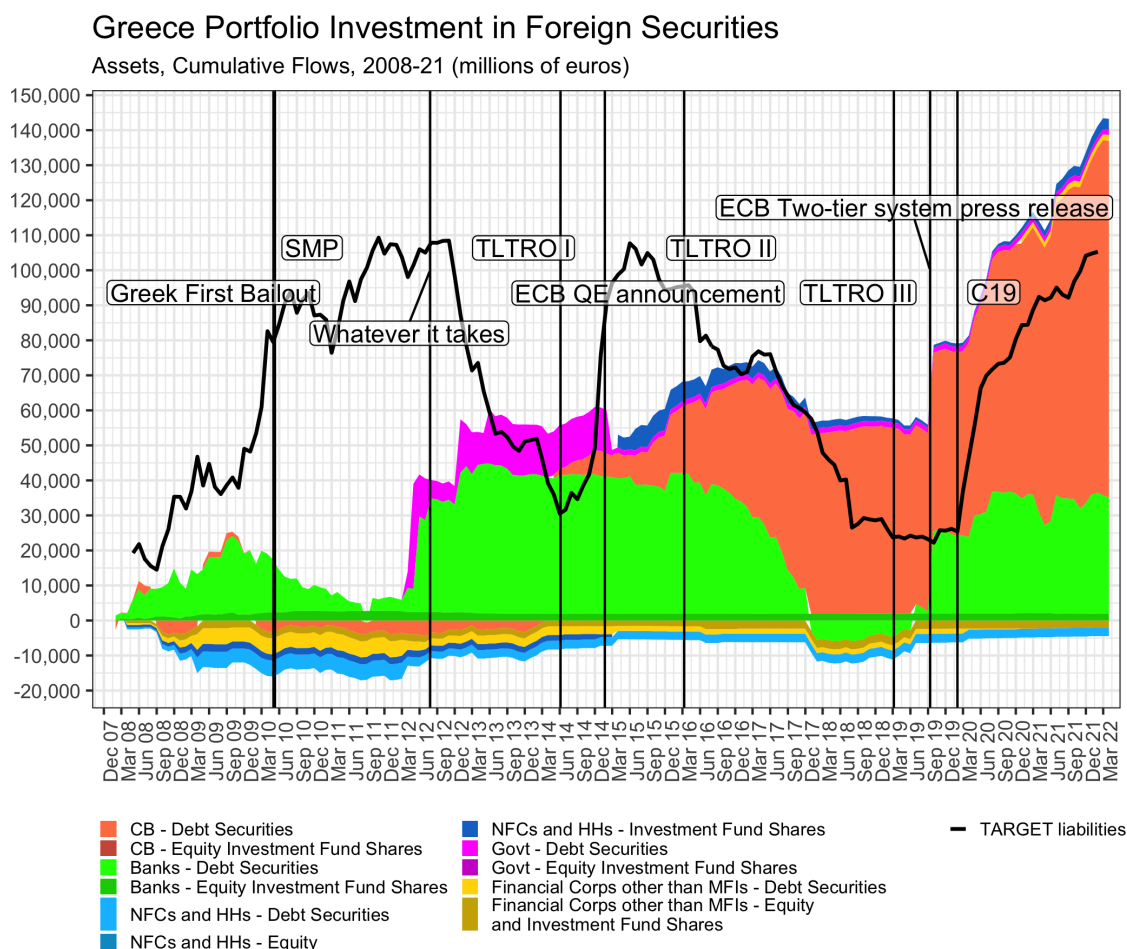


Figure 6.13. Greece Portfolio Investment in Foreign Securities and Total TARGET liabilities (mn euro), 2008–21.

Source: Author’s own elaborations on NCB and National Statistical Office Data.

case, the growth of Spanish portfolio investments accelerated after the introduction of the APP.

Figure 6.13 shows the peculiar case of Greece, which was shown to have undergone a sizeable increase in domestic portfolio investment in foreign securities since August 2019. The Greek net acquisitions of foreign assets occurred primarily through the banking sector’s (green area) and the central bank’s (red area) investments in foreign debt securities. The recent increase since 2019Q2 is driven by the Bank of Greece net acquisition of foreign debt securities, which saw a growth of 100% in less than 2 years; this has coincided with a 200% increase in the TARGET liabilities of the Bank of Greece in the same period. Interesting is also the phenomenon occurred in 2016, 2017 and 2018: the Central Bank essentially replaced the commercial banks in terms of investments in foreign debt securities

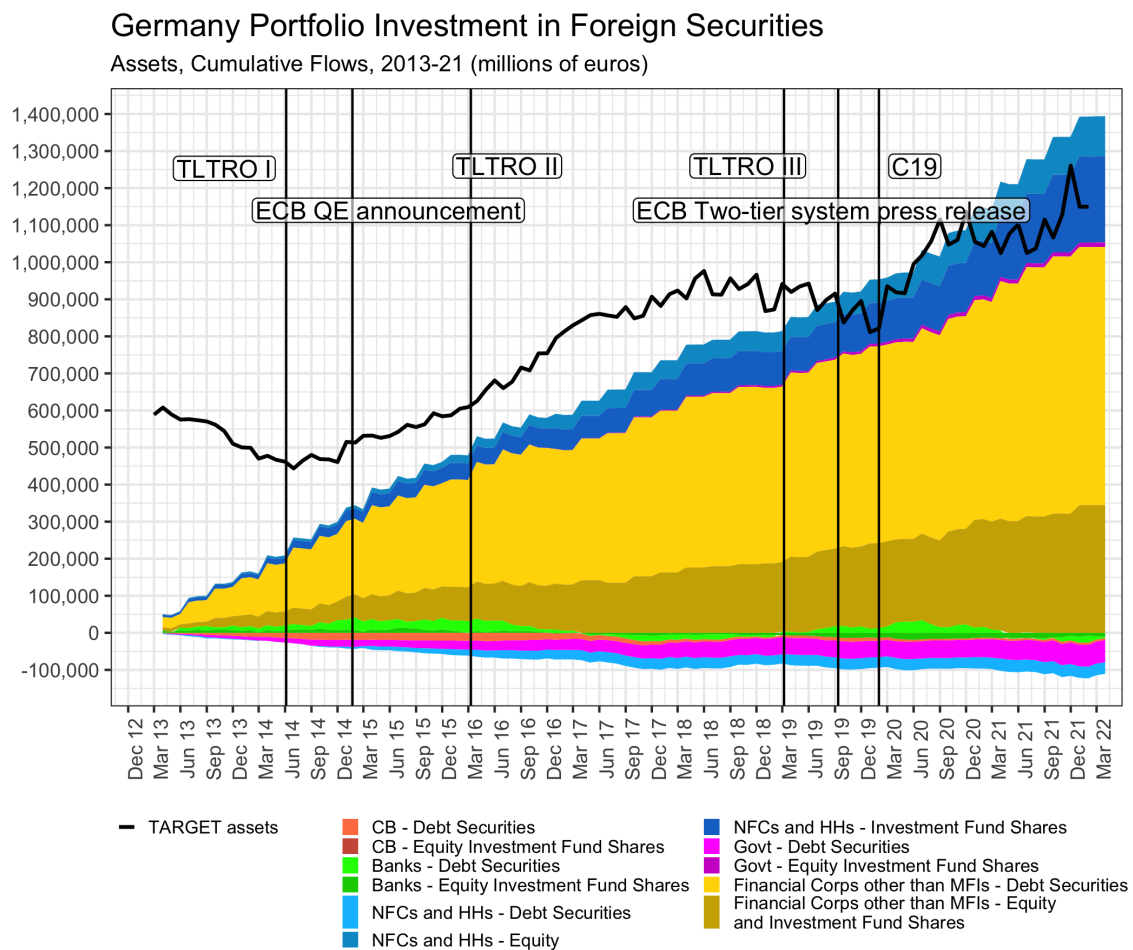


Figure 6.14. Germany Portfolio Investment in Foreign Securities and Total TARGET assets (mn euro), 2008–21.

Source: Author's own elaborations on NCB and National Statistical Office Data.

during the APP programme.

Shifting to TARGET surplus countries, Germany and Luxembourg show similar pictures (Figure 6.13 and 6.16 respectively). For both countries, financial corporations other than MFIs account for most of the net acquisitions, with a clear preference for debt securities over equity and investment funds shares. Whilst Luxembourg has quasi-negligible portfolio investments by other sectors, German NFCs and households have accumulated €300bn of both equity and investment fund shares since 2013Q1, less than one third of the growth for financial corporations other than MFIs— €1tr between 2013Q1 and 2022Q1. Whilst for TARGET deficit countries the increase in portfolio investment was accompanied by worsening TARGET balances—implying that the gross outflows to purchase foreign securities was translated in net intra-EMU liquidity outflows, Germany and

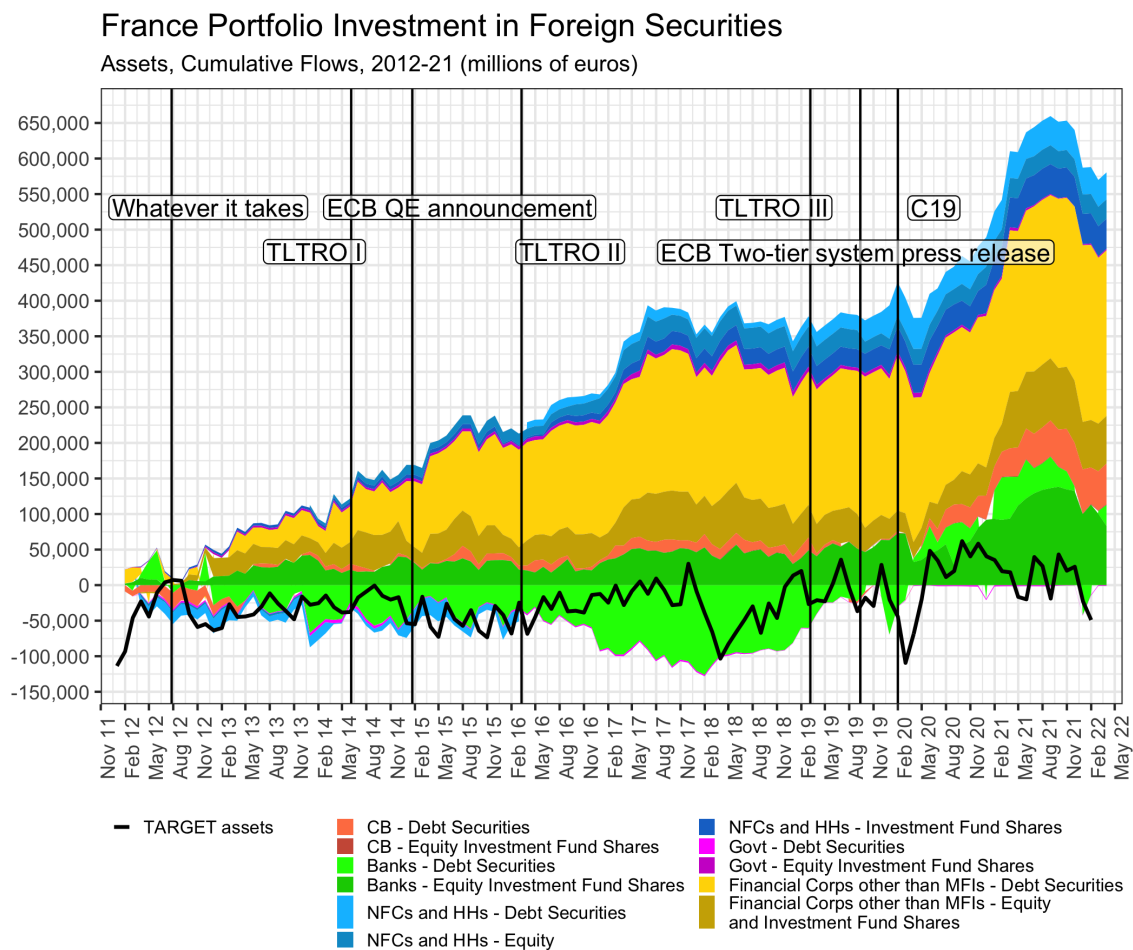


Figure 6.15. France Portfolio Investment in Foreign Securities and Total TARGET assets (mn euro), 2008–21.

Source: Author's own elaborations on NCB and National Statistical Office Data.

Luxembourg show increasing TARGET assets along their increases in capital outflows.

A less clear story is depicted in Figure 6.15, where the net acquisition of foreign financial assets by French residents is depicted together with France TARGET assets. French portfolio investments abroad are nominally more comparable to those of Spain or Italy than those of Germany and Luxembourg. The composition is, however, peculiar of France: NFCs play a small role whilst non-bank financial institutions have the largest share combining, between 2012Q1 and 2022Q1, €233bn and €67bn in cumulative assets in debt securities and equity and investment fund shares respectively. Banks, ultimately, have the second largest share, notably recording net increases in their acquisitions of both debt securities and equity and investment fund shares since late 2019.

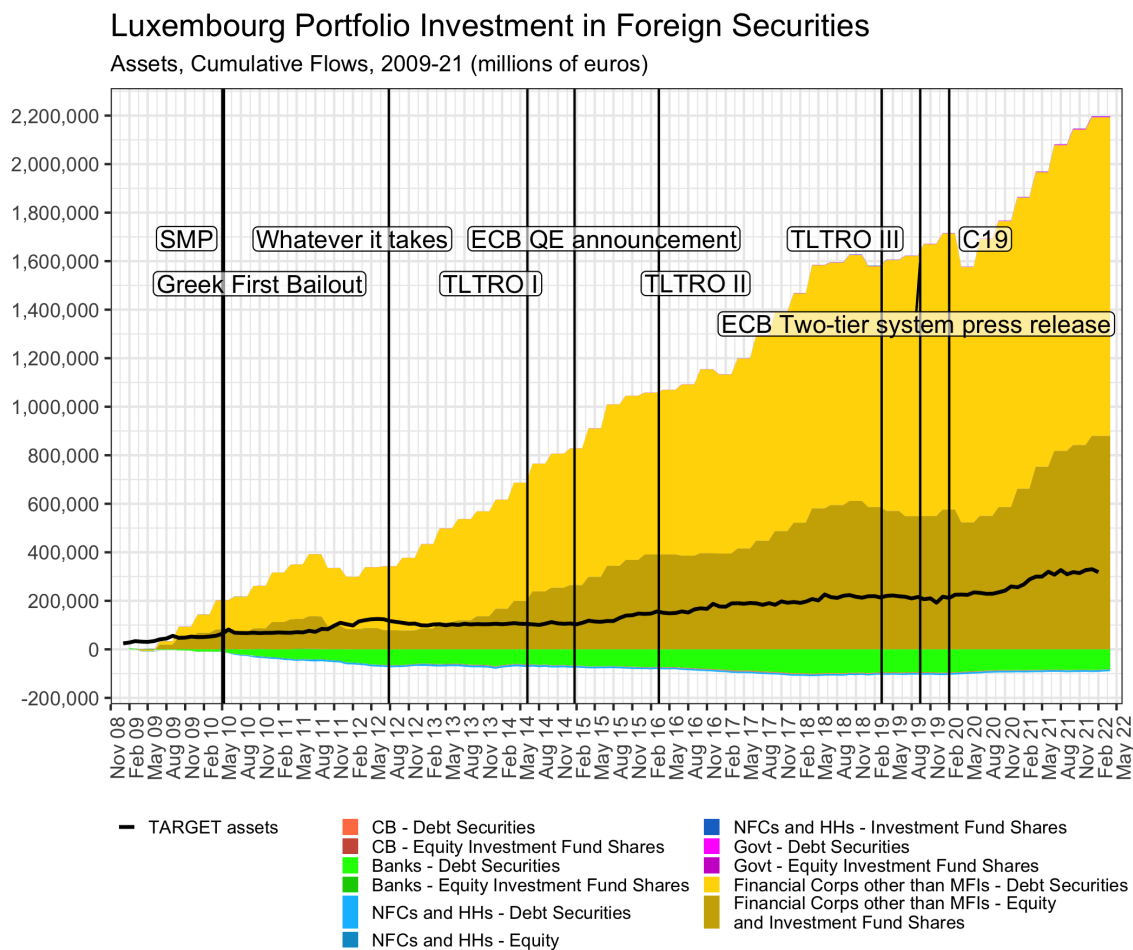


Figure 6.16. Luxembourg Portfolio Investment in Foreign Securities and Total TARGET assets (mn euro), 2008–21.

Notes:

Source: Author's own elaborations on NCB and National Statistical Office Data.

6.6 The issue with Refinancing Operations and cross-border transactions

As interbank pressures started to arise in international and regional markets around August 2007, the TARGET balances of the major Eurozone banking and financial centres (Germany, France, and Belgium) started veering off the balanced position toward the third quarter of 2007 (Figure 6.1). Such a retreat from the interbank markets was not caused by Eurozone-specific issues, but from the exposure of French and German banks to the US financial sector that was starting to unravel (Lapavitsas et al., 2010; Giordano, 2020), and that pushed the big European banks active in cross border financing to

roll back their exposure and begin a process of deleveraging, as is explained in Chapter 9. Whilst the working and fragmentation of the interbank markets are explained in the following chapter, its relevance for the rise of TARGET balances becomes clear already: given that TARGET balances arise for any euro-reserve money flow, if the market allocating such reserves does not counterbalance the original flow, a mismatch arises. Because of the *cross-jurisdictional* nature of money flows in the Eurozone, these mismatches must be artificially balanced by the TARGET mechanism and a *public* replacement for the euro interbank market. Such tension is explored in this section.

The early contributions to the rise of TARGET imbalances during the Eurozone crisis either underlined the CA financing (Sinn and Wollmershäuser, 2011, 2012a,b) or the freezing up of liquidity in interbank markets (Bindseil and König, 2011; Cecioni and Ferrero, 2012; Cecchetti et al., 2012; Fiedler et al., 2017). This literature recognised that net TARGET balances arose from the gap between liquidity outflows and their private financing through regional interbank markets; as a consequence, the NCBs had to step in as ‘interbank market-maker’ (Bindseil and König, 2011, p.8-9) in order to prevent further Euro Area-wide financial instability.

The connections between European Systemically Important Financial Institutions (SIFIs) and the payment systems threatening to dismantle the *par value* of the liabilities of the single NCBs forced the ECB Council to support the unlimited clearing and settling of interbank payments through an implicitly channel of financing, the payment system itself. This role of the Central Bank, however, was not a new feature specific of the ECB, rather it is an inherent characteristic of a Central Bank intervening with conventional monetary policy operations in order to facilitate the final settlement of payments involving banks that cannot access the interbank market (Rossi, 2007).

More recent papers further argue that the over-supply of central bank liquidity by the ECB through the various Asset Purchase Programmes as well as the set of Refinancing Operations have coincided with the withdrawal of interbank markets and thus of the alleged rebalancing interbank flows that kept TARGET2 balances in check during the 2000s (Cour-Thimann, 2013; Fiedler et al., 2017; Blake, 2018). The current official literature –though it remains very limited– coming from the ECB points to the unwanted consequences of the APP and the infrastructure of the EMU as the drivers of TARGET2 balances in recent years, and have focused on the concentration of excess reserves (Eisen-schmidt et al., 2017; Baldo et al., 2017; Åberg et al., 2021).

Whilst the observations are empirically validated and indeed the TARGET system seemed to be the alternative to lack of interbank funding, the literature has largely overlooked and simplified the difference between private and public funding for cross-border transactions, especially related to the uniqueness of the TARGET system as a source of

funding. Crucially, the process of monetary unification caused a shift in the infrastructure available for funding, and the financing of cross-border transactions has come to overlap with the operations of monetary policy.

The story of TARGET2 imbalances is embedded in the replacement of both a private and public form of funding, turning to a *hybrid* one instead. In cross-border and cross-currency systems, payments are carried out mainly through correspondent-banking system in which non-resident banks open an account with a resident bank through which it can channel payments in foreign currency. The correspondent banking system is effective in netting gross flows and carrying short short-term imbalances. With more permanent net imbalances, however, a funding system is required in order to fund the foreign currency liabilities.

Such funding system arises first in private markets with interbank loans through which the deficit banks seek to fund their net flows. This comes with the respective interbank rate, which adjusts in response to the availability of interbank funds. Net payment imbalances are financed through *private* loans that charge an interest rate at which the lenders are willing to finance the net imbalance. The interest rate, in turn would increase with worsening deficits until no one is willing to fund such imbalances. In other words, the net payment imbalances would be reflected in interest rate differentials at first.

However, if the imbalances persists and funding becomes less available entailing that the private system fails to provide the required funding, an official funding mechanism backstops the deficit banks: Central Banks can provide the funds required by entering in FX Swap agreements with the counterpart Central Bank, channelling the foreign currency liquidity to the domestic banking sector. In other words, failing of the interbank market is replaced by public funding. Such public funding is usually characterised by two features: first, it is collateralised, and second the two central banks entering the FX Swap pay different interest rates, so that the ‘deficit’ country actually pays a premium for the liquidity obtained.

In the absence of a working interbank market, banks can access their domestic NCB to both acquire –needed– reserves (a refinancing operation) as well as to acquire means of payments for the cross-border transaction, carried out again by accessing reserves, but not of the domestic NCB –rather of the foreign NCB receiving the payment. Implicitly, the use of the NCB balance sheet for *both* purposes represents a public subsidy to private banks by means of lower interest rates compared to what the market would charge, but is masked by the technical working of the EMU. This amounts to a socialisation not only of the Lender of Last Resort function of central banking –a well-known property after the Global Financial Crisis, but also of the financing for cross-border flows –especially of the

portfolio investments mentioned above. It is, nevertheless, justified via the commitment to the par-value of euro-balances across jurisdictions.

Ultimately, in international markets there is a hierarchy of funding –private back-stopped by public– that is allocated through the *prices* of the funding, and that keeps a clear distinction between the two.¹⁸ On the contrary, the advent of the tensions in interbank and money markets showed that the TARGET system is a hybrid form of funding in which standard monetary policy operations actually serve the purpose of financing cross-border liquidity flows. Furthermore, the interest rate that NCBs have to pay on the TARGET balances was decided to be the same as the one on Main Refinancing Operations (MROs) (ECB, 2016a,c), though the effective interest rate after the pooling of the interest incomes by the NCBs is less clear to determine (Sinn, 2019).

If we look at the pre-Euro example of Italy, it can be seen that the FX swaps and repo operations were the key tools of refinancing operations for the Banca d’Italia between 1992 and 1996 (Buttiglione et al., 1997). The two, however, played different roles, as the former was used as a monetary policy tool to regulate the liquidity in circulation, whilst the latter was stable and did not signal monetary policy changes. As a consequence, they were distinct tools with distinct operations. This changed with the introduction of the euro and the infrastructure of the Eurosystem with decentralised NCBs, given that refinancing repo operations carried the guarantee of being valid for cross-border intra-Eurozone transactions, thus effectively acting as currency swaps between the different ‘legacy-euros’.

Similarly, the possibility of posting collateral to acquire TARGET liquidity to carry out transactions resembles a simple refinancing operation through repo. This is shown for example by the *liquidity-saving mechanisms* put in place by TARGET2 settlement as well as the possibility of making use of the Intraday Credit Line (ICL).¹⁹ In recent years, the automatic provision of ‘auto-collateralisation’ for TRARGET2 Securities has also been added to the mechanisms that implicitly replace banks’ funding and refinance their positions.

¹⁸There are instances in which the distinction between public and private funding for banks operating with foreign liquidity is less clear. For example, international bank with foreign offices in the United States may have access, though restricted, to the Federal Reserve discount window, thus securing dollar funding that can be used by the parent office.

¹⁹The ICL has been used only marginally, with it being the least used form of funding payments after incoming payments and the reserves on the TARGET2 account balance; see Duca-Radu and Testi (2021) for a recent analysis of the use of the ICL, in which they show it increased until 2015 to then decrease considerably, and especially they show the geographical disparities in terms of the composition of funding of outgoing payments, with Germany being the most reliant on the ICL and incoming payments whilst the reserves on the account covered less than 50% of the outgoing payments.

The hybrid system introduced by TARGET2 allows for distortions to arise in which the *ex ante* elasticity of payments and the *ex post* ‘funding discipline’ (Mehrling, 2020) become mediated by the central bank liquidity-supplying operations.²⁰ It is a feature specific of the Eurozone’s architecture that commercial banks use one set of collateral and essentially only one facility to carry out both refinancing operations and funding of cross-border payments.

This explains where the tension lies: if the refinancing operation of the ECB become akin to a ‘floor system’ with full allotment rather than a corridor one with standard flexible allotment in order to support the banking sectors allows banks to draw as much liquidity as ‘necessary’, the fact that the the 1-1 par across NCBs’ liabilities is guaranteed by the conversion of liquidity in TARGET balances makes the full allotment of the refinancing operations *also* a full allotment of ‘foreign’ –considering national euros a different moneys as they are liabilities of the single NCBs as long as they are within the jurisdictions– currency to carry out cross-border payments, both financial and non. This was the case, for example, with the first Longer-Term Refinancing Operations (LTROs) (extended to 3 years), which saw Italian and Spanish banks drawing funding of around €300bn by January 2012, as compared to the €50bn drawn by Germany and Luxembourg and the €150bn by France and Belgium, but that also coincided with an easing of funding conditions for German banks, due to the flow of LTRO funds drawn by Italy and Spain into German accounts. Such flows were mediated by the TARGET guarantee attached to the LTROs (and all other liquidity-providing operations of the NCBs).

Indeed, the grey bars in the BoP decompositions offered in section 6.3 tell a more radical story than the usual *fragmentation* of money markets: not only the interbank markets froze with the Global Financial Crisis and the Eurozone crisis, but it appears that those markets channel the liquidity from the deficit to the surplus countries. Resident MFIs net foreign funding in the BoP decomposition offered here is defined in a crucially different, but more accurate, way than in previous works looking at BoP (cf. Minenna et al., 2018). Here it is defined as only the ‘Other Investments’ of the Financial Account for MFIs other than the Central Bank, which encompasses only interbank loans, overnight deposits, repos and other interbank transactions. Money market instruments with short maturity are not included for two reasons: first, they represent the purchase of securities (hence why they are part of Portfolio Investment), and second, money market securities –portfolio investments in securities with short term maturity (< 1 year) remain almost

²⁰... [T]he elasticity of payment is the key resource for initial agency, and the discipline of funding is what replenishes that resource for future agency. *Ex ante* banks, and central banks, are agents of credit creation. *Ex post* banks, and central banks, are intermediaries between borrowers and money holders’ (Mehrling, 2020, p.22).

negligible in terms of cross-border flows.

In other words, cross-border interbank markets are not frozen, and thus ‘passive’ sources of TARGET imbalances as failed rebalancing mechanisms, but they are active agents of liquidity outflows from TARGET deficit countries, showing a distortion of a higher degree. Such behaviour is directly caused by the hybrid funding mechanism created through TARGET, in which refinancing operations and asset purchases not only increase domestic liquidity, but also fund cross-border payment orders. This, in turn, the topic of the next chapter.

6.7 Conclusion

In conclusion, this chapter offered an assessment of TARGET imbalances by framing them empirically in a Balance of Payment decomposition, and theoretically in the distinction between liquidity and capital and in the working of banks and interbank markets. The main contributions of the present chapter can be summarised as follows.

First, mono-causal explanations of TARGET imbalances do not actually explain the causes for their rise. TARGET balances, as net liquidity flows, are driven by the mismatch between gross liquidity inflows and gross liquidity outflows. The existing literature has primarily focused only on one source of liquidity flows at the time, whether real transactions (Current Account) or financial ones (Eurosystem’s monetary policy operations), which fail to grasp the entirety of the pictures. Indeed, whilst TARGET balances are driven by a multitude of factors, the crucial feature that emerges is the Core-Periphery dynamics in most of these factors. In other words, TARGET imbalances are the appearance of Core-Periphery as well as the consequence of Core-Periphery dynamics in liquidity flows, best shown by capital flows (portfolio investments) and the interbank transactions. This was shown through a detailed and consistent decomposition of the Balance of Payments of seven countries, improving on the existing methodology (Section 6.2 and 6.3).

Second, the distinction between capital and liquidity flows was made clearer in Section 6.4 and analysed in detail with a study of intra-EMU Portfolio Investments both in terms of the sectoral composition and of the counterpart country (Section 6.5). Such an exercise showed that the sources of liquidity outflows from TARGET deficit countries need not be the same as the drivers of liquidity inflows in TARGET surplus countries. It also underlined the difference between conduits of liquidity flows and originators of liquidity

flows, showing the key role of banks' decisions as *agents* of TARGET imbalances.

Ultimately, a discussion of the TARGET system as hybrid form of funding was put forward in Section 6.6. Here, a review of the literature on the connections between the interbank markets was offered and criticised through a 'money-view' lens. The TARGET system as a funding mechanism was compared to the funding of cross-border cross-currency payments, showing that with the monetary union and the *automatic* and *unlimited* elasticity space offered by the TARGET system entail that monetary policy operations can be used as funding mechanism for cross-border payments, thus not only replacing interbank markets but also distorting the funding mechanisms.

Chapter 7

Banks and Money Markets between Structural Fragmentation and Selective Integration

7.1 Introduction

The asymmetries of the Eurozone project need to be found in the gradual integration and absent unification of the legacy financial systems. In fact, the legacy monetary and financial systems –from the markets to the infrastructure underneath them¹– of member states have been ‘connected’ with bridges, but maintaining a structurally national perimeter –with some exceptions as explained below. These ‘bridges’ and the argument of ‘integration rather than unification’ was already shown to be an accurate description of the institutional structure of the Eurosystem (NCBs with individual balance sheets), where fragmentation appeared evident when looking at the EMU in a de-consolidated way. For this reason is this possible to analyse the inter-jurisdictional flows and asymmetries, for jurisdictions exist and are simply connected. Monetary *unification*, on the contrary, would entail the replacement of the legacy systems with a new, common, and unified monetary and financial system for the entirety of the Union, as happens in momentarily sovereign countries –even the United States despite the practical existence of multiple Federal Reserve Districts.

¹This chapter defines the infrastructure beneath financial markets as the sum of the financial institutions that allow for the market and trading to take place –payment systems, Central Counterparties (CCPs) and Central Securities Depositories (CSDs)– as well as the the institutions and rules defining the working of said markets.

The aim of this chapter is twofold. First, to complete the analysis of the drivers of TARGET balances explored in the previous chapter, the role of banks as both technical conduits and returns-seeking agents is explained. Two components can be analysed: the infrastructure or architecture of the markets, and the decisions or agency of the actors involved. On the one hand, the infrastructure prevents the unification of money markets and supports a national fragmentation, thus preventing rebalancing liquidity flows. On the other hand, the decisions of the actors involved reflect the degree of subordination and trigger liquidity outflows towards the core financial markets. The pre-GFC experience that saw apparent convergence and integration amongst Eurozone members was a particular period defined by the shortage of central bank liquidity and a specific monetary regime rather than actual unification.

Second, to substantiate the validity of using the concept of ‘cross-jurisdictional’ flows, the presence and forms of distinct monetary jurisdictions are explained in detail. This, in turn, suggests that the setup of financial markets and specifically the architecture of money markets in the EMU supports the asymmetric and hierarchical relations in the Eurozone. To do so, this chapter focuses on analysing the infrastructural side of the Eurozone, arguing that a fragmented infrastructure but a common and single currency create the condition for asymmetric liquidity flows from the subordinated jurisdictions to the non-subordinate ones. Given that a money cannot exist coherently without functioning money markets, a study of the euro must encompass the analysis of the euro-money markets.

Such ‘structural fragmentation’ –of the financial architecture– is argued to be at the heart of a theory of subordination for the EMU. As elaborated in Section 7.6, structurally fragmented but integrated jurisdictions become be tiered because of the partial integration –especially of liquidity flows, contributing to the divergence of intra-Eurozone capital flows and of TARGET balances. In turn, such fragmented macro structure becomes a crucial building block in explaining the appearance and persistence of subordination in the EMU. Furthermore, such tiering of fragmented jurisdiction *cannot* be eliminated through the characteristically European ‘passive integration’, shown best in the minimum convergence criteria of the 1990s, and allocate infrastructural power across both private actors and official jurisdictions.

Chapter 5 already showed that it is important to look at the institutional architecture of the EMU in a deconsolidated way, highlighting the *fragmented* structure of the Eurosystem: NCBs have individual balance sheets forming a tiered system. Chapter 6 elaborated on the flows of liquidity in the Eurozone showing the stylised features of liquidity-surplus and liquidity-deficit countries: not only the asymmetry became clear, but the role of banks and money markets (the grey bars) could be identified as playing a

significant role in determining the net inflow or outflow of euro-liquidity from a jurisdiction. Money markets are not ‘frozen’ or simply constrained, but work in a way opposite to expectations: they draw liquidity *away* from liquidity-scarce countries and into liquidity-surplus ones. This chapter elaborates precisely on this area and its key components: banks and shadow-banks, collateral, and financial market infrastructures.

The remainder of this chapter is broadly divided into two parts: first the connection between TARGET balances, commercial banks, and the allocation of excess liquidity, and second the elaboration of a the ‘structural’ side of fragmentation to qualify the individuality of the monetary jurisdictions that then become tiered. Section 7.2 studies at the role of banks as *conduits* and originators of liquidity flows generated by other actors. Successively, Section 7.3 qualifies the term ‘cross-jurisdictional’ by elaborating on the concept of fragmentation. Section 7.4 concludes the analysis of banks by analysing the asymmetric allocation of excess reserves in the different jurisdictions.

Section 7.5 provides a complete analysis of the infra-structural fragmentation displayed by the Euro repo markets, with a focus on the collateral framework and the plumbing. By differentiating integration from unification, it is shown not only that it is possible to have an integrated but fragmented system, but also that such an ecosystem is precisely what is pushed by the Eurosystem. A fragmented but connected infrastructure is a *conditio sine qua non* for the tiering of jurisdictions and for the flow of liquidity from the subordinate to the non-subordinate members in the absence of any rebalancing mechanisms. Ultimately, section 7.6 connects structural fragmentation with subordination.

7.2 TARGET balances and cross-jurisdictional banking

Whilst it is correct to argue that TARGET balances arise as an automatic counterpart to private liquidity flows, the analysis of the previous Chapter entails that it is wrong to account for the increasing TARGET surpluses and deficits only (or primarily) as a result of the working of the Eurosystem unconventional monetary policy. Indeed, the net and gross capital flows shown support the thesis that the liquidity outflows from the periphery are driven by capital flows and the lack of rebalancing inflows, rather than the repurchasing of domestic government securities by the respective NCBs from foreign holders and through Eurozone financial intermediaries outside of the NCB’s jurisdiction, as the ECB’s institutional position argues (Eisenschmidt et al., 2017). As explained in Chapter

6, it is the *hybrid* form of the euro as both domestic money regulated via monetary policy operations (including the Asset Purchases Programmes) and money for cross-border transactions that links TARGET balances to NCBs' operations. The 'public refinancing' via the central bank balance sheet as compared to the private interbank markets generates liquidity that then is allocated according to agents' decisions, and that was shown to be in considerable amount foreign securities for subordinate (TARGET deficit) countries.

The simple scenario of TARGET balances arising as a consequences of APP transactions is shows in Table 7.1, where the purchase of an Italian BTP is carried out by the BdI from a non-EA private investor using the German banking system to access the Eurozone and TARGET2 (Table 7.1b). The same effect on TARGET balances would have been caused by a German private investor selling BTP to the BdI (Table 7.1a).

TARGET balances can equally arise as results of decisions by private investors reallocating portfolios in foreign –Eurozone and non-EA– securities combined with the bank funding of cross-border transfers. In other words, whilst gross TARGET balances reflect automatically the cross-border flow of euro liquidity in the form of Euro-reserves, the net TARGET balance of a country does not arise as an automatic by-product of monetary policy or the working of the EMU, but from the operational decisions of financial and non-financial actors.

For example, Table 7.2 shows the T-accounts for a portfolio investment by an Italian private investor into a German security. Whilst the commercial and central bank are the conduits of such transaction, the origins arise from the decision of a private investor. Importantly, the creation of a net TARGET liability for the BdI depends on two factors: first, the fact that an Italian investor purchases a security from an EA-located entity; second, the Italian commercial bank's decision on how to finance the loss of deposits and thus of reserves. Indeed, a net TARGET balance arises in the case that Italian commercial bank uses BdI refinancing and in the case it borrows in the Italian interbank market. In the case of the Italian bank using the interbank market with non-Italian counterparties, the inflow of liquidity would cause a gross TARGET Asset for the BdI.

The size of this cross-border net foreign funding was depicted in Section 6.3 by the grey areas and was shown to be a defining feature for TARGET deficit countries, all of which had negative net foreign funding, meaning that liquidity has actually left these jurisdictions in interbank transactions. Not only this means that banks could or would not balance liquidity outflows in the cross-border interbank market, but it also

ECB					
+ TARGET Assets against BdI		+ TARGET Liabilities to BuBa			
Other Assets		Other Liabilities			
Bundesbank			Banca d'Italia		
Monetary Policy Instruments	+ Reserve Account German Commercial Bank	+ Monetary Policy Instruments	Reserve Account Italian Commercial Bank		
+ TARGET Asset	Autonomous Liabilities	Autonomous Assets	+ TARGET Liabilities		
Autonomous Assets	Other Liabilities	Other Assets	Autonomous Liabilities		
Other Assets			Other Liabilities		
German Commercial Bank			Italian Commercial Bank		
+ Reserves (BuBa)	+ Deposits German Investor (Case 1)	Reserves (BdI)	Deposits		
Other Assets	+ Deposit Non-EA Investor (Case 2)	Other Assets	Other Liabilities		
	Other Liabilities				
German Private Investor		Non-EA Private Investor		Italian Private Investor	
+ Deposits at the German Commercial Bank	Other Liabilities	+ Deposits at the German Commercial Bank	Other Liabilities	Deposits at the Italian Commercial Bank	Other Liabilities
- Italian BTP		- Italian BTP		Italian BTP	
Other Assets		Other Assets		Other Assets	
(a) Case 1		(b) Case 2			

Table 7.1. TARGET balances arising from APP transactions.

Source: Author's own elaborations.

means that the voluminous liquidity injected in the banking systems in the crisis-ridden countries through conventional and non-conventional monetary policies left those sectors, thus causing a counterbalancing inflow of liquidity as an 'other investment' in the financial account.

ECB			
+ TARGET Assets with BdI		+ TARGET Liabilities with BuBa	
Other Assets		Other Liabilities	

Bundesbank		Banca d'Italia	
Monetary Policy Instruments	+ Reserve Account German Commercial Bank	Monetary Policy Instruments	- Reserve Account Italian Commercial Bank
+ TARGET Asset	Autonomous Liabilities	Autonomous Assets	+ TARGET Liabilities
Autonomous Assets	Other Liabilities	Other Assets	Autonomous Liabilities
Other Assets			Other Liabilities

German Commercial Bank		Italian Commercial Bank	
+ Reserves (BuBa)	+ Deposits German Investor	- Reserves (BdI)	- Deposits
Other Assets	Other Liabilities	Other Assets	Other Liabilities

German Private Sector		Italian Private Sector	
+ Deposits at the German Commercial Bank	+ Securities Sold to Italian Investor	- Deposits at the Italian Commercial Bank	Other Liabilities
Other Assets	Other Liabilities	+ German Securities Purchased	
		Other Assets	

Table 7.2. TARGET balances arising from cross-border private investments.

Source: Author's own elaborations.

The example of a refinancing operation is displayed in Table 7.3. In this instance, the Italian bank finances the loss of customers' deposits and thus of reserves at the BdI by drawing on refinancing operations with the BdI, which are repo operations with varying maturity, between one week and three months.² The credit operation allows the Italian

²As an exception, during the COVID pandemic the ECB introduced refinancing operations with three-year maturity.

bank to meet the reserve requirement whilst still suffering the reduction in the depositors' accounts. The TARGET liability incurred by the BdI is a consequence of the bank's funding decision coupled with the availability of credit by the central bank.

ECB			
+ TARGET Assets with BdI		+ TARGET Liabilities with BuBa	
Other Assets		Other Liabilities	
Bundesbank		Banca d'Italia	
Monetary Policy Instruments	+ Reserve Account German Commercial Bank	+ Credit Operation	Reserve Account Italian Commercial Bank
+ TARGET Asset	Autonomous Liabilities	Other Monetary Policy Instruments	+ TARGET Liabilities
Autonomous Assets	Other Liabilities	Autonomous Assets	Autonomous Liabilities
Other Assets		Other Assets	Other Liabilities
German Commercial Bank		Italian Commercial Bank	
+ Reserves (BuBa)	+ Deposits German Investor	Reserves (BdI)	- Deposits
Other Assets	Other Liabilities	Assets posted for Collateral	+ Refinancing Operation
		Other Assets	Other Liabilities
German Private Sector		Italian Private Sector	
+ Deposits at the German Commercial Bank	+ Securities Sold to Italian Investor	- Deposits at the Italian Commercial Bank	Other Liabilities
Other Assets	Other Liabilities	+ German Securities Purchased	
		Other Assets	

Table 7.3. TARGET balances arising from Refinancing Operation

Source: Author's own elaborations.

Ultimately, to exemplify the role of the ECB's decision to implement the two-tier system, Table 7.4 shows the consequences of a reallocation of excess liquidity from a

bank located in Germany to one located in Italy. The two-tier system was introduced to reinvigorate the monetary policy transmission mechanism through banks in the context of a negative interest rate policy on the deposit facility of the ECB. Similar two-tier policies had been implemented before the ECB's by the Bank of Japan and the Swiss National Bank, with the Danmarks Nationalbank and the Sveriges Riskbank using unconventional two-tier systems (Deutsche Bundesbank, 2021).³ The introduction of such excess reserves exemption allowances in the EMU stimulated the reallocation of excess reserves across banks, both domestically and cross-border. The latter give rise to money market liquidity flows that follow a private decision of the bank in question and does not serve any purpose in 'rebalancing' net TARGET balances, but it still creates a TARGET asset for the country receiving, and a TARGET liability for the country in which the sending bank is located. As will be shown in the next chapter, excess liquidity in the EMU is located primarily in Germany and France.

The Balance of Payments decomposition of the previous chapters showed that banks play a significant role in terms of liquidity outflows from peripheral countries (grey bars), which can be boiled down to the role of banks as both conduits for payments and financial investors. As a crucial component of the rise in TARGET balances, their liability management and the funding of net reserves outflows are distorted by the irreconcilability of the setup of a regional money market with distinct and operationally independent monetary jurisdictions. The remainder of this chapter seeks to establish precisely in what ways the euro money market works and in what it does not, in order to embed banks' operations within the Eurozone's monetary architecture.

³Though they did not set a two-tier interest rate policy on excess reserves, they still draw out of circulation unremunerated liquidity by issuing deposit certificates.

ECB			
+ TARGET Assets with BuBa		+ TARGET Liabilities with Bdl	
Other Assets		Other Liabilities	

Bundesbank		Banca d'Italia	
Monetary Policy Instruments	Required Reserves	Monetary Policy Instruments	Required Reserves
	- Excess Reserves		+ Excess Reserves
Autonomous Assets	+ TARGET liability	Autonomous Assets	Autonomous Liabilities
Other Assets	Autonomous Liabilities	+ TARGET Asset	Other Liabilities
	Other Liabilities	Other Assets	

German Commercial Bank		Italian Commercial Bank	
- Reserves (BuBa)	Deposits German Investor	+ Reserves (Bdl)	Deposits
Other Assets	Other Liabilities	Other Assets	Other Liabilities

Table 7.4. TARGET balances arising from transfers of Excess Liquidity

Notes: The original balance of the Bundesbank and Banca d'Italia is not considered, so that the liquidity flow gives rise to a gross Liability for the Bundesbank and a gross Asset for the Banca d'Italia. When considered, we would see a decrease in the net TARGET assets of the Bundesbank and a decrease in the net TARGET liabilities of the Banca d'Italia.

Source: Author's own elaborations.

7.3 'Cross-jurisdictional' as a result of fragmentation

The key issue for a monetary union is the lack of even and monotonic integration of the different financial systems given the unification of the monetary systems. Especially important, as seen above, is the failure to create a unified and working money market. The appearance of such divisions has been dubbed 'fragmentation', though in itself 'fragmentation' fails to have a clear and specific meaning.⁴ Fragmentation in a monetary union invalidates the common and single monetary policy, entailing that the transmission mechanism of monetary policy does not work evenly and without discrimination (Cœuré, 2014; Ehrmann and Fratzscher, 2015). Given previous chapters, fragmentation does not

⁴'Fragmentation' per se can occur in financial markets within a monetary system, as well as within only one country in the EMU. What is crucial for the purpose of this work is the phenomenon of fragmentation along the borders of the member countries –i.e., along the *jurisdictions* of the NCBS.

invalidate the operational decentralisation of monetary policy in the EMU, but it entails that the same policy needs to be carried out differently (if only in size) depending on the NCB in question. The cross-border spillover of monetary policy in a fragmented Union, in turn, remain under analysed and unclear, though they necessarily are subjected to the frictions of fragmented Money Markets.

Whilst Eisenschmidt et al. (2018) define ‘fragmentation’ as ‘[...] the lack of full tradability of central bank reserves across borders which cannot be explained by technical or fundamental factors’ (p.74) – hence purely a phenomenon of money markets, they also recognise that in the context of the Eurozone it has acquired a wider meaning reflecting most impairments of cross-border transactions between banks –i.e., the opposite of financial integration (see, for example, Abscal et al., 2013).⁵ Fragmentation, however, tends to be seen as if it were to be reflected only by the misalignment of interest rates in the different jurisdictions, or in other words as a fragmentation of the *price* system.

Fragmentation had not been an issue featured in the reports and in the works creating the Eurozone, and had not been conceived as a considerable threat to the single currency during the first years of the euro. This entails that no policy was created for the ECB or NCB to counter the eventuality of fragmentation of financial markets along the borders of NCBs’ jurisdictions. Some clear examples of ‘fragmentation’ can be found in the spreads on government bond yield as well as the ‘sovereign-bank’ doom loop highlighting the bias of banks towards holding their respective national government bonds (Pisani-Ferry, 2012; Mody and Nedeljkovic, 2018).

In addition to the fragmentation of the pricing of reserves and of risk, there is an *infrastructural* fragmentation within the Eurozone that is characteristic of the uneven and asymmetric process of monetary integration. The two are distinct and reinforcing sides of the fragmentation of the Eurozone, proper of a process of integration –i.e., of building connecting bridges across individual jurisdictions– rather than of unification –i.e., building a new, single, and unified monetary jurisdiction for the entire Union. The architecture of the financial markets in the Eurozone follows the architecture of the European System of Central Banks in that it harmonises and connects the national systems, but it does not create a unified area. The presence of such structural fragmentation, in turn, constitutes two crucial issues for the Eurozone: first, it provides the foundation for the creation of a core and a periphery (or subordination) based on the level of infrastructural power (as introduced by Braun, 2020) and the ability to conduct money flows; and second it crystallises the asymmetries in the Eurozone and justifies the conceptualisation of monetary jurisdictions along national borders as unitary components.

⁵Fragmentation has been measured and defined to measure different markets and different phenomena.

Such conceptualisation cannot be done in monetary unions like the US or a nation state. Whilst hierarchy can be seen in the Federal Reserve System, for example, in which the New York District has the financial infrastructure to deal with private transactions as well as the implementation of monetary policy, such a system prevents the creation of fragmentation and its transformation into subordination: inter-district balances are settled yearly, and *price* fragmentation does not arise because of the presence of common and single securities underpinning the interbank and repo markets (the Federal Bonds).

7.3.1 Integrating through the Eurosystem Collateral Framework?

Fragmentation was obscured in the 2000s because the treatment of collateral by the Eurosystem was largely neglected by markets, only then turning to be a major cause of the segmentation of government debt markets between ‘core’ and ‘peripheral’ countries during the Eurozone crisis when the market ratings of sovereign debts began diverging. The shift to segmentation occurred because the Eurosystem Collateral Framework (ESCF) was established as a market-based instrument, entailing that the eligibility of collateral for emergency liquidity or refinancing operations follows not only the market sentiment on the security in question, but especially the decisions of American-based rating agencies (Standard & Poor’s Global Ratings, Moody’s, and Fitch Ratings)–whose decisions remain largely obscure and unaccounted for. In turn, a downgrading of rating of a Eurozone government bond may lead to it losing eligibility at the central bank credit facilities (van ’t Klooster, 2022), thus making such instrument lose market liquidity vis-à-vis other securities. This is diametrically opposed to usual central bank practices of calculating haircuts on assets eligible for monetary policy operation without the use of market-based credit ratings –see for example the Bank of England collateral policy (Claeys and Raposo, 2018).

The ECB collateral framework sought to harmonise and integrate the lists of eligible collateral denominated as ‘Tier-II lists’ by the individual NCBs (ECB, 2004), thus establishing a single and common treatment of collateral – dubbed the ‘Single List of Eligible Collateral’ – conditional on the credit ratings defined by the Eurosystem Credit Assessment Framework (ECAAF) (ECB, 2006; González and Molitor, 2009; van ’t Klooster, 2022). This collateral framework is only valid for short-term credit open market operations, Long-term credit open market operations, and the marginal lending facility, whilst the list of collateral for the Emergency Liquidity Facility is not fixed and determined *ex ante*.

Such treatment of collateral, which even in the 2000s accepted a wide arrange of private securities in their repo operations in order to cover all segments of the Eurozone markets, coupled with the implementation of Open Market Operations (OMOs) by the Eurosystem through temporary credit operations casts a light on the reasons behind the

wider scope of securities eligible as collateral at the NCBs (Bindseil et al., 2017; Murau et al., 2024a). Similarly, at the heart of such a diverse and comprehensive ESCF was precisely the inability by the creators of the euro to define, assess and predict the working of the eurozone money markets –both in terms of quantities and prices (Galvenius and Mercier, 2011; Bindseil et al., 2017).

In other words, there was no conception –but no denial either– of the infra-structural fragmentation defined in this chapter, as the euro was introduced together with the broad ESCF precisely so that NCBs could remedy to money and interbank markets not working properly and segmented banking sectors not integrating at the pace required by a single and common monetary policy. If anything, the convergence in the sovereign bond yields of member countries during the early 2000s was engineered by the ECB’s treatment of collateral as equal and market-based, underlying that the such framework moved with the business cycle.

The efficacy of a collateral framework arises not only in its ability to be broaden and used for Lender of Last Resort operations, but especially in its ability to counter the pro-cyclicality characteristic of collateralised lending (Adrian and Shin, 2009), which usually expand in expansionary times and contracts in contractions –or periods of high financial stress. To fulfil the role of Lender of Last Resort and of Market Maker of Last Resort, a central bank’s collateral framework should expand during contractionary periods (or in a financial crisis), thus acting ‘counter-cyclically’. Importantly, a collateral framework should be evaluated based on the different types of effects on lending. On the one hand, on whether the collateral framework may encourage or counter pro-cyclical lending per se. On the other, whether it creates different dynamics or degrees of pro-cyclicality amongst assets, leading thus to shortages of the assets remaining in the framework on rapid sales of those removed.

Along these two lines, the ESCF and the ECB decisions on haircut –which moved from 3% to 14% between 2008 and 2013– proved to be counter-effective in both aspects, thus working ‘pro-cyclically’ in opposition to the requirements of a Lender of Last Resort or Market Maker of Last Resort. In fact, it reinforced pro-cyclicality of credit rating downgrading (Gibson et al., 2017; Claeys and Raposo, 2018) –i.e., as credit contracted the collateral framework also shed assets and decreased the elasticity of contingent credit available, and especially indirectly fuelled the concentration of sovereign bonds on banks balance sheets by differentiating the haircuts applied to sovereign collateral and to other assets (Whelan, 2014a),⁶ and eventually also across the sovereign collaterals based on the

⁶Whelan (2014a) goes on to argue even that government bond should be assessed in a more similar way to marketable assets.

issuer.

By supporting the pro-cyclical behaviour of the assets used as collateral, the market-based ESCF coupled with the haircut decisions of the ECB behaved in the way opposite to the commitments of the ECB: they reinforced the spread amongst eligible assets of different quality by fuelling a flight to safety. Such quality, however, did not reside in the default or redenomination risks usually considered as anchoring the 10y bond spreads in the Eurozone, but by the risk of the asset becoming *illiquid* not only in terms of market transactions ('market illiquidity'), but also illiquidity as collateral for repo operations with the NCBs. Therefore, the ESCF and the haircuts considerably reinforced (if not outright caused) the hikes in the price-fragmentation denominated by the spreads.

At the same time, however, they also reinforced structural fragmentation in two ways, which show how 'safe' collateral ranking is not compatible with the working of the EMU, where commercial banks have large shares of securities issued by their respective government. First, by receiving lower haircuts, government bonds were considered by the banks as more liquid assets, diverting investments from market securities to sovereign ones. In the context of the Eurozone, this reinforced the domestic bias of banks towards domestic bonds and gave rise to the 'doom-loop' (Pisani-Ferry, 2012; Mody and Nedeljkovic, 2018) connecting government debt markets to the health of bank balance sheets.

Second, it made individual CCPs appear as key players. Indeed, the collateral policy by the individual *national-based* CCPs and the margin calls implied by the changing haircuts on the collateral posted (Genito, 2018).⁷ Though these are private internal decisions, the collateral management of CCPs has been found to follow closely the ECB's own in certain cases, whilst clear differences arise in other cases (LCH Clearnet Ltd. and LCH Clearnet SA) with the CCPs having more conservative collateral policies (Corradin and Rodriguez-Moreno, 2016; Nyborg, 2016). As will be shown in Section 7.5.2, structural fragmentation arose along the CCPs that specialised on different government bonds, leading thus to a fragmentation of the infrastructure of Eurozone financial markets. In reality, such fragmentation was only shown by the crisis as money markets (repo especially) had integrated in uneven ways since the introduction of the euro.

⁷Genito (2018) focuses primarily on one CCPs, LCH.Clearnet, showing that its collateral management policy induced lower market liquidity for sovereign bonds issued by Ireland, Portugal, Spain and Italy used as collateral for funding through short-term repo transactions

7.4 Banks' excess liquidity in the EMU: a changing outlook

The rise of excess liquidity in the Eurozone provides a first insight into the structural side of fragmentation, and its effects on TARGET balances –for the allocation of liquidity across jurisdiction gives rise to a gross TARGET balance. Excess liquidity is the sum of all liquidity held by banks at the Central Bank above the required reserves (MRR), including excess reserves deposited in the Current Accounts at the NCBs and the reserves in the Deposit Facility (Figure 7.1).

Excess liquidity arose following two important changes in the Eurosystem's monetary policy: first, the shift to Fixed-Rate Full Allotment (FRFA)⁸ for the LTROs in October 2008 and the lengthening of such operations beyond the 3-month limit moved the Eurosystem from a corridor system to a floor system in which central bank liquidity is supplied according to the demand of the banking sector rather than according to the liquidity needs estimate by the ECB; second, the introduction of the Asset Purchase Programmes (APP) since 2015.

The two had crucially different impacts on the forms of excess liquidity injected in the banking system (Figure 7.1). With the FRFA, banks did not accumulate excess reserves as deposits in their *unremunerated* Current Accounts, but did increase their holdings in the Deposit Facility until the rate on the deposits was lowered to zero in 2012 (Figure 7.2). Excess Liquidity, in other words, has changed its composition since it began increasing in 2008 with excess reserves becoming considerable only with the combination of negative rates and APP.⁹

The impacts of the FRFA decision is fundamental for the fragmentation of financial markets in the Eurozone for one key component: the pricing of a monetary jurisdiction's 'safe asset', namely the spread between member countries sovereign bonds. The ECB has indeed defined such 'geographical' fragmentation with the term of 'segmentation'. However, this term neglects the *infrastructural* role of sovereign bonds as the collateral par excellence, which is traded within markets and through payment systems, Central Counterparty (CCP), and Central Securities Depository (CSD): the way in which these are build necessarily affects the national sovereign bond markets.

⁸Under fixed rate full allotment counterparties have their bids fully satisfied, against adequate collateral, and on the condition of financial soundness. The fixed rate full allotment policy has proven a very efficient way of offsetting liquidity risk in the market by ensuring banks' continued access to liquidity.' (González-Páramo, 2011).

⁹Since 2014, the Deposit Facility and the Current Account are treated in the same way by the ECB, thus limiting the benefits that bank can appropriate by shifting excess liquidity from one account to the other. This holds true until the introduction of the Two-Tier system in 2019.

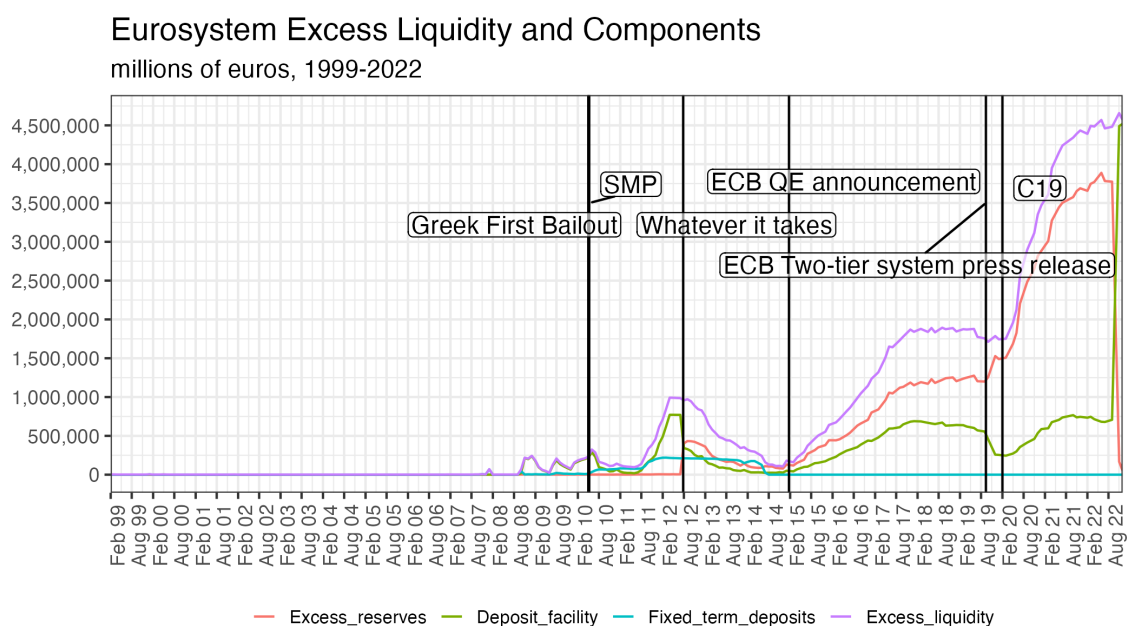


Figure 7.1. Eurosystem Excess Liquidity, Components, and Total TARGET Positions (mn euros), 1999–2022.

Notes: Excess Liquidity = *Excess Reserves* of Figure B4 + *Deposit Facility*. The dotted lines represent the sum of all TARGET Assets and of all TARGET Liabilities of NCBs. The difference between the two is the net TARGET position of the ECB.

Source: Author’s elaborations on ECB, SDW and the MMSR.

Furthermore, the term segmentation fails to capture further forms of fragmentation. The location of excess liquidity, for example, denotes fragmentation in terms of quantities *quantities*, given that the remuneration on reserves is the same one in all Eurozone jurisdictions –until the 2-Tier System introduced in September 2019. No ‘price fragmentation’ can be deduced from looking at excess reserves given that even the two-tiers system offers brackets of unremunerated excess reserves to all credit institutions eligible at any NCB of the Eurosystem.¹⁰

Figure 7.3 shows the Excess Reserves of MFIs kept at the single NCBs. The injection of liquidity following the Covid shock in March 2020 through the continuation of the ECB’s APP programmes and the introduction of the PEPP was allocated or re-allocated following internal liquidity-portfolio decisions to banks located in Germany and France, with lower increases for Spanish, Italian, and Dutch Credit Institutions. In the same period, TARGET balances for Germany and France showed significant net liquidity inflows

¹⁰The excess reserves in these brackets are unremunerated and thus pay a 0% interest rate whilst the non-exempted reserves pay the negative interest rate set by the ECB Council.

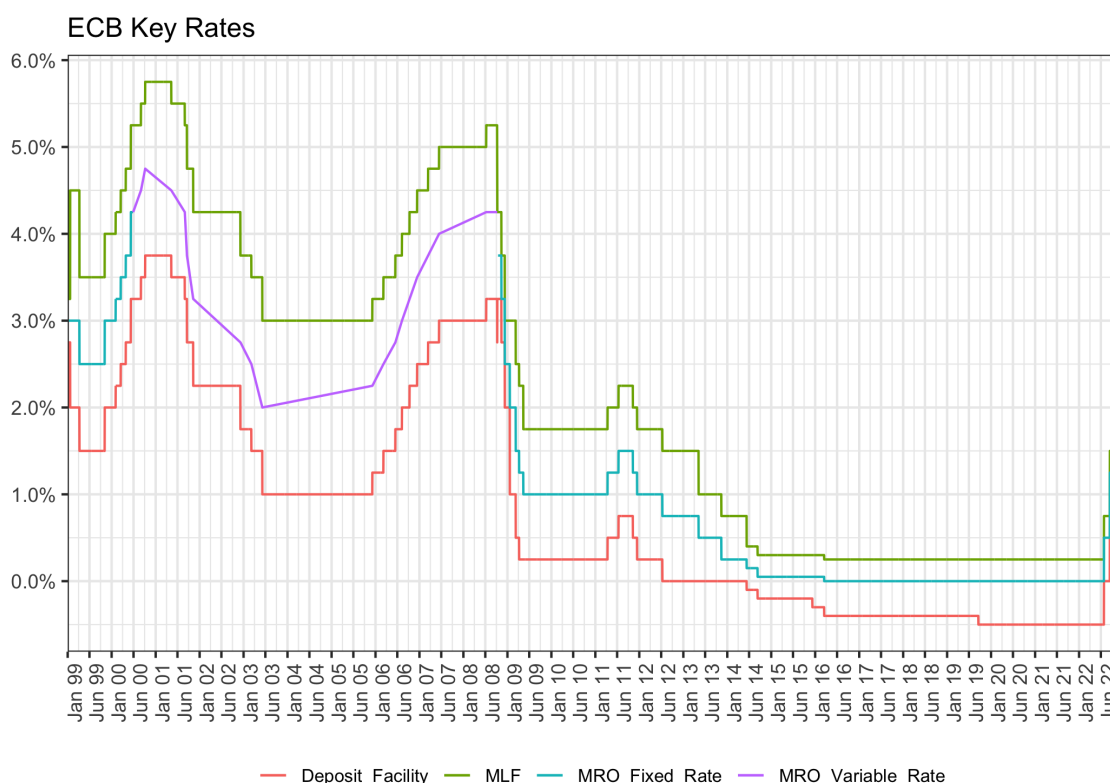


Figure 7.2. Key ECB Interest rates, 1999–2022.

Notes: the MRO variable rate is available as business-week average of observation through the period, not daily values.

Source: Author’s elaborations on ECB, SDW and the FM database.

during the first few months of the Pandemic, broadly in line with the disproportionate increase in Excess Reserves at the Bundesbank and Banque de France respectively. On the contrary, The Netherlands, Italy and Spain recorded net liquidity outflows in the early months of the pandemic despite the simultaneous increase in the Excess Reserves at their respective NCBs.

In contrast to the previous experience, excess reserves have accumulated also in non-core countries such as Italy and Spain, though a part of such excess reserves have been reallocated in German or French accounts. Alternatively, if one follows the possible sources of net TARGET inflows in the German or French jurisdiction, the accumulation of excess reserves is driven by two factors: the role and size of the banking sector, and the purchases by the NCBs of domestic government bonds, leaving investors with unused reserves in their bank accounts. It is notable that Germany acquired a much more core-like role in a regime characterised by relatively less abundance of liquidity, as is shown by the solitary increase in excess reserves at the Bundesbank between 2016 and early 2020

(Figure 7.3).

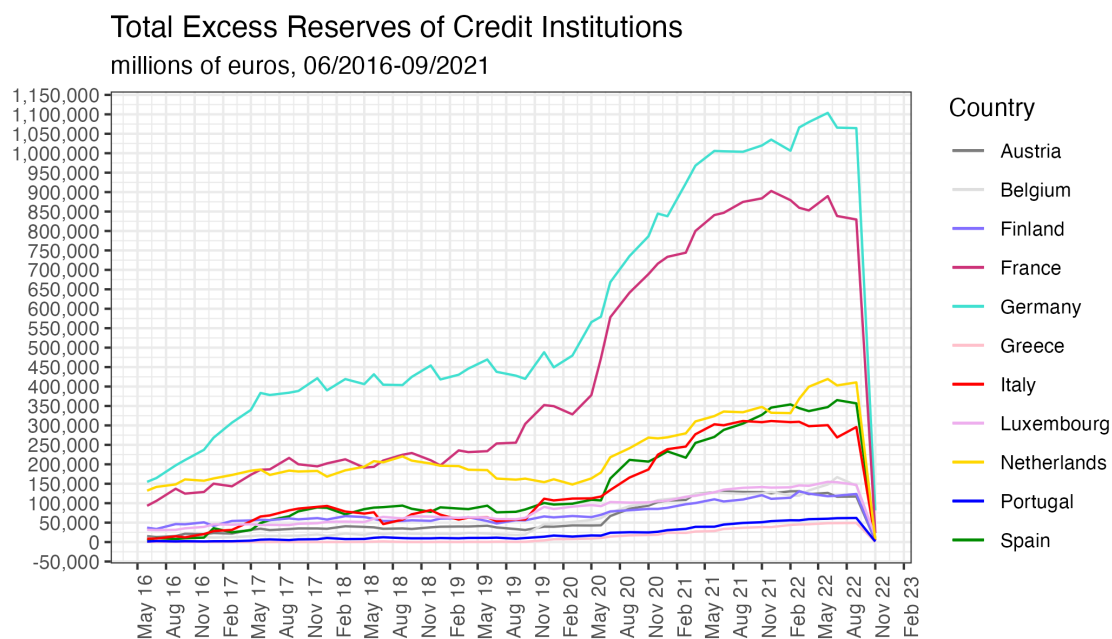


Figure 7.3. Total Excess Reserves of Credit Institutions by NCB (mn euros), June 2016–July 2022.

Notes: Credit Institutions are MFIs excluding Eurosystem not subject to minimum reserve requirements and Non-MFIs
 Source: Author’s elaborations on SDW, ECB and MMSR.

The Figures on excess reserves at the NCBs corroborate the idea of a deeper fragmentation within the EMU, highlighting the role of Germany and to a smaller extent of France as the ‘core’. Whilst the Total Required Reserves (Figure B5) point at the size and components of the credit institutions balance sheets within the single jurisdictions,¹¹ the Excess Reserves can be allocated at different NCBs according to decisions internal to the banks. The location of the excess reserves is fundamental for the transmission mechanism of monetary policy, as changes in the main interest rate will affect to a stronger degree the banking systems with higher levels of un-exempted excess reserves.

The polarisation of Excess Reserves was analysed by Baldo et al. (2017), though the study was limited to the period 2008-2015, which is remarkably different from the recent experience. Whilst Baldo et al. (2017) find that ‘... Excess liquidity is concentrated in a small number of euro area countries, with around 80-90% of excess liquidity being held in Germany, France, the Netherlands, Finland and Luxembourg’ (p.6), Figure 7.3

¹¹As per the coefficients involved in the calculations of such required reserves (ECB, 2003).

shows that Banca d'Italia and Banco d'España have acquired significant size in terms of the allocation of excess reserves.¹²

Nevertheless, the allocation of excess reserves in Germany and France cannot be explained with monetary factors: the remuneration on these reserves is the same one in each jurisdiction, with the exception of the period of Two-Tier remuneration (2020-2022). Banks' decisions on such reallocation generate TARGET deficits in the country leaving and TARGET surpluses in the jurisdiction receiving the excess reserves. In this case, hence, it is the internal asset management of commercial banks that leads to TARGET imbalances, not their role as conduit for payments. However, banks' asset management reallocated excess reserves to France and Germany without the intention to reap higher interest rates. Rather, non-monetary explanations must drive the location of excess reserves, amongst which the hierarchical tiering of the jurisdictions explained in Chapter 5, or the practical operations of German and French banks. These are mostly international banks heavily involved in transactions with non-Euro Area counterparts, which as was shown in the previous chapter tend to enter the Eurozone via the German banking system, thus placing the incentive for German banks to have the liquidity ready.

Figure 7.3 can be interpreted along two different lines stemming from the *fragmentation* discourse. On the one hand, Excess Reserves were more polarised and concentrated in a handful of countries in the period covered by Baldo et al. (2017) and the period 2016-2020 of Figure 7.3, implying a higher degree of fragmentation of the loci in which credit institutions decided to leave excess reserves, but low fragmentation in terms of the possibility of reallocating their money market portfolios and performing the interbank transactions necessary to distribute excess reserves to the 'financial core' of the Eurozone. On the other hand, having excess reserves placed in Italy and Spain¹³ entails a lower degree of fragmentation of the price and risk incentives that pushed excess reserves towards the core in the previous years, but it also points at the segmentation of money markets along the monetary jurisdictions (the national borders).

Excess reserves, though in 'excess' of the liquidity needs of the banking sector and thus signalling a change in the monetary regime of the ECB (Giordano and Goghie, 2023), have a fundamental role in the transmission mechanism of monetary policy: changes in the deposit facility rate will affect the remuneration of the excess reserves, and thus the

¹²To be precise, Baldo et al. (2017) compute excess liquidity, the focus of their analysis, as the sum of excess reserves and the use of the deposit facility of the NCBs, whilst here they are represented as separate entities (respectively Figure 7.3 and B6), only consolidated in Figure 7.1, which shows that excess reserves are the key component of Excess Liquidity.

¹³As has been happening since the Covid shock, though increasing at a slower pace than in France or Germany.

lending operations of banks. If excess reserves are fragmented in terms of the location, then the banks in the jurisdictions with higher reserves will be affected to a stronger extent than the others by changes in the ECB's key rates, which in turns prompts a reallocation of the liquidity portfolios.

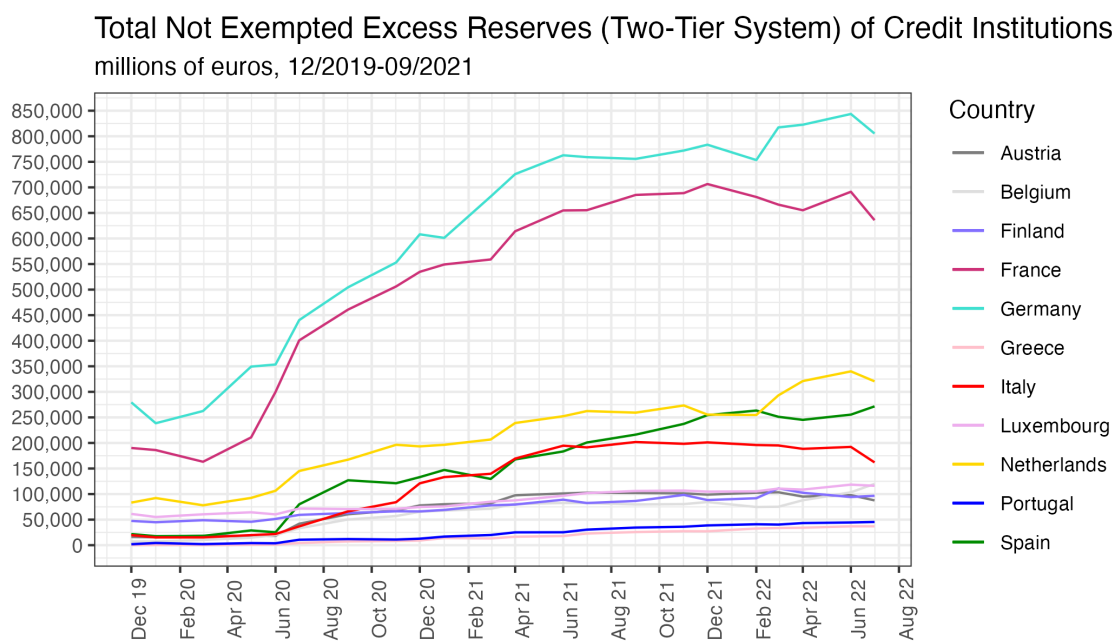


Figure 7.4. Total Non Exempted Excess Reserves of Credit Institutions under the Two-Tier System by NCB (mn euros), 12/2019–07/2022.

Notes: Credit Institutions are MFIs excluding Eurosystem not subject to minimum reserve requirements and Non-MFIs

Source: Author's elaborations on SDW, ECB and MMSR.

Figure 7.4 shows the non-exempted excess reserves during the Two-Tier System, pointing at its limited effects on non-exempted balances at German and French NCBs. Crucially, it can be observed in Figure B6 that the effect of the Two-Tier decision in October 2019 did not affect excess reserves but the Deposit facility, as banks proceeded to reallocate a very small part of the funds in the Deposit facilities into the Current Accounts in the jurisdictions with still spare brackets for exemption from the negative rates on excess reserves. This was however minimal and ineffective in the monetary regime of super-excessive liquidity spurred by the APP and PEPP due to the pandemic.

7.4.1 Fragmentation in unsecured interbank markets

Before turning to secured money markets, unsecured money markets cast light on the decisions of Euro area banking sectors and the patterns of reallocation of liquidity. Just as for the allocation of excess reserves, it is banks' decisions on funding –both overnight lending and borrowing of reserves– that generate TARGET deficits in the country leaving and TARGET surpluses in the jurisdiction receiving the reserves, again pointing to the internal funding decisions of commercial banks.¹⁴ Inevitably, these also show a tendency towards fragmentation.

Three reasons make the analysis of Euro unsecured money markets less important for the present chapter: first, this segment encompasses both bank and non-bank financial institutions for which little to no data is available, second unsecured markets tend not to rely on an infrastructure as much as the secured segment, and third the unsecured segment has been largely outpaced by the secured money markets in term of the size during the last 15 years. Their dynamics, however, help to corroborate the analysis of the fragmentation of money markets in the EMU.

Figure 7.5 shows the total stock of inter-bank cross-border claims and liabilities of banks located in 9 selected countries, pointing at the different degree of involvement in such transactions by the banking sectors located in Germany and France compared to the rest of the sample. Higher claims (red line) than liabilities (blue line) entails net lending to foreign counterparts, whilst higher liabilities entails net borrowing. Rather than the higher stock presented by Germany, it is relevant for the analysis here to remark the trends in both French and German banks, which have seen a steady decline in cross-border interbank claims at the same time as an increase in liabilities: in flow terms, a reallocation of liquidity through the interbank market is occurring in which France and Germany have been net receiver of funds since the mid 2010s, not net lenders.

Two explanations are possible. First, the decline in claims is clearly linked to the decline in other Euroarea members' liabilities (see Italy, Spain, Netherlands, and Portugal), which supports the idea of a declining role of interbank markets for cross-border euro funding. Second, the increase in liabilities of French and German banks is not only due to the stock of inter-bank cross-border claims of other Eurozone members, but also due to the role of these banks in international markets (especially linked to the City and the US banks), which has increased the lending to French and German banks.¹⁵

¹⁴The data collected for this section, however, could not distinguish between euro and non-euro liquidity, thus preventing the possibility of quantifying the effect of unsecured interbank transactions on TARGET balances.

¹⁵This analysis has one major shortcoming, namely the lack of data for the currency composition of the inter-bank cross border claims and liabilities, which would have helped in understanding exactly what

Figure 7.6 restricts the interbank cross-border exposure (Figure 7.5) to intragroup claims and liabilities, showing that there is a reallocation towards Germany and France in terms of intragroup transactions, which in turn suggests that it is a result of internal liquidity management by conglomerate banks. Whilst the claims of banks in Germany and France have remained constant, suggesting that liquidity has not been reallocated to foreign offices, their liabilities have increased at a more constant pace than total interbank liabilities, which can be understood as conglomerate banks reallocating liquidity in France and Germany. Little to no liquidity has been shifted to Italy or Spain, whilst it can be noted the moderate increase in assets in these countries (in addition to Ireland and Luxembourg), which is congruous with interbank loans to or deposits at French and German Banks.

Unsecured money markets, and in particular the interbank segment, provides a picture of hierarchy and subordination with reallocation of liquidity being driven primarily by internal decisions of banks. However, it can not provide further evidence of structural fragmentation: on the contrary the ability of making such cross-border transactions is underpinned by the full unification of the payment infrastructure through the TARGET system analysed in the previous chapter. The condition of *selective fragmentation* appears evident in this instance: whilst the infrastructure underpinning the repo markets is fragmented because the collateral needs to be transferred from the seller to the buyer, unsecured money markets (generally traded off exchange as OTC), rely only on the integration of the payment system which was unified with the automatic and unconstrained TARGET system.¹⁶

banks are involved in the unsecured funding of German and French banks. Data from the BIS is, however, unavailable for this.

¹⁶The par of euros in different jurisdictions is guaranteed by the TARGET System and the Eurosystem for all the payments for which funding is available, otherwise the private agents have the possibility of acquiring intraday loans of liquidity that can then be extended to overnight.

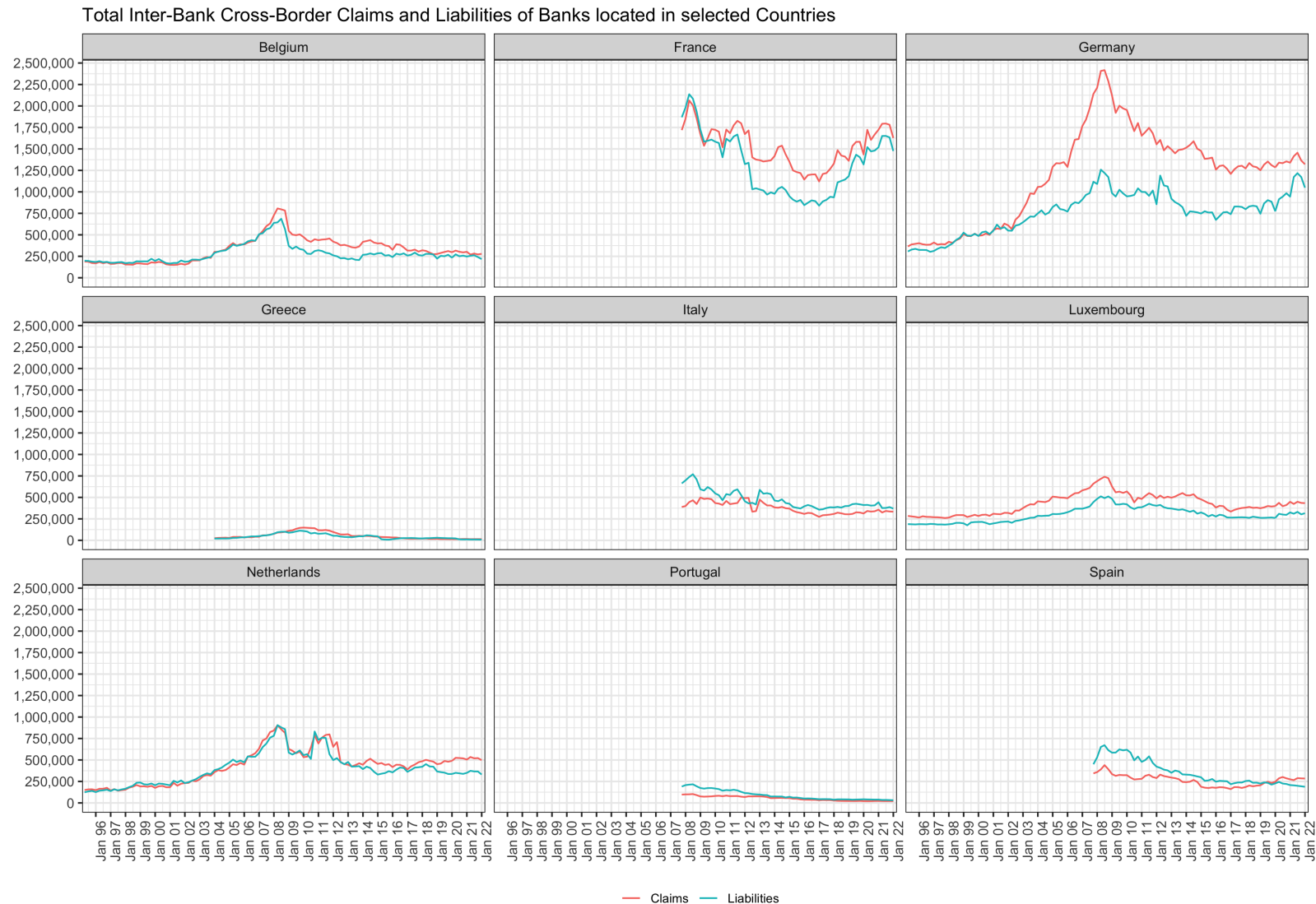


Figure 7.5. Total Inter-Bank Cross-Border Claims and Liabilities of Banks located in selected Countries, 1995 – 2022 (bn USD).

Notes: Data availability varies. The Claims and Liabilities are not limited to euro markets, but include cross-border claims both within the Europe and with counterparts outside of the Euroarea.

Source: Elaborations on the BIS Locational Banking Statistics.

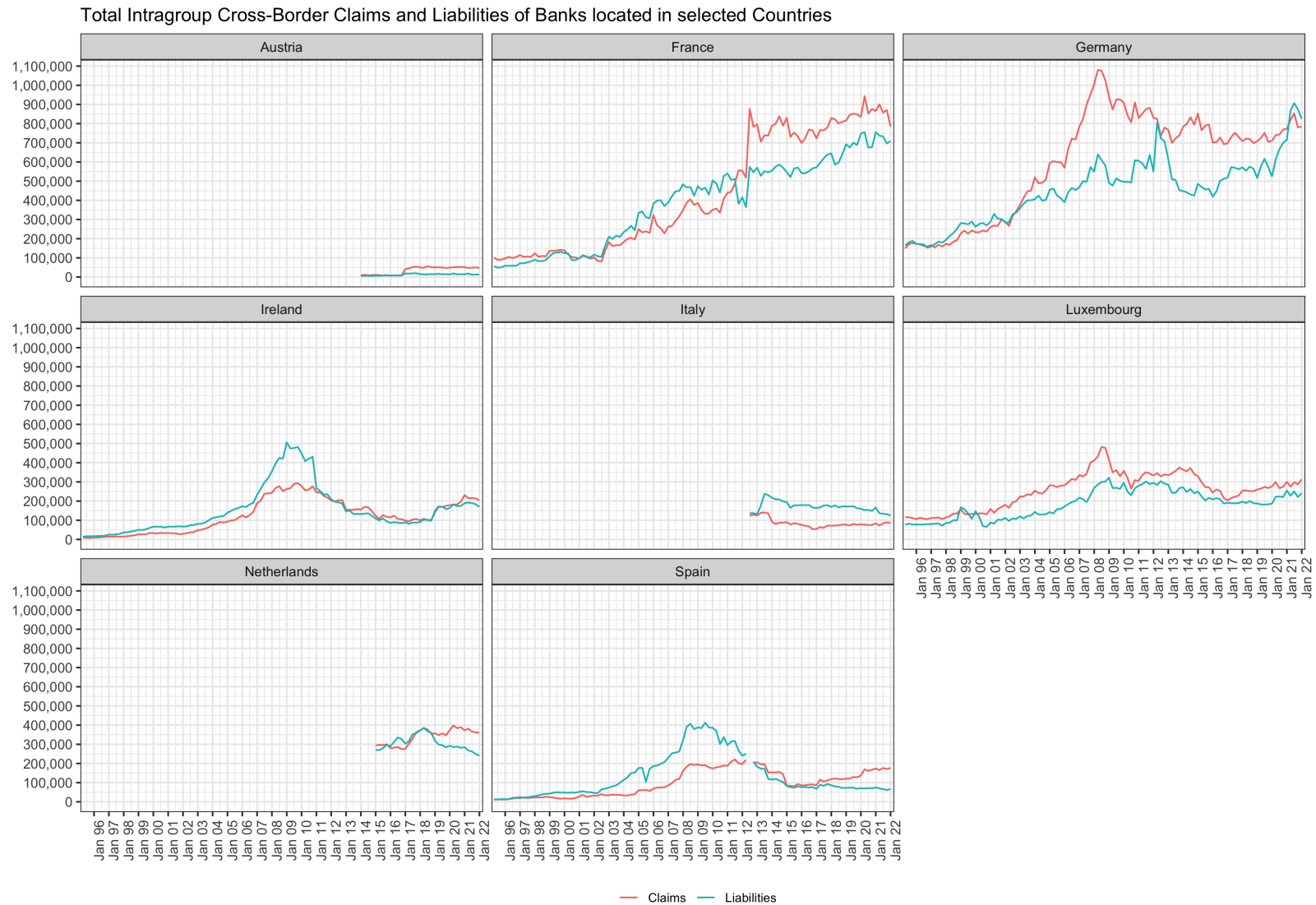


Figure 7.6. Total Intragroup Cross-Border Claims and Liabilities of Banks located in selected Countries, 1985 – 2022 (bn USD).

Notes: Data availability varies; no data viable for Greece and Portugal.

Source: Elaborations on the BIS Locational Banking Statistics.

7.5 A fragmented infrastructure: collateral and liquidity in Euro repo markets

To support the argument that fragmentation in the EMU is structural and that jurisdictions become tiered, this section delves into the Euro repo market –the beating heart of the euro. The Eurozone money markets are highly dichotomised between secured and unsecured segments, primarily due to the architecture for the exchange of secured transactions. Eurozone secured money market transactions are not only primarily carried out by banks, but are also largely executed through *central clearing*. Such an architecture allowed this segment to experience less volatility during the Covid shock of March 2020 and thus maintain quantity and price of funding more stable. Conversely, unsecured money markets experienced high volatility in terms of prices due to low demand for such securities by institutional investors (MMFs and Banks). This section shows both the structural fragmentation of secured money markets and of the infrastructure upon which they rely, highlighting their roles in being open to all Eurozone investors but still reflecting a strong link to their national dimensions. Such a (infra-)structural fragmentation entails different market access and different funding structures for firms and banks, as well as different evolutions of European financial systems.

Even during the early stages of the EMU, money markets were described as having integrated at different speeds, with segments like repo markets proceeding at much slower pace since the inception of the common currency (Galati and Tsatsaronis, 2003). At the same time they have acquired increasing importance since the early 2000s in financialised capitalist countries where the move towards market-based approaches to collateral management and especially to entangled commercial and non-commercial (shadow) banking institutions has caused a shift to short-term financing through money markets. The integration of the national repo markets was considered as the key to the ECB’s control over the money markets in the years leading to the euro, though at the same time it was recognised that there were significant legal, infrastructural, and behaviour hurdles that segmented the legacy national repo markets (The Giovannini Group, 1999).

Figure 7.7 shows the different dynamics in the repo markets as compared to the unsecured interbank market. From around the introduction of the euro to the Eurozone crisis, repo transactions were carried out primarily with foreign EA counterparts (almost 60% of Euro repo markets in 2011 was with foreign EA counterparts), and with national counterparts, though this shows a steady decline throughout the 2000s and 2010s. In the period 2011-2015, it is striking to see that all three counterparties have declined or increased to reach each around 1/3 of the Euro money market business carried out, representing a significant rise in non-EA counterparties. In terms of the unsecured market, the tendencies shown are in line with the overall decrease in the use of unsecured money

market transactions to curb counterparty risk: cross-border unsecured markets shrunk considerably since the GFC, whilst national unsecured markets have increased and replaced the cross-border funding.

Whilst the repo markets proliferated in the EMU and banks became the primary participants, the banks' use of repo market has not become more uniform. Notably, Euroarea banks use mainly foreign collateral in repo transactions, apart from banks located in Italy and Spain, which have used domestic sovereign bonds for around 70-80% of the lending transactions and around 60-70% for borrowing transactions in repo market in 2018-2020 (Figure B12). This is representative of the fragmented behaviour of repo markets if one considers that as of 2020, around 85% of repo transactions involve government securities for collateral (ECB, 2021).

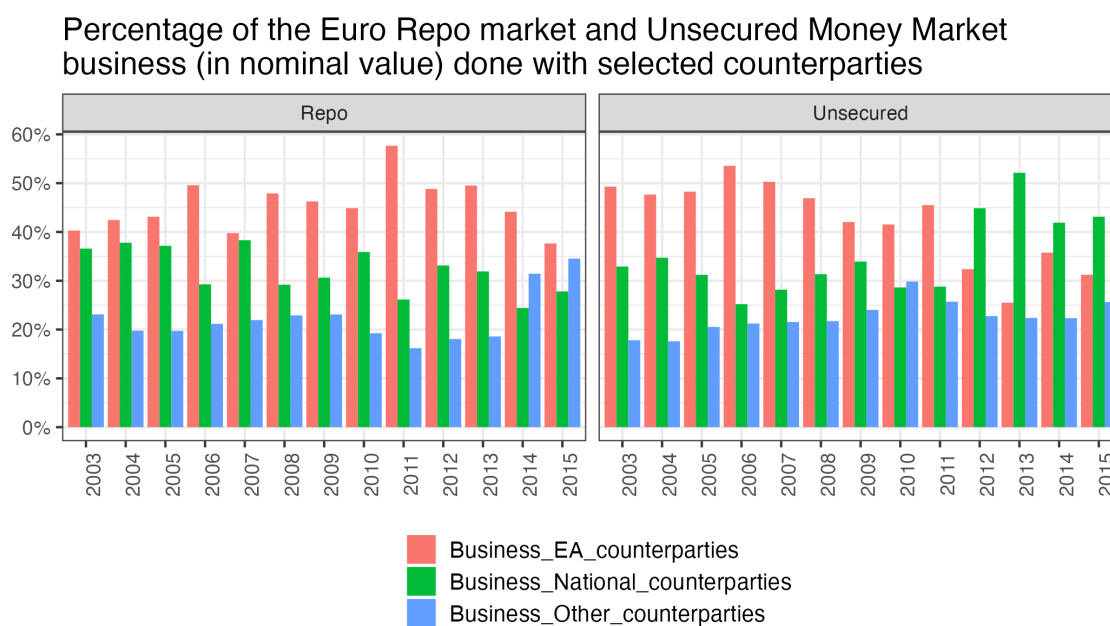


Figure 7.7. Percentage of the Euro Repo market and Unsecured Money Market business (in nominal value) done with selected counterparties (share of total), 2003–2015.

Source: Elaborations on ECB, SDW and the Money Market Survey.

In terms of the volume of transactions per collateral issues and maturity of contract, the role of ‘subordinate’ debt (i.e., issued by countries whose debt markets are under pressure) is crucial for the proper functioning of the Euro Money Markets by contributing significantly to the securities used for both lending and borrowing. In segments like Spot and Tomorrow for both Borrowing and Lending, Italian collateral is the most used. Overall, German, Italian, and French collateral are the most used, with Spain following closely.

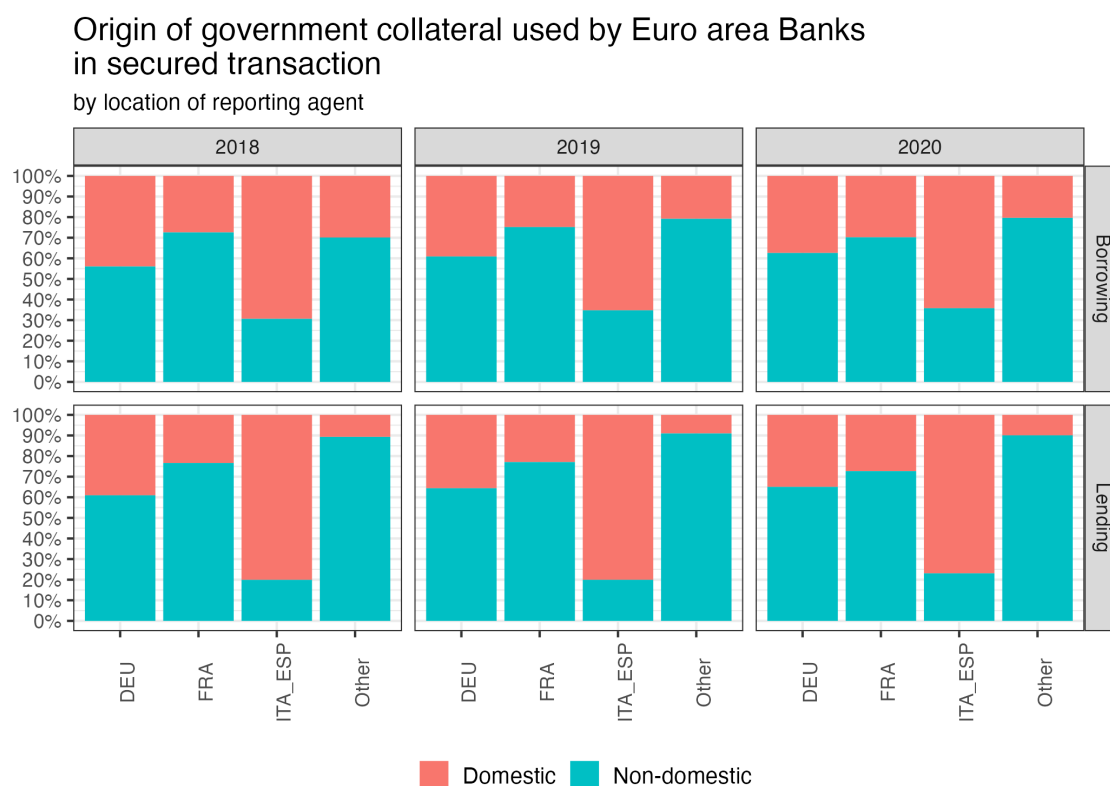


Figure 7.8. Origin of government collateral used by Euro area Banks in secured transaction (share of total), 2018, 2019, and 2020.

Notes: By location of reporting agent, Germany (DEU), France (FRA), Italy and Spain (ITA_ESP), and Other countries.

Source: Elaborations on ECB, SDW and the MMSR.

This shows two features of the Euro repo market. First, collateral issued by Italy (and Spain) is key to the smooth operations of segments of the repo markets such as the Tomorrow Next Lending. The size and depth of Italian debt markets are crucial for the very existence of the euro repo markets providing around one quarter of the total collateral. Whilst liquidity (or solvency) issues in Italian debt hence should be considered systemic for euro money markets and for the funding of European banks, considerable reductions of Italian sovereign debt would also reduce collateral availability, and hamper the volume of repo markets: though regarded as the issue of the Eurozone, Italian debt is one key pillar of euro money markets, without which the euro could not be scalable as a currency.

Second, European Repo markets are focused on the Overnight, Tomorrow, and Spot segments, in which different collaterals are used. In other words, there is a fragmentation of the collateral per issuer used in repo transactions depending on the maturity

of the repo (Table B1). Figure 7.9 –and its full breakdown shown in Figures B11 and B12– highlights that repos are mostly used in the Spot Term, with Italian and German collateral as the main one closely followed by French. More importantly, over the last 3 years ‘peripheral’ collateral has been growing as share of the volume especially of lending transactions, despite the increased sovereign yield turbulence in 2021 and 2022.

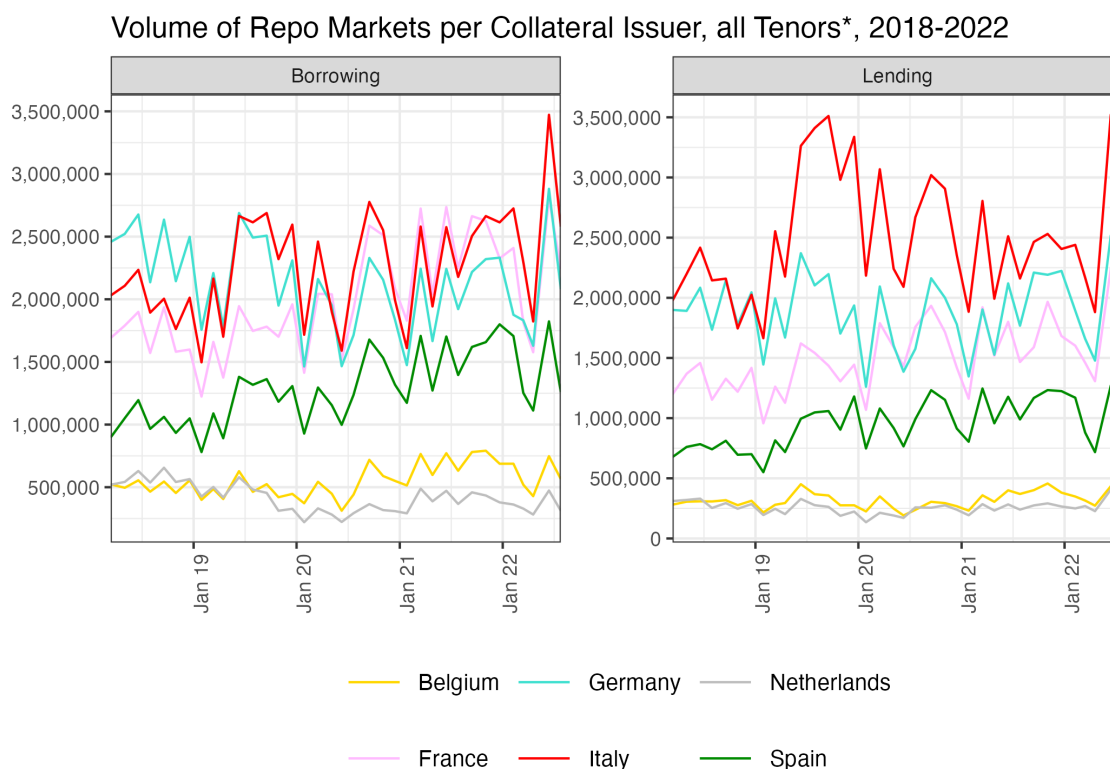


Figure 7.9. Volume of Repo Market Segments per Collateral Issuer, all Tenors (mn euros), 2018–2022.

Notes: *All Tenors include Spot, Overnight, Tomorrow, One Week, and One Month. The breakdown per tenor can be found in Figures B11 and B12 in Appendix B.III.5.

Source: Elaborations on ECB, SDW and the MMSR.

The use of these four national collaterals has also been reinforced by the narrowing of the repo rates during the last five years as shown in Figure 7.10, which occurred as a consequence of the several rounds of APP and the sizeable expansion of liquidity in the markets, which led to a fall in the repo rates.¹⁷ Figure B10 shows the widening up of rates in 2016/17, with the German rates moving towards -100 basis points (with spikes to -560

¹⁷Repo rates increase as liquidity becomes more scarce, as is shown by the spikes in American repo markets in late 2019 and 2020, when the Fed began its Quantitative Tapering (QT) programmes aimed at reversing QE and absorbing the liquidity in the markets.

bps), and especially the increased cyclicality of repo rates at year-end, which derive from the window-dressing of credit institutions since the introduction of Basle III regulation on the Leverage Ratio since 2015 (Corradin et al., 2020).¹⁸

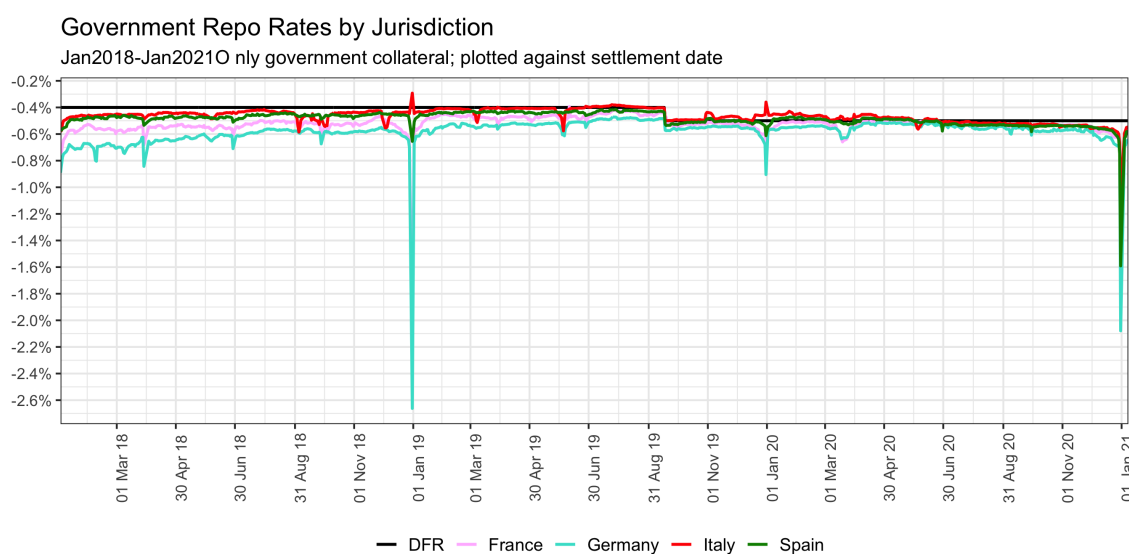


Figure 7.10. Government repo rates by jurisdiction, January 2018–January 2021.

Notes: Only government collateral; plotted against settlement date. The rate includes both borrowing and lending transactions.

Source: Elaborations on ECB, SDW and the MMSR.

Figure 7.10 is also indicative for two reasons. On the one hand, it differentiates the repo rates per jurisdiction of collateral entailing that repos are not all equal in the Eurozone despite the use of government collateral. On the other hand it shows the diverging use of repo in the Eurozone, both within different euro repos and in comparison to foreign (US) markets. These, in turn, support the argument of a structural fragmentation in the Euro repo markets, and require a deeper analysis of repo contracts in the EMU.

7.5.1 Fragmenting General Collateral repo baskets

The European repo market is divided into two kinds of repos: *General Collateral* (GC repo) and *Specific* or *Special Collateral* (SC repo). The difference between the two lies in the collateral posted for the repo, as in the former the collateral that can be used for a determined rate is any security within a predetermined basket, whilst in the latter

¹⁸For the repo rates over a longer period of time, see Figures B9 and B10 in Appendix B.III.

only a specific security can be used as collateral. In other words, GC allows for a degree of substitution given the indifference of the seller of the repo to the securities in the basket, whereas the SC does not allow for substitution due to the *specialness* of a specific issue of securities.¹⁹ The consequence of this distinction is as simple as important: GC repos are used to secure liquidity whilst SC repos are primarily security-driven, allowing the buyer of the repo to obtain a specific security that may be needed for other purposes –usually to hedge or to cover a short-term position.²⁰

Crucially, the recent years have changed the use of repos by Eurozone institutions. The peculiarity of repo in the EMU is that it has come to perform a role opposite to the original purpose of repos and to their use in the US or other advanced financialised countries: in the Eurozone, repos are primarily collateral-driven rather than liquidity-driven. Whilst the move from liquidity- to securities- driven repo has been found in the increasing specialness of collateral (the spread between SC and GC repos) since the introduction of APP (Brand et al., 2019), the negative rates on GC collateral also strengthen this evolution.²¹

A second features of repo markets in the Eurozone is more indicative of the fragmentations of markets: since the GFC, GC repos have become fragmented according to the jurisdictions of the issuers of the collateral selected for a GC basket. Prior to the Crisis, CCPs broadly followed the ECB’s General Collateral Framework for their secured segments and had GC repos with baskets that included various securities also of different national issuers (see for example the GC baskets of LCH.Clearnet and Eurex): markets and especially market-making institutions considered Eurozone government collaterals as substitutes. Between 2007 and 2008, however, CCPs and investors began fragmenting the collateral baskets according to the issuers due to the diverging credit risks attached to Eu-

¹⁹The ‘specialness premium’ is calculated as the spread between Special Collateral rate over the General Collateral rate.

²⁰Whilst historically SC repo have been traded on CCPs less than SC repo, in infrastructural terms both GC repo and SC repo can supported by central trading and clearing, depending on the internal collateral service of the single CCP and CSD.

²¹The negative rates on GC repos entail that the banking sector is long on liquidity and that all the securities in the General Collateral basket are under strong demand, regardless of the specific type of security. The negative GC repo rates show that the shift from liquidity to collateral-based securities has occurred for both SC repos (as expected) and GC repos, highlighting the shortness of collateral available in the EMU. Whilst this has been the case for more than half a decade in the Eurozone, the US repo markets usually experience positive spikes in repo rates highlighting the liquidity needs rather than the collateral needs of banks and shadow banks. The *monetary regime* enacted by the ECB Governing Council also played a significant role in dichotomising the repo markets between SC and GC repos. Prior to the expansion of the APP, the expansion of excess liquidity led to an increase in the volume of SC repos and a decrease in the volume of GC repos by increasing the quantity of liquidity in circulation and decreasing the quantity of collateral available. This occurred because SC repos are used for collateral management, whilst GC repos are used essentially only for purposes related to cash management, and caused an overall decline in the repo rates in 2020.

rope sovereigns. Hence, GC repos became and have remained fragmented along national borders at the institutional levels, with the baskets including only debt securities (or other securities but with different rates and haircuts) issued by the same government.

Only the Italian GC repo rate has moved in the expected way, with positive spikes at quarter- and especially year-end (Figure 7.10).²² On the contrary, Spanish CG repo rates followed in a more subdued manner the movements of the French and German repos, remarking the struggle for collateral at year-end. Italian collateral, on the other hand, is not sought after in the same way, and experiences selling pressures in exchange for liquidity at key dates. Conversely to GC, Italian SC repos have been experiencing more downwards pressure at key dates due to the improved liquidity positions of Italian banks in the late 2010s, which was caused by the debt of the Italian government bonds (mainly BTP) markets and by the growth in the CCP-cleared market share of repos as compared to bilateral ones.

Nevertheless, the behaviour of the repo segments based on the origins of collateral show a disconcerting feature: repos have become the preferred funding method for European banks as compared to unsecured money markets, and yet the collateral infrastructure defined by the ECB, the CCPs, and private market participants remarks that although all collaterals were supposed to be equal, *some are more equal than others*. The negative spikes of German and French repo rates are caused not from overall scarcity of collateral in the EMU markets, but precisely from the limited size of German or French collateral available to satisfy the High Quality Liquidity Assets (HQLA) needs imposed by the Basle rules on the Liquidity Coverage Ratio (LCR).

The use of the same instruments (repo) but different national collateral and the lack of unification in terms of supply of government securities and of collateral policy in turn create the imbalances that justify the different behaviour of repo rates, and crucially of the banks using the different collaterals. Crucially, the ECB's APP plays a key role in affecting the supply of national collateral, considering that more than one third of the Public Sector Purchase Programmes (PSPP) entailed the acquisition of German or French government bonds, thus reducing the depth of the HQLA markets in the Eurozone.

Ultimately, Europe has shown internal divisions also in terms of the kind of 'repurchase' contract used: contracts similar to classic repos but that have different contractual framework are the 'buy/sell-backs', which can but do not have to be *documented* through contract (Master Agreement) (ICMA, 2022b; Murau et al., 2024a), and are thus riskier

²²Expected as in line with the purpose of repo markets and their use in other financial systems like the US.

and do not involve margin provisions. Indeed, some markets predominantly use or have used repurchase transactions (eg. US, UK, France, Belgium, Netherlands and Switzerland) whilst other markets predominantly or even exclusively use buy/sell-backs (for example, Italy until 2017, Spain and most emerging markets) (ICMA, 2022a).²³ Nevertheless, they are all considered to be ‘repos’ by ICMA, ESMA, and for statistical purposes, thus leading to a lack of data for more micro-level analyses.

Therefore, if it was shown that Eurozone repo markets are fragmented in terms of use of collateral (i.e., banks’ practices) and in the legal form of the contracts used, the architecture of the repo market requires a deeper analysis. Indeed, the failure to integrate repo markets lies in the failed unification of the financial institutions that trade, clear, and settle the transactions amongst market participants: the Central Counterparties (CCP) and the Central Securities Depositories (CSDs).

7.5.2 A fragmented infrastructure around *national* CCPs and CSDs

The fragmentation of the markets is not only caused by market sentiment, but also by the infrastructure of the EMU plumbing. In the years preceding the common currency, the infrastructure of financial markets and specifically of repo markets was found to be highly national-based and poorly connected by the Giovannini Report (The Giovannini Group, 1999), which also recognised that the simple introduction of the common and single currency could not be sufficient to bridge these gaps and lead to a well-functioning plumbing of the Euro. The malfunctioning of repo markets is to be traced back to the fragmented system of securities clearing and settlement, in which CCPs and CSDs remain highly nationally concentrated and far from unified. The issue with the form of monetary integration, namely a *passive integration* that seeks to bridge national jurisdictions rather than unify them, is reflected best in the infrastructural fragmentation of the EMU capital and money markets, which in turn distort liquidity flows. Such fragmentation was further enhanced by the monetary regime in which the excess liquidity polarised the demand for different collateral.

By providing more efficient risk management, lowering the default risk of a counterparty in a transactions, and reducing risk by variation margins (i.e., by making margin calls following exposure to mark-to-market valuations) the CCP reduces the contagion risk during financial crises. At the same time, the process of central clearing involved

²³As part of the project around this research, I discussed with officials of a top European private agency the topic of repo contracts in Europe and the anonymous sources recounted this event, which however is under Chatham House Rule.

in CCPs reduces the liquidity needs of members by netting gross positions.²⁴ For these reasons, collateralised market segments cleared through CCPs proved to be more resilient to the turmoil of the GFC, though it has been argued that CCPs have failed to keep repo markets at a level as reliable as it was expected prior to the crisis (BIS, 2010).

As of 2020, the share of CCP-cleared repo transactions in the Euro area has reached around 70% of total repo market, primarily through LCH SA France, CC&G Italy and Eurex Germany (ECB, 2021). Since then, the GC repos have been complemented significantly by the use of SC repos to acquire specific securities, accounting for most of the secured transactions since the introduction of APP by the ECB. Thus, by providing the infrastructure for both GC and SC trades, CCPs, as private institutions, become a central node of the infrastructure. CCPs have been at the core of the GC framework both prior to 2008 and after the Global Financial Crisis. As explained in European Market Infrastructure Regulation, CCPs can impose specific haircuts applied to the categories of assets used as collateral –though market fundamentals need to be taken into account and the thresholds need to be continuously tested– and demand a contribution to their ‘default fund’ given that a CCPs assume on themselves counterparty risks (Boissel et al., 2017).

As the ECB introduced the GC framework to cover all government bonds, CCPs also adequately began to treat all sovereign bonds in the same way, also following the ECB for what concerns the the haircuts applicable to GC basket repos, which were proportionate to those imposed by the Eurosystem, especially in the case of standardised CCPs, such as Eurex Repo Rate GC Pooling or LCH.Clearnet. Nevertheless, the single CCPs remained independent from one another, specialised in the legacy national markets and their participants, and behaved in distinct ways, perpetrating infrastructural fragmentation. For example, during the Eurozone crisis, Eurex reconstructed its GC Pooling basket by removing bonds issued by Ireland or Portugal, whilst the same bonds suffered in June 2011 increases to 75% and 65% respectively of their haircuts imposed by LCH.Clearnet. Crucially, CCPs became also specialised in dealing with only certain market segments, often based on the issuer of the collateral (e.g. most of the volume of repos with Italian collateral was traded in Italian CCP).

Figure 7.11 shows the value of repo cleared through the different CCPs in Europe, including LCH LTD in the UK. The picture arising for the use of central clearing for repos is that of a high degree of fragmentation, with the French LCH RepoClear being the primary CCP, followed by the Italian CC&G and the German EUREX. Whilst the clearing through different CCPs does not imply that foreign customers cannot access the

²⁴This mechanism was explored already with respect to the ECB and the NCBs and the introduction of Novation.

national CCP, the significant use of at least three CCPs –and prior to Brexit the eurozone markets consistently used the UK CCPs for repos and other segments– poses a critical hurdle to the unification of repo and money markets in the Eurozone and is a reason for the protracted fragmentation of the money markets.

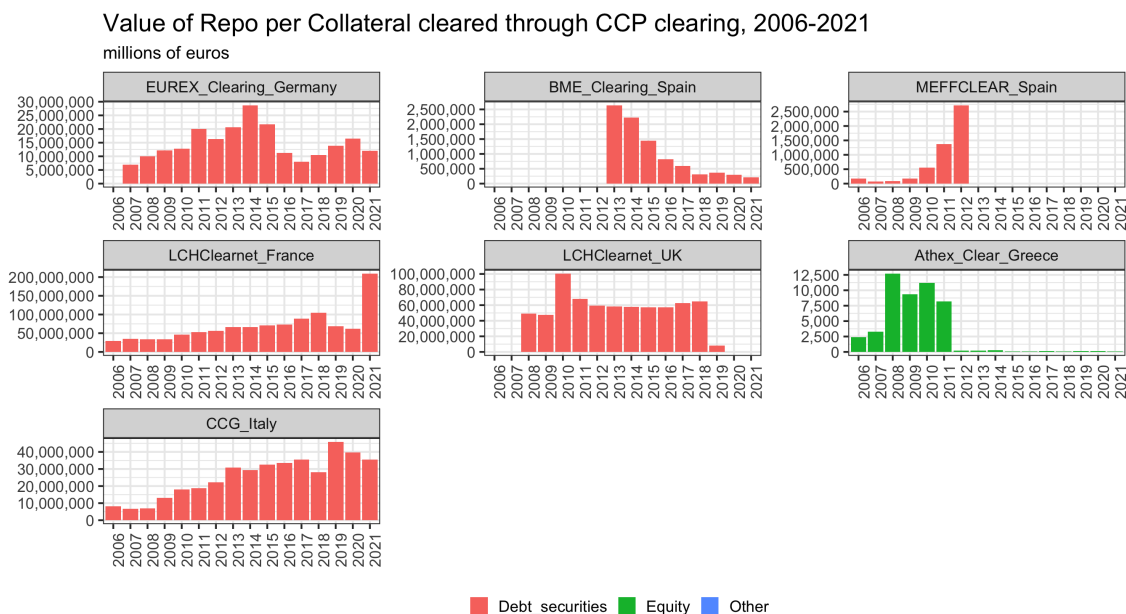


Figure 7.11. Value of Repo per Collateral cleared through CCP clearing (mn euros), 2006–2021.

Notes: The other Eurozone countries not displayed here either do not have available data, or the value is equal to zero.

Source: Elaborations on SDW and ECB Central Counterparty Clearing Statistics.

What it does not show is the *mode of integration* of CCPs within the Euroarea. Far from rebuilding a clearing system with centralised institutions, the integration of the financial plumbing occurred through ‘interoperability’ of CCPs, a process that resembles the one of Novation for the NCBs.²⁵ With interoperability, CCPs can connect with other CCPs in cross-border links following the Principles and a legal agreements outlined in the Principles for Financial Market Infrastructures of the BIS (BIS, 2012), which entails a formal agreement between the two CCPs for the interoperability to be active. As of 2020, the only interoperability link active in Europe for government bonds and thus repo markets is between CC&G and the French LCH SA for Italian sovereign debt, as shown by the

²⁵If the Eurosystem already had interoperability with the TARGET System and the interlinked accounts but required the legal and operational functionality of central clearing, the CCPs already have the decentralised central clearing and settlement procedures but lacked the ‘interlinking’, which took the form of interoperability.

high levels of repos cleared through LCH.Clearnet in the Italian Market segment in Figure B13.²⁶ Crucially, by opening accounts with one another, the CCPs with interoperability links acquire a new counterparty risk, namely the risk of one CCP defaulting, which in turn raises the systemic risk of contagion between different CCPs in different jurisdictions; the hedge against this risk, some CCPs took precautionary measures to limit guarantees only for cross-border transaction during periods of market turmoil (for example, both LCH.CLearnet and CC&G in 2013).²⁷

In line with the trends of fragmentation and concentration outlined in the previous two chapters, the financial infrastructure behind clearing also has become polarised not only due to market preferences, but also due to the architecture itself: the increases in securities transactions in the Eurozone are explained by the increases in one single jurisdictions, namely the French one (Figure 7.11). Indeed, in 2019 following Brexit and the decisions of the European Commission and ECB to re-shore financial infrastructure, many services offered by LCH RepoClear was transferred from LCH LTD to LCH SA, domiciled in France.²⁸ LCH SA had already expanded the collateral it clears, including Italian, Spanish, German and Belgian bonds in 2017 and other major Eurozone member in 2019 becoming the key centre for collateral²⁹ clearing (not settlement) in the Eurozone.

At the level of *clearing* two tendencies have been playing out throughout the history of the Euro: fragmentation of the market infrastructure in three main CCPs (located in France, Italy, and Germany) and the centralisation of clearing for transaction with several different origins of collateral through the French LCH RepoClear. Whilst the CCPs clear the transactions, another part of the infrastructure *settles* them and transfers the securities from the account of the seller to that of the buyer: the Central Securities Depositories (CSD). The institutions carrying out the central clearing do not have to be the same one performing the settling of the transactions, which occur as security against central bank money (i.e., it causes a TARGET payment). Ultimately, whilst CCPs matter because they determine the liquidity needs and they create the markets for the cleared securities, it is the CSDs that give rise mechanically to liquidity flows, entailing that securities markets CCP can infra-structurally rely on the establishing and using of a link with a CSD to receive and deliver securities versus cash.³⁰

²⁶There are however, more interoperability link for equity securities, such as Euro CCP and LCH Ltd, Euro CCP and Six x-Clear, LCH Ltd and Six x-Clear, LCH Ltd and Six x Clear.

²⁷In 2013, CC&G sought to protect against counterparty risk with LCH.Clearnet and vice versa, see <https://www.reuters.com/article/italy-clearing-idUKI6NOGA02220130913>.

²⁸RepoClear SA was established in 1999 to deal with French Government Deb in repo transactions.

²⁹Austrian, Dutch, Finnish, Irish, Portuguese, Slovakian, Slovenian debts and Supranationals. See <https://www.lch.com/services/repoclear/repoclear-sa>.

³⁰Whilst the most important CSDs settle in Central Bank money, some CSDs and ICSDs such as Euroclear Bank also allow settlement in commercial bank money.

The history of market infrastructure shows that CSDs have strong links to the trading platform they serve. The technical and operational connections to the securities settlement systems led to a consolidation of CSDs at national level (many national CSDs merged towards the end of 1990s to remain larger but domestic CSDs, for example the Spanish SCL and Espaclear), where the Central Banks were also in charge of their supervision. With the process of Monetary Integration, the fragmentation of securities settlement infrastructure got worse. Rather than decreasing the number of SCDs in Europe and in the EMU has increased,³¹ and the hurdles to unification of securities markets exposed by The Giovannini Group (2003) remained almost unaltered, especially in terms of the legal practices for the transacting of securities, which remain essentially embedded in the national legal systems.³²

The fragmentation of the CSD infrastructure appears more evident in the distinction between CSDs and International Central Securities Depositories (ICSDs) in the Eurozone, which shows how centralised the infrastructure for *cross-border* securities settlement is. Whilst CSDs are generally domestic securities settlement systems, ICSDs, born to settle eurobond securities, offer a more complex set of services including the settlement of international securities or cross-border transactions in domestic securities (The Giovannini Group, 2003). In Europe, only two ICSDs exist: Clearstream International (located in Luxembourg, but owned by Deutsche Borse) and Euroclear Bank (domiciled in Belgium). As shown in Figure 7.12, which depicts the value of securities held on accounts at the main CSDs in the Eurozone between 2012 and 2020,³³ there is a widespread disparity in terms of which CSD is used and the securities held. Euroclear France, Clearstream Banking Frankfurt, and Euroclear Bank experienced a steady increase in the value of securities held at them throughout the 2010s, whilst the other main CSDs have not.

Figure B14 further shows the delivery instructions for all securities, representing the moving of securities from one account to another –i.e., the settlement of a transaction. The role of the ICSDs arises even more prominently, as can be seen by the delivery instructions processed in all currencies being considerably higher than the euro DIPs for Belgium Euroclear Bank and Luxembourg Clearstream Banking, especially when compared to the other CSDs. Focusing only on the national CSDs, it can be noted that whilst Euroclear France is the larger processor of delivery instructions, Italy’s CSDs and Germany’s follow with similar sizes, with Spain’s Iberclear behind; the other CSDs are negligible.

³¹See the European Central Securities Depositories Association for a detailed summary of the CSDs in operations in the European countries, available at <https://ecdsa.eu>.

³²The main hurdles are represented by the the legal transfers and the tax systems of the 19 member countries, which have not unified.

³³The data for Luxembourg is not available at the BIS, which is a great limitation given that Clearstream International is Located in Luxembourg.

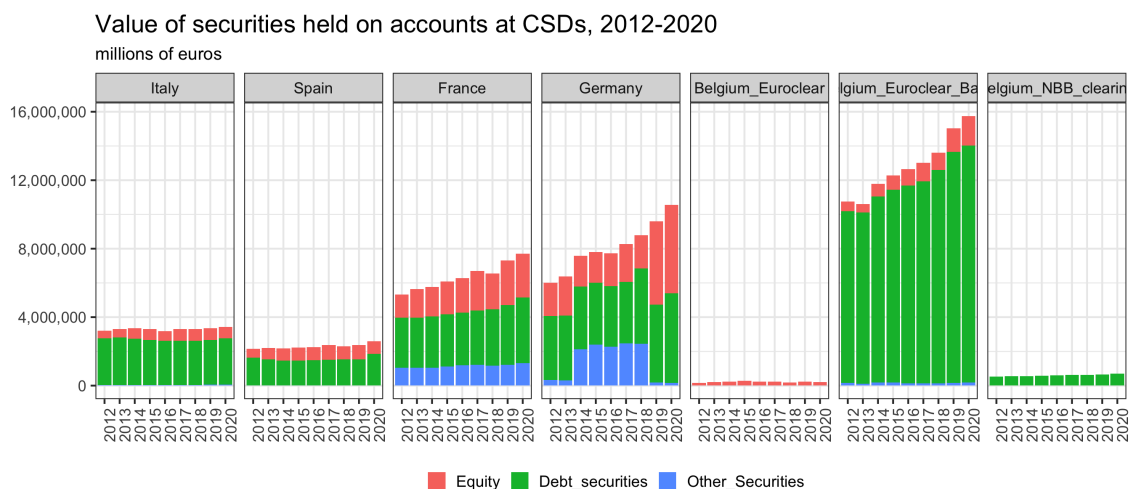


Figure 7.12. Value of Securities held on Accounts at CSDs (mn euros), 2012–2020.

Notes: Italy: Monte Titoli; France: Euroclear France; Belgium: Euroclear Belgium, Euroclear Bank (International CSD), NBB clearing; Spain: IBERCLEAR; Germany: Clearstream Banking Frankfurt. Data for Luxembourg, the domicile of Clearstream International (the other ICSD) is not available at the BIS.

Source: Elaborations on BIS CPMI systems.

7.6 Conclusive remarks: from fragmentation to subordination

Fragmentation, both in terms of prices and of the architecture, has not been fought with a specific set of policies. Whilst the ECB has enacted some unconventional policies to try reduce the ‘spreads’, it has not put forward an achievable path towards infrastructural unification. This is the consequence of a monetary union that overlaps partly with the integration of policy-making of the European Union, thus rendering proactive structural policies by the Eurosystem and its members almost unachievable: most of the infrastructure-related policies, decisions, and supervisions occur either at the national level or at the European one, not the *Eurozone* one.

The regulation of CSDs is a clear example of this, as it located at the EU level to integrate the CSDs of both Euroarea and non-Euroarea members. This section analyses how fragmentation has been fought and how this has shaped the Eurozone. Financial integration has not solved the issues of fragmentation (which has become more relevant with the shift to a liquidity-surplus monetary regime with the FRFA refinancing and the APP) and that the most recent policies implemented by the Eurosystem has indeed followed the fragmented infrastructure.

The fragmentation and polarisation of the infrastructure of the Eurozone mon-

etary and financial markets are consequences of the push for integration and the self-imposed principles found in the Treaty of Maastricht dictating the position of the Eurosystem vis-à-vis the private Euroarea markets. The two principles are, in the words of Padoa-Schioppa (1999), the ‘decentralisation principle’ and the ‘market principle’, found respectively in Article 105(1) of the Treaty of Maastricht and Article 12.1 of the ECB Statute (annexed to the Treaty).

Whilst the former encapsulates the neoliberal ethos of market neutrality making the Eurosystem a passive agent of integration throughout the process of consolidation and specialisation of the market infrastructure (CSDs and CCPs) that has led to the rise of infrastructural centres until the GFC and then to the fragmentation of the infrastructure,³⁴ the latter principle allowed different national payment, clearing, and settlement procedures to maintain their national features with the single NCBs involved *only* in their national jurisdiction.³⁵

Passive integration, in other words, is not conducive to the creation of a monetary union, and gives rise to the architecture for asymmetries. In fact, four main dimensions link *structural fragmentation* and of *the passive and selective integration* with Monetary subordination. It is argued that fragmentation and the passive integration that seeks to integrate only certain segments rather than unify the infrastructures not only is a precondition for subordination, but it can also only give rise to an asymmetric and subordinated Monetary Union.

Dimension 1: Structurally fragmented but integrated jurisdictions will be tiered.

Dimension 2: Integration only along certain areas leads to polarisation of the member states.

The selective integration highlights the key problem created by fragmentation: financial integration occurs in the form of payments and settlement through TARGET2 and T2S, hence it is an integration of money-flows which now move completely freely and supported by the hybridity of the financing of cross-border payments, but at the same time not at level of infrastructures and markets. This appears, as was shown here, in the fragmentation of collateral valuation and use, in the fragmentation of the CSDs and CCPs along national lines, and in the polarisation of liquidity flows. The monetary regime, in

³⁴[T]he [Eurosystem] shall act in accordance with the principle of an open market economy with free competition, favouring an efficient allocation of resources [...], Article 105(1).

³⁵... [T]he ECB shall have recourse to the national central banks to carry out the operations which form part of the tasks of the [Eurosystem]’, Article 12.1 of the ECB Statute.

turn, provides a wider context of strengthening fragmentation, especially with the move from a corridor to a floor system, in which excess liquidity flows towards the core and collateral valuation increases in both volatility and divergence.

Fragmentation entails an automatic tiering of the different areas not due to ‘market sentiment’ or differentiated (re-denomination) risks, but because of the use of different infrastructure and of different instrument to carry out transactions and funding, especially for the European universal banks. The monetary hierarchies described in Chapter 5 appear as a consequence of the fragmented institutional architecture (the decentralisation of European Central Banking coupled with the access of the NCBs and the ECB to the markets) and of the fragmented market infrastructure, which relies on national components for most of the clearing and settling of financial –especially short-term– transactions.

Alternatively, the issue is not the fragmentation per se, but the partial integration that connects fragmented markets and allows for money to freely move from one fragmented jurisdiction/market to the other. The monetary union *hyper-liberalises* the European national economies by enforcing a market structure and a backing of ‘foreign’ euro-denominated claims of other Eurozone jurisdiction in a way that resembles the liberalisation of Asian countries in the 1980s/90s and more generally of developing countries exposed to international dollar flows.

Dimension 3: Fragmented jurisdictions do not integrate passively, but need pro-active unification.

Dimension 4: Structural Fragmentation creates and allocates infrastructural power for both official and private actors.

The Eurozone is built on the knife edge of integrating passively as much as is required for an apparent common monetary policy, whilst at the same time refraining from bringing forward unification at the structural level: such an issue arose with the political hurdles of giving up national sovereignty in the 1990s, but has been reinforced by the selective and technocratic integration pursued by the ECB Governing Council. Passive integration in which infrastructures are not unified but the par between liabilities of different jurisdictions is guaranteed and automatically supported cannot foster a unified and even monetary union, but only leads to the perpetration of asymmetries and fragmentation at the level of the financial plumbing (the ‘minimum convergence’ approach shown by the EMI in the 1990s). This, in turn, gives rise to a system built out of attrition: much like complex technological systems (the computing software, for example, used by banks), the updates are patched together to keep the system running rather than optimising it. As the system acquires size and complexity, it becomes impossible to fix it in its ‘stitched together’ form,

and requires the creation of a novel system from scratches.

This in turn translates in uneven development of financial markets at large, with the national markets that play prominent roles in the Union (French and German) being deep and liquid enough to allow the expansion of capital markets. Consequently, financial fragmentation but integration of liquidity flows leads to the concentration of investment in the core financial assets (shown in the previous chapter with the pink bars of the BoP decompositions), with significant spill-overs on non-financial corporations access to capital markets.

As to whether passive integration is kept to be the mode of European monetary integration, it remains a matter of class struggle: such form of integration combines state interests with the ones of financial capital both in the non-subordinated and subordinated members. The mode of integration, in other words, is a matter of class struggle within the member countries as well as between the member countries, and represents the hegemonic power of the core intended not as a nation, but as a class. The passive mode of integration benefits the interests of financial capital by allowing money capital to flow unbridled and exploit the divergences across jurisdictions.

As a consequence, the ECB's monetary policy is shaped by the fragmentation and in turn tries to remove the appearance of fragmentation. Fragmentation remains with regard to the government bond spreads, which prompts the ECB to act swiftly. Without the perception of fragmentation –despite the presence of its infrastructural form, the political requests for unification is removed. The condition is that payments for the marginal agent (bank, firm or consumer) clear and settle, which is provided as a guarantee of the TARGET system and the Eurosystem's infinite elasticity of liquidity-provision. In turn, passive integration is pursued technocratically so to foster the appearance of an integrated Union, showing the intrinsically de-politicised role of the ECB, and its re-politicised behaviour political affecting integration/unification.

The way in which power is allocated across classes and actors in the Union is shaped by the 'entanglement' (see Braun, 2020) of the agents. The ECB has been able to reshape the entanglement and role of central banks in the EMU by moving from a corridor system to a floor system. Whilst the former is characterised by liquidity-shortage, the latter has the inherent feature of providing excess liquidity to the system by accommodating and even exceeding the demand for central bank reserves. Such change implied that the tool of monetary policy has shifted from the provision of liquidity to the management of collateral, which, by being predominantly sovereign bonds, implies a direct effect of the ECB's policies on the funding of sovereign government by affecting the liquidity and rates of those segments.

The systemic entangling explains the positioning of the ECB (and NCBs) as an agent that tries to concentrate power by using the infrastructure to de-politicise its role and at the same time to re-politicise it. The ECB has to rely on the infrastructures as well as on the private financial sector that ultimately supports the demand for collateral. Having a fragmented infrastructure, a fragmented private financial sector, and even a fragmented (i.e., ‘decentralised’) implementation of the monetary policy implies that power is not only concentrated in one of the three components of the macro-structure, but it is acquired by specific national –or in the case of the ECB supranational– actors of such components.

Part III

The Consequences of Subordination

Chapter 8

Domestic Financialisation and Cross-Border Bank Exposures in the Eurozone: Consequences of Monetary Subordination

8.1 Introduction

This work has clearly conceptualised and demonstrated the presence and forms of monetary subordination in the Eurozone. This started from Core-Periphery discourses, but promptly rejected such bipartite *structure* in favour of a spectrum of subordination. In the same spirit, this chapter analyses whether *financialisation* in the Eurozone has taken a subordinate character in a similar way to that theorised for Emerging Market Economies (EMEs) or not. It is shown that indeed the Eurozone members have financialised, but that whilst idiosyncrasies and asymmetries can be noted, these are far from the subordinate (or dependent) financialisation that EMEs experience. In line with the thread of this work, it is shown that monetary and financial subordination in the EMU takes unique and particular forms.¹

Part II established the presence and the mechanisms of subordination as a fea-

¹This chapter offers more insights on the ‘epochal’ change implied by the *formalisation* of subordination occurring with the introduction of the euro in 1999. A date should not be considered as a specific break as financial markets and their participants anticipated to different extents the move to the euro. Consequently, changes appearing in the years prior to 1999 do not negate the importance of the formal introduction of the common and single currency, but highlight the expectations in the markets of the meaning of such adoption.

ture of the architecture of the Eurozone established through the monetary hierarchy, the hybrid money, and the infrastructure beneath the euro. From a theoretical perspective, these chapters explained the *structural* side of monetary and financial subordination. Behaviours of agents were discussed to a smaller extent compared to the mechanical working of the Eurozone, as explained in Chapter 6 and the distinction between TARGET balances arising from the mechanics of payment vis-à-vis the asset-management decisions of banks. As theorised in Chapter 3, subordination in the monetary structures interacts with the ‘agency’ of subordination by shaping the architecture within which actors interact. This leads to subordinate behaviours, which are now studied in relation to the *financialisation* of six key Eurozone members (Italy, Spain, and Greece for the ‘periphery’; and France, Germany, and the Netherlands for the ‘core’), and their inter-sectoral relations.² Indeed, the monetary structures determine the specific forms of subordination in the Eurozone, which will be different from Emerging Market Economies (EMEs) in the particular shapes but similar in the general dynamics and nature of subordination.

The aim of this chapter is to analyse the connection between monetary subordination and the appearance of subordination at large. subordination is ‘operationalised’ by looking at the process of financialisation, for which distinctive features subordination have appeared in the studies of Emerging Market Economies (EMEs). In other words, looking at financialisation facilitates the empirical assessment of whether subordination –built upon the monetary structures of subordination described previously– is indeed present in the EMU. At the same time, it also allows for the beginning of cross-country comparisons of *subordinate integration* in the EMU by comparing the domestic changes within the main member countries, highlighting that the history of asymmetric monetary integration in Europe is also a history of asymmetric financial integration and financialisation of its members. It is argued that there are variations in how Euro area countries financialise, but with similar trajectories and not comparable with the subordinate financialisation experienced by EMEs

Whilst following the subordinate financialisation tradition helps to show the appearance of distinct but similar process of financialisation in the peripheral and core countries, the subordination of domestic agents in the EMU is not limited to financialisation and takes more obscure forms *because of* the single and common currency. In fact, the transformation pushed by subordination appears more clearly when looking at the banking sectors. Ultimately, it is argued that subordination is shown by combining financialisation with the cross-border exposure of banks, both affected by the monetary infrastructure of

²Additional countries are added for the assessment of banks exposure to offer a more comprehensive analysis of the core-periphery divide in the Eurozone and the bank exposures across member countries –which point at the shape of the Euro area network.

the Eurozone.

To look at financialisation, this chapter first employs Flow of Funds (FoFs) data to depict the evolution of sectors balance sheets over the last two decades. For the banks, then, Bank for International Settlements (BIS) data is used to map the composition of claims and liabilities of the selected banking sectors vis-à-vis the Eurozone partners to depict the cross-border exposure.

Built on the back of the literature reviewed in Chapter 2 –specifically sections 2.3 and 2.3.1– on the difference between a Subordinate and a Dependent account of Financialisation, this chapter proceeds as follows. The analytical contributions begin in Section 8.2 with a discussion of Financialisation in six major European members since the inception of the common and single currency based on the sectoral balance sheet of Non-Financial Corporations (NFCs), Households, and Monetary and Financial Institutions (MFIs). This is then complemented with a more detailed evaluation of the presence of subordination in the financialisation of the three ‘peripheral’ counts in Section 8.3. Section 8.4 shifts the focus on the cross-border bank exposures by looking first at the claims and liabilities of foreign banking sectors on domestic residents per sector, and then at the claims and liabilities of banking sectors per country of origin on all domestic sectors combined. Such focus on cross-border bank exposures shows that if financialisation of the non-financial and household sectors hinted at subordination, looking at the behaviour of banks confirms its presence. Section 8.5 concludes by connecting subordinate integration, the structural form of monetary subordination, and subordinate financialisation for the EMU.

8.2 Domestic financialisation in the Eurozone: cross-national asymmetries

This is an analysis of the Flow of Funds (FoFs) as closing balance sheet positions from the Euro Area Quarterly Sector Account (MUFA and NFA Eurostat ESA 2010 TP) for the Non-Financial Corporations, Monetary and Financial Institutions, and Households of the following countries: Italy, Spain, Greece, Germany, France, and the Netherlands. The Flow of Funds (FoFs) methodology allows to examine the balance sheets of different sectors in the economy, and crucially their exposure to financial flows, as it provides details on the compositions of the assets and liabilities of aggregate sectors. Tables 8.1, 8.3, and 8.5 provide an overview of the stylised sectoral balance sheets, then populated with the

data in the relevant figures. In other words, it provides the data for an understanding of the funding (sources and modes) as well as financial operations of the sector analysed.

To be sure, the Flow of Funds data also has limitations, of which two are significant. On the one hand, it provides an aggregate picture of the sector without micro-data available for the entities within it (for example, NFCs are considered as an aggregate sector whilst there are differences between large corporations and Small and Medium-Size Enterprises). On the other hand, the valuations and prices of the specific assets considered in the FoFs data is not available, which impairs analyses of risks (Sampaio, 2012; Beck and Kotz, 2016).

Based on the understanding of financialisation for EMEs, we should expect the following. For NFCs, higher reliance on loans in the periphery compared to the core, combined possibly with a different composition of the loans, with more loans coming from non domestic MFIs (the Other Loans in the figures). Both of these find mixed evidence in the data, with indeed larger but decreasing reliance on bank loans compared to capital markets, but a larger reliance of the ‘core’ NFCs on ‘other loans’ (i.e., non-domestic).

For MFIs, we should expect financialised asset side, namely a higher involvement in capital markets and other non-intermediation areas like derivatives. This should be more prominent in less subordinated countries, as the data corroborates. Similar considerations can be made for the liability side, again with data showing to different behaviours and forms of MFIs between subordinate and non-subordinate countries. Reliance on deposits should be higher in the ‘periphery’, and liabilities should include shadow banking-related operations for the more financialised –and advanced– countries. This again is found to be the case but without striking differences.

Lastly, for Households we should expect an expansion in ownership of financial assets in both groups, especially given the subordinate household sectors ability to access the other Eurozone capital markets and investment funds located in the financial centres outside the jurisdictional borders. The data only partially confirm this, pointing to a *higher* degree of financialisation of the subordinated households compared especially to German ones. This is to be explained by the internal –domestic– regulatory constraints.

The Flow of Funds data collected in the following pages show a picture in line with the monetary subordination discussed so far. On the one hand, some clear asymmetries and differences between subordinate and non-subordinate countries come afloat, both in a comparative static and dynamic approach. On the other hand, however, there is *no* unquestionably subordinate flavour to the sector balance sheets selected, at least if compared to how EMEs have fared within the international monetary and financial –dollar– (non-)system.

8.2.1 Non-Financial Corporations

Non-Financial Corporations	
Currency	Debt Securities (long-term + short-term)
Deposits	Domestic Loans (from NFCs + MFIs + OFIs)
Debt Securities (long-term + short-term)	Other Loans
Loans (long-term + short-term)	Shares & Equity
Shares & Equity	Trade Credits
Investment Fund shares (MMF + non-MMF)	Other
Derivatives	
Trade Credits	
Other	

Table 8.1. Stylised Non-Financial Corporations Sectoral Balance Sheet.

Source: Author's own elaborations.

NFCs assets

Figures 8.1 and 8.2 show the composition of NFCs' assets as shares of total Assets, whilst the total size of both assets and liabilities can be found in Table 8.2.³ Whilst Greece is shown to be a clear outlier in terms of the change in NFCs' assets being the only country with a substantial decrease in NFCs' assets between 1999 and 2015, the graphs for Italy, Spain, Germany, France, and the Netherlands show a clear picture of the recent trends of national NFCs that show subordination as a dynamic process rather than as the final assert structures: Spanish NFCs, for example, have undergone 20 years of expansions in share ownership and short-term loans, but the difference between Spanish and German NFCs in 2021 is almost non-existent. The Eurozone crisis did not produced any structural breaks, with the trends already in place in the 2000s, though it slowed down the increase in NFCs' assets. In terms of the crisis-struck countries, there is a considerable difference between Italy and Spain, with the former adding around €800bn over two decades and the latter increasing assets by €2.2tr in the same period.

When discussing the Portfolio investments, it was argued that Non-Financial Cor-

³Given the interest in the trends, shares of total seems to be a better representation of the changing composition of NFCs balance sheets. Gross values are provided to contextualise the size of these changes.

porations (NFCs) and households make a considerable portion of cross border investments in investment funds shares/units. Looking at the gross assets of Italian NFCs, it becomes clear that it is not the Italian NFCs that purchase Investment Funds shares/units, as these remain a very small part of their assets (1-2%), increasing from the minimum of around €5bn in 2008 to €37bn in 2021.

Italian NFCs have seen a consistent increase in currency and deposits from 9% in 1999 to 22% in 2021 –an increase of around €400bn, met with a decreasing share of Trade credits, whilst all other components have remained stable. The composition of equity purchased has changed, with other equity becoming the main component since late 2000s. Italian NFCs do not seem to have become more involved in financial markets, and the increase in deposits is in contrast with the theorisation of NFCs' financialisation. Such increase in deposits may be due to precautionary motives, and the recipient banks could not be differentiated between domestic and foreign.

French NFCs show the highest degree of financialised assets given that throughout the last 20 years 50% of total assets are shares owned and around 20% are loans issued. Also, French NFCs have been involved in derivatives markets from 2000 until the mid-2010s. Similarly, Dutch NFCs have increased their involvement in short-term financial markets in the early 2000s. Ultimately, German and to a lower extend Spanish NFCs are the only NFCs that have maintained a regular (or increased) investment in Investment Funds, whilst they have reduced exposure to debt securities (especially Germany in 2006).

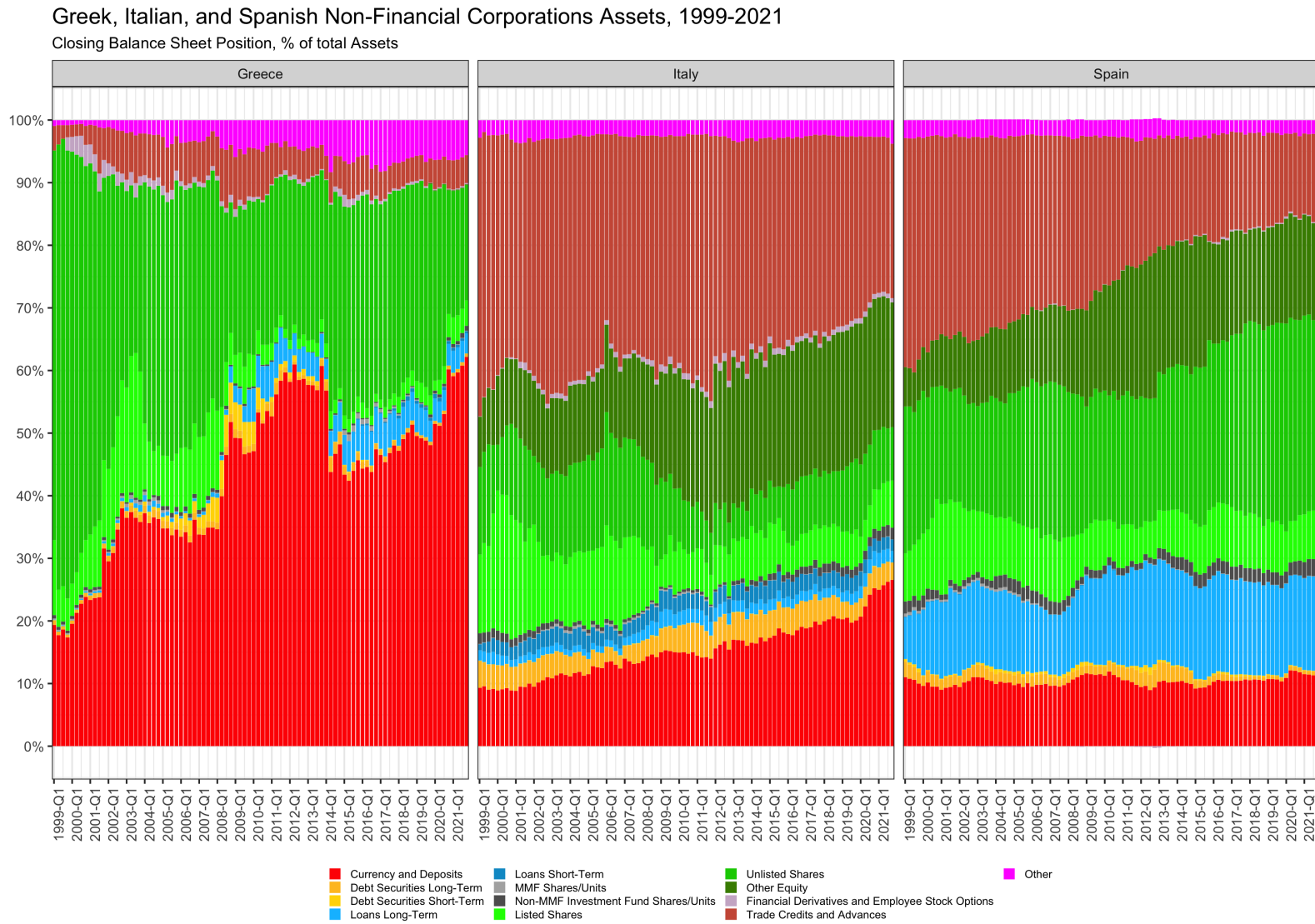


Figure 8.1. Greek, Italian, and Spanish Non-Financial Corporations gross assets (share of total), 1999–2022.

Source: Author's own elaborations on ECB, SDW, and National Central Banks Data.

French, German, and Dutch Non-Financial Corporations Assets, 1999-2021

Closing Balance Sheet Position, % of total Assets

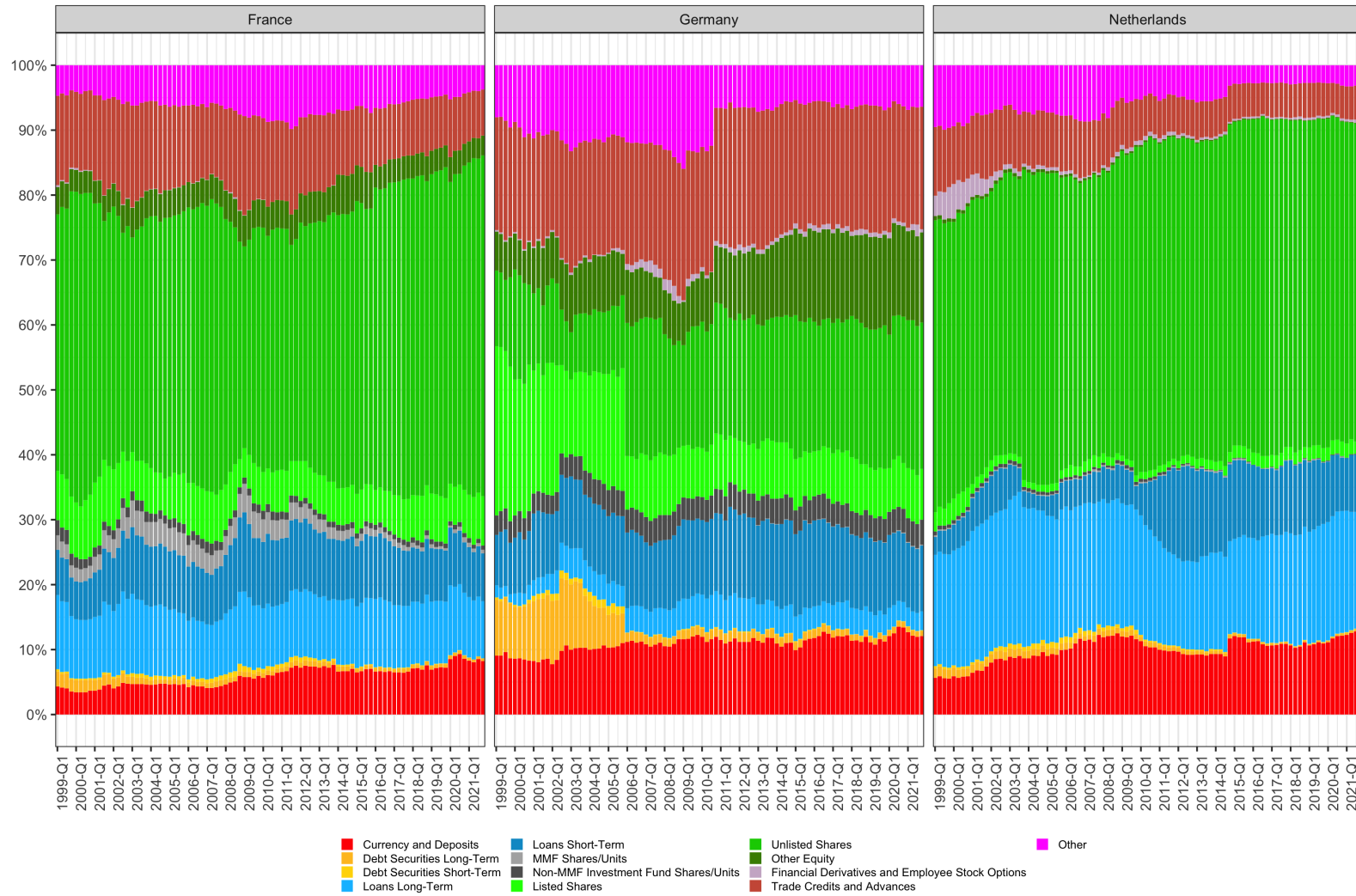


Figure 8.2. French, German, and Dutch Non-Financial Corporations gross assets (share of total), 1999–2022.

Source: Author’s own elaborations on ECB, SDW, and National Central Banks Data.

Country	1999	2005	2010	2015	2021
Greece	136,864	110,024	119,200	66,727	84,971
Italy	1,134,307	1,384,839	1,542,373	1,646,340	1,973,606
Spain	852,220	1,856,851	2,143,342	2,221,104	3,028,300
Germany	2,705,077	2,823,187	3,199,114	4,189,739	5,976,011
France	3,529,842	4,486,660	5,151,318	7,463,546	12,815,249
The Netherlands	836,955	1,103,068	1,740,011	2,305,742	2,905,833

(a) Non-Financial Corporations' total assets

Country	1999	2005	2010	2015	2021
Greece	305,144	269,228	235,706	220,801	283,214
Italy	2,337,293	3,305,264	3,468,792	3,732,283	3,978,388
Spain	1,490,290	3,087,146	3,686,757	3,804,906	4,626,858
Germany	4,032,501	4,243,837	4,960,658	6,014,087	8,161,551
France	5,181,906	6,038,380	7,004,058	9,528,575	15,613,181
The Netherlands	1,821,951	1,953,831	2,478,065	3,170,359	4,079,288

(b) Non-Financial Corporations' total liabilities

Table 8.2. Non-Financial Corporations' gross total assets and liabilities, (mn euro).

Notes: Values are the end-of-the-year positions.

Source: Author's own elaborations on ECB, SDW, and National Central Banks Data.

NFCs capital structures

The capital structure of NFCs can be broadly divided into 4 categories: debt securities, equity, loans, and other sources. Figure 8.2b summarises the size of total Liabilities for the NFCs in the selected countries; it can be noted that the similar tendencies as with the assets outlined before appear, namely Greece being the only country contracting over 1999-2015, Spanish NFCs' liabilities increasing by €3tr, Italian NFCs' by €1.5tr, and the German and French by €4tr and 10tr respectively. Figures 8.3 and 8.1 show that the composition of NFCs total liabilities for the 6 countries analysed has changed throughout the existence of the euro. The reliance on loans from the banking sector, however, has remained a common feature across these countries, as to remark the strong links between banks and NFCs in the Eurozone.

Overall, the same trajectories as for the assets can be extrapolated: some countries like Italy have changed to a low extend compared to others like Spain and France where the

turn to capital markets has been decisive since the late 2000s. Loans remain predominantly extended by domestic monetary and financial institutions, though Spain and France also show a considerable amount of intra-NFCs loans, with the Netherlands experiencing the same phenomenon since early 2010s. Cross-border loans have grown in Greece since 2015 and have remained constant in all other countries throughout the two decades, playing an important role especially for Dutch NFCs and to a lower extent Germans.

Italian NFC have shown between 40% and 50% of their capital structure in shares for the 22 years analysed. These are subdivided equally in listed shares (around 20% in 2000, whilst between 10 and 15% in the late 2010s), unlisted shares (steadily over 20% for the entire period), and other forms of equity (increasing from 12% in 1999 to 20% 2021). In terms of loans, Italian NFCs increased the quantity of bank loans until the early 2010s, when they began to shirk considerably, moving from being 25% of total liabilities in 2012 to around 16% in 2021Q4. Loans from Other Financial Institutions (OFIs) and others have grown significantly reaching around 10% of total liabilities since around 2017. Such tendency highlights the expansion of the so-called Shadow Banking sector in Italy.

Although Italian NFCs make little to no use of debt securities, the trend has been of increasing usage long-term debt securities since the inception of the euro. Despite the small size, this trend points to the increasing role of market-based finance in Italian NFCs. A large but decreasing share of Italian NFCs liabilities is shown to be the use of trade credits and advances, though this is showing decreasing trend as well.

Greek NFCs show a significant change in their capital structure if one compares 1999 with 2010 and 2021. It can be observed how at the beginning of the millennium, NFCs in Greece primarily used shares to raise funds, with listed and unlisted shares accounting for almost 80% of the liabilities in 1999, 2000 and 2001. The 2000s, however, saw the considerable shift to bank financing, with the share of loans from domestic MFIs increasing from 11% in 1999Q4 to 54% in 2011-12, decreasing to around 30% in 2015-2018 and ultimately to 20% since 2019. There seems to be substitutability between loans from MFIs and the issuance of unlisted shares, which account for an increasing share in the second half of 2010s.

Specific to Greece is the rapid adoption of long-term debt securities, which accounted for more than 10% of NFCs liabilities in late 2008 and 2009, collapsing in 2010 and remaining almost non-existent until 2021. Furthermore, Greek OFIs have picked up issuance of loans to Greek NFCs, which have increased since the introduction of the euro, and which account for around 3% of total liabilities. Unlike Spain and Italy, Greece NFCs do not make use of trade credits and advances.

Spanish NFCs display a breakdown of their capital structures relatively similar to

the Italian (and German) ones, though with some crucial differences. The similarities are primarily two: increasing trend of the use of debt securities, and the decreasing one for bank loans, which have decreased more than in Italy and represent just 10% of Spanish NFCs liabilities. The differences, on the contrary, require more explanation.

First, Spanish NFCs make greater use of equity, and especially of other forms of equity (neither listed nor unlisted shares). The use of other equity has been increasing substantially since 2008-2009, from 15% to almost 30% of total liabilities in 2021, and has replaced the issuance of unlisted shares. Today, around 60% of Spanish NFCs liabilities are forms of equity. Second, Spanish NFCs make greater use of loans from other domestic NFCs, steadily around 6-7%. In addition, this kind of loans has not seen the same downward trend as the loans extended by the Spanish banking sector. Third, Spanish OFIs do not seem to be involved in extending loans to Spanish NFCs, implying a limited shadow banking sector in Spain.

The breakdown of German NFCs' liabilities is not particularly different from the Italian one, though the total size of liabilities has doubled throughout the existence of the euro (unlike Italian NFCs' liabilities). Only three major distinctions appear significant. First, German NFCs issue listed equity instead of unlisted equity, with the former accounting for 20-30% of total liabilities whilst the latter only <10%. This is clearly related to the size and importance of German NFCs that can meet the requirements to list their shares on exchanges. Second, German OFIs do not seem to be involved significantly in lending to domestic NFCs, and they have not been increasing such loans. Third, German NFCs rely on loans from domestic NFCs to a greater extent, and especially on loans from non-resident MFIs and OFIs, captured by the category 'loans other'.

French NFCs' capital structure is characterised by features of Italian and Spanish NFCs as well as German ones. For example, French NFCs primarily use unlisted shares to raise capital, which account between 30 and 40% for the whole period. Listed shares on the contrary account for only around 15%. At the same time, however, French NFCs seem to be significantly involved in lending to other French NFCs as shown by the light blue bar accounting for more than 10% for almost all the 22 years. Lending by domestic banks, on the other hand, covers a considerably small percentage of total liabilities in comparison to the other countries, having decreased from 13-15% at the beginning of the sample to 6/7% in 2020-2021. Nevertheless, French NFCs seem to rely more and more consistently on debt securities than the other countries. These two insights point towards the more financialised nature of French NFCs.

The data for the Dutch NFCs offers a yet different picture of the capital structure of Dutch NFCs: these seem to have features of all of the previous cases. Indeed, Dutch NFCs rely heavily on unlisted equity, have seen a declining share of loans from domestic

MFI's coupled with increasing loans from domestic NFCs and from non-domestic MFIs, OFIs and NFCs. At the same time, they make use of debt securities and of loans from domestic OFIs in a stable fashion over the 22 years analysed, suggesting a higher degree of market-based activities than in other countries.

In conclusion, there is significant heterogeneity in the capital structures of NFCs in the countries assessed, though there seem to be tendencies that show the progressive financialisation of the NFCs, as encapsulated in the steady decreasing reliance on bank loans common to all cases. Whilst subordinate financialisation in the EMU does not appear to have a clear qualitative connotation in the context of NFCs –except for the reliance on foreign loans, subordinated member have undergone financialisation later but at a faster pace than the non-subordinate members' NFCs.

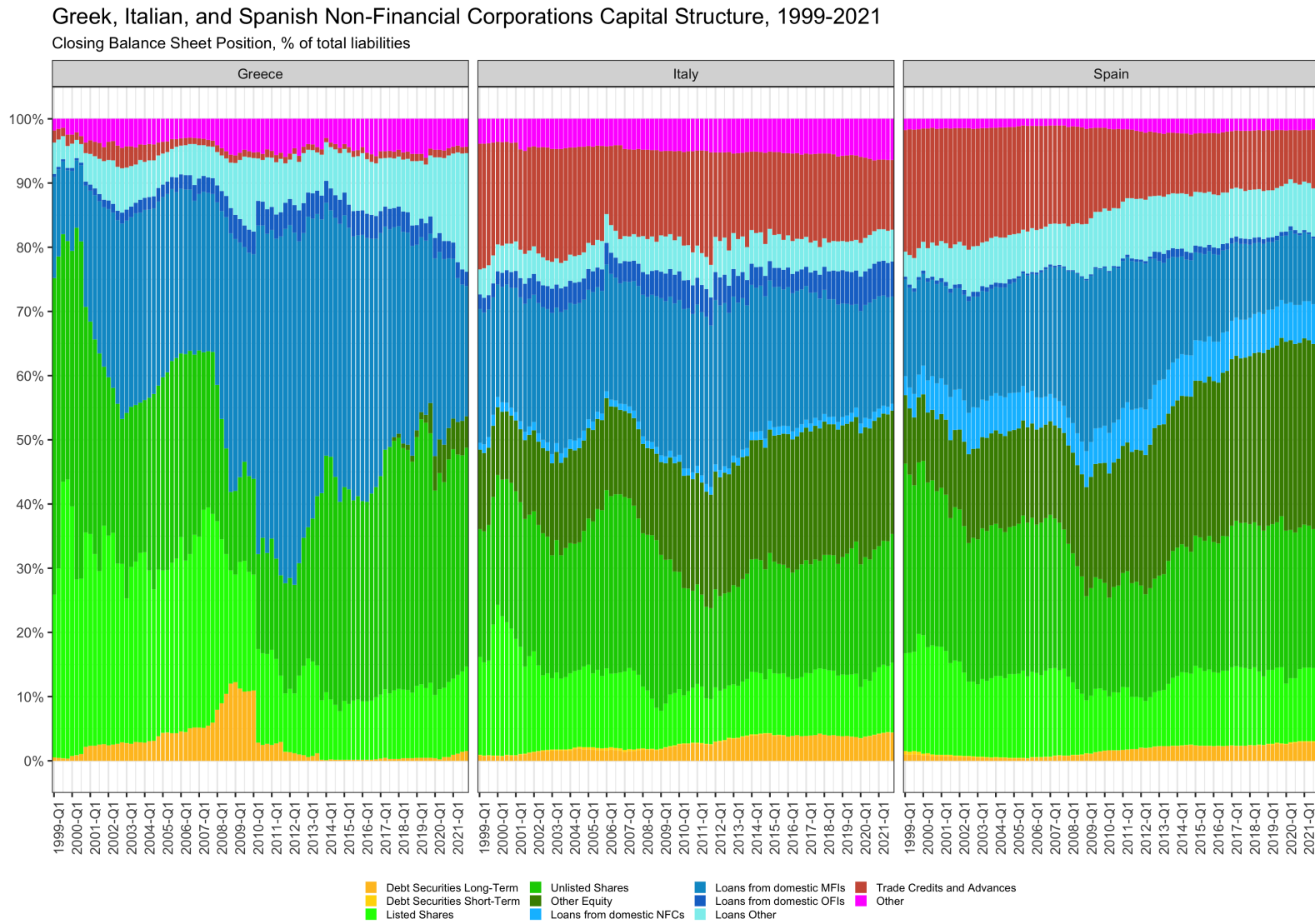


Figure 8.3. Greek, Italian, and Spanish Non-Financial Corporations capital structures (share of total), 1999–2022.

Source: Author's own elaborations on ECB, SDW, and National Central Banks Data.

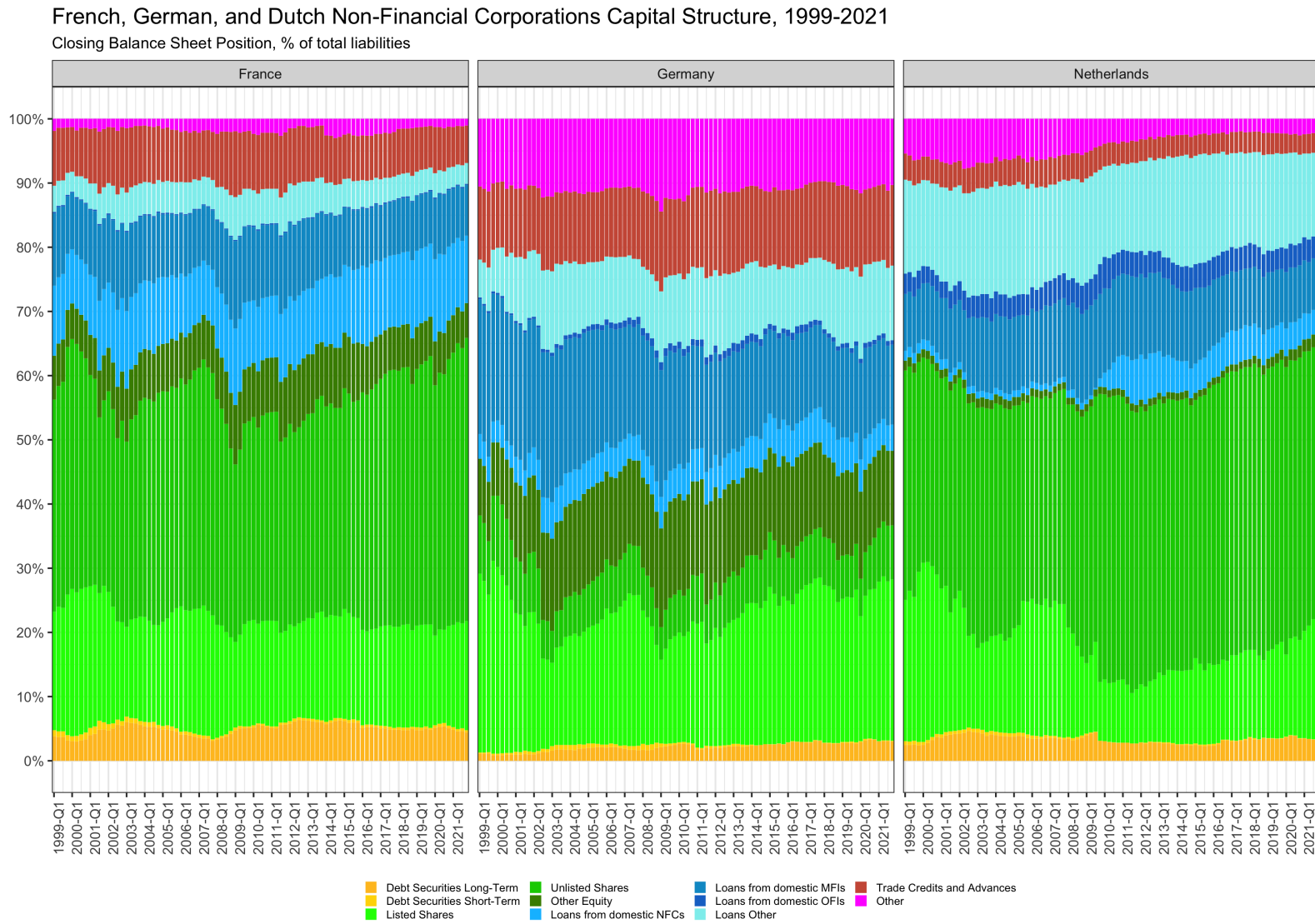


Figure 8.4. French, German, and Dutch Non-Financial Corporations capital structures (share of total), 1999–2022.

Source: Author's own elaborations on ECB, SDW, and National Central Banks Data.

8.2.2 Monetary and Financial Institutions

For Monetary and Financial Institutions (MFIs), given the relevance of banks in the next section and given the distinction between central banks and other MFIs, the total value of Assets and Liabilities and their components was used, instead of the share of total. MFIs are defined by Regulation ECB/2021/2 (ECB, 2021b) as the ‘money-issuing sector’ comprising the Central Banks, deposit taking corporations, and Money Market Funds (MMFs). For the sake of comparison, the same distinction between the crisis-struck southern periphery and the more stable and financially advanced members was maintained, showing the considerable differences in sizes of Greece and the Netherlands compared to their respective counterparts. Figures B19, B20, B21, and B22 in Appendix B provide a more detailed depiction of the data for both Greece and the Netherlands on smaller scales. Data availability constraints the breakdown of both assets and liabilities divided in Central Bank and MFIs other than Central Bank for the years prior to 2015.

Monetary and Financial Institutions (Central Banks + Deposit Institutions)	
Foreign Exchange Reserves	Foreign Exchange Reserves
Currency	Currency
Deposits	Deposits
Debt Securities (long-term + short-term)	Debt Securities (long-term + short-term)
Loans (long-term + short-term)	Loans (long-term + short-term)
Shares	Shares
Investment Fund shares (MMF + non-MMF)	Derivatives
Derivatives	Other
Insurance & Pension schemes	
Other	

Table 8.3. Stylised MFI Sectoral Balance Sheet.

Source: Author’s own elaborations.

MFIs assets

The size of MFIs total assets increased considerably from the introduction of the Euro to the Eurozone crisis in all countries, especially in Italy and Spain until 2012 and 2008 respectively. Germany experienced the lowest growth in the 2000s due to its starting positions, which accounted for already €6tr total assets in 1999, whilst French MFIs acquired most of the assets growth between 2005 and 2009. Italian MFIs, both

central bank and others, have expanded their ownership of debt securities to a great degree (proportion of total assets) than any other country.

Contrary to the NFCs, Italian MFIs show an increase from €1.5tr to around €4tr between 1999 and 2011, which was not outpaced by the rise of Spanish MFIs' assets, themselves increasing respectively from €1tr to €3.5tr. However, Spanish data is more consistent with the bubble dynamics at play in the country between the late 1990s and 2010, a decade characterised by the increasing leveraging of corporates and household finance by foreign finance intermediated by banks (Martín et al., 2019) –hence the increase in MFIs' assets.

Spanish MFIs have decreased the amount of loans extended since 2011, whilst all other countries have maintained a stable or increasing amount throughout the 2010s. The most significant changes to the loans extended by MFIs in the 2000s are to be found in the expanse of Spanish and Italian MFIs, whilst German and French ones did not increase their total exposure. This, however, does not imply that loans extended by French and German banks did not shift from international recipient to eurozone borrowers, thus increasing their net exposures to Southern European members.

MFIs in all countries have maintained a large amount of deposits (light blue areas), increasing only slightly since the introduction of APP by the ECB, compared with the rapid accelerations following the policies during the Covid Pandemic. Also, it is possible to see the unconventional policies used at the beginning of the 2010s, specifically the move to Fixed-Rate Full Allotment (FRFA) of the LTROs introduced in May 2010 and that allowed the unlimited borrowing of liquidity by commercial banks through posting eligible collateral.

What is clear is that the expansion of the total MFIs balance sheet during the last 7 years has been driven by the expansion of assets at the NCBs in Spain, Italy, and Greece, whilst it has been driven by the expansion of MFIs other than NCBs in France, Germany, and the Netherlands. This is a sign of the ailing balance sheets of the banking sectors in the Italy and Spain (and Greece), which have been undergoing a form of deleveraging (see Koo, 2011) even in the late 2010s, because they could not begin sooner, when banks in Germany and France were deleveraging themselves. Such different timing of the deleveraging of private MFIs in Spain and Italy is consistent with a subordinated banking sectors.

Ultimately, and unexpectedly, French and German MFIs are the most involved in purchasing derivatives, with the latter experiencing a significant increase in the first 10 years of the Euro before it began declining.

Greek, Italian, and Spanish MFIs Gross Assets, 1999-2022

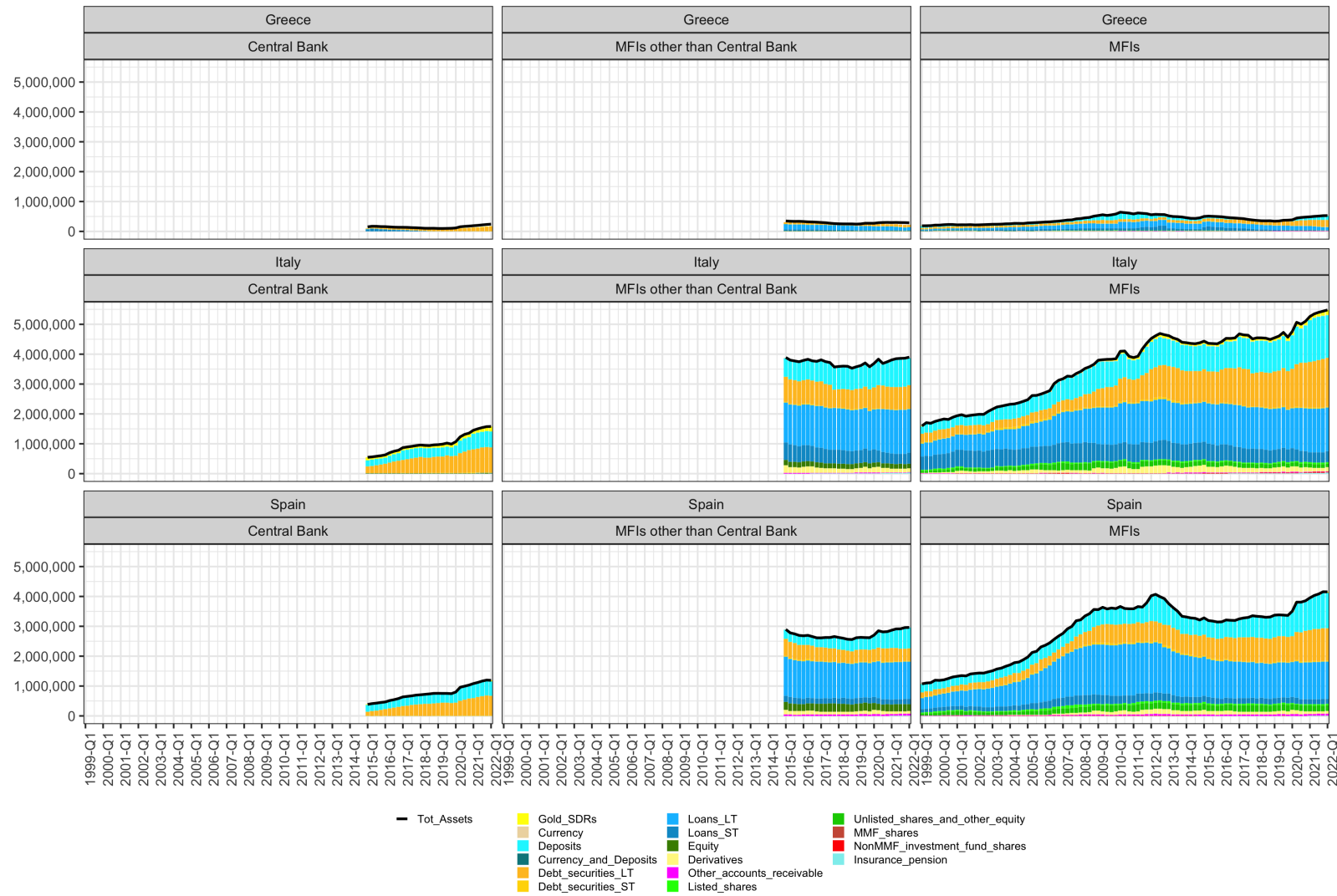


Figure 8.5. Greek, Italian, and Spanish Monetary and Financial Institutions gross assets (mn euro), 1999–2022.

Notes: see Appendix 8.2 for an enlargement of the data for Greek MFIs.

Source: Author’s own elaborations on ECB, SDW, and National Central Banks Data.

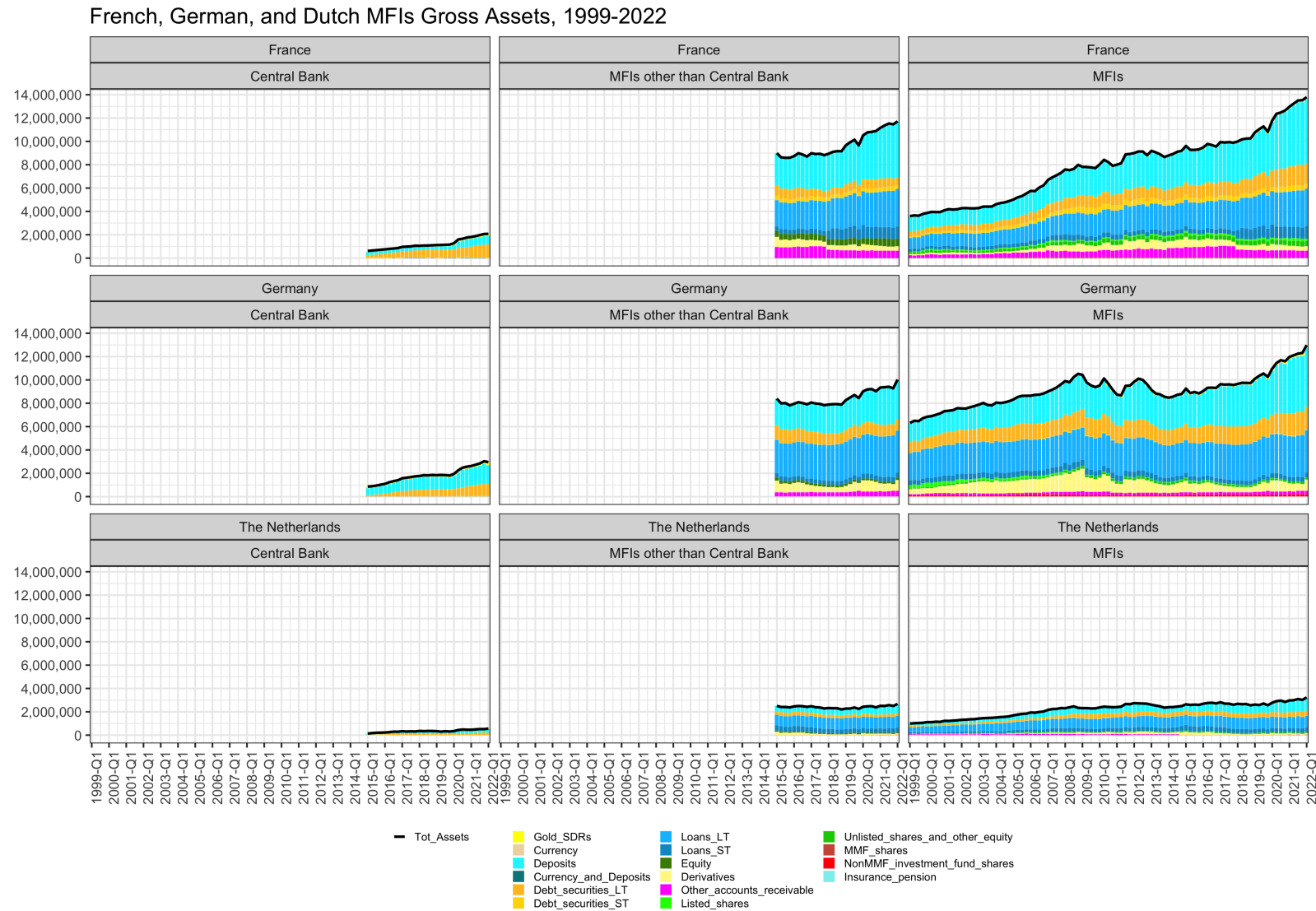


Figure 8.6. French, German, and Dutch Monetary and Financial Institutions gross assets (mn euro), 1999–2022.

Notes: see Appendix 8.2 for an enlargement of the data for Dutch MFIs.

Source: Author's own elaborations on ECB, SDW, and National Central Banks Data.

MFIs liabilities

In terms of the liabilities of MFIs, deposit liabilities are the predominant component for MFIs other than the NCBs, and essentially the only component for the NCBs –as could be expected. To complete the MFIs other than CBs, the issuance of debt securities is the main non-deposit source of funding with equity playing a role in Spain and Italy more than in France, Germany, or the Netherlands. Indeed, Italian MFIs have considerably expanded the use of debt securities to raise capital since 2006, with only a sharp decline in the amount of debt securities issued from 2016 onwards.

German and French MFIs, ultimately, display a more various capital structure reliant also on the issuance of derivatives, as shown by the fact that German MFIs made use of derivatives (light yellow bars) in large quantities in the first decade of the Euro. Ultimately, it is worth noting that the only country in which MFIs other than Central Bank and deposit taking commercial banks play a notable role is France, where the maximum and minimum ratios of shares issued by Money Market Funds (MMFs) issued shares to total liabilities respectively 7.8% (2004Q1) and 2.5% (2022Q1).

Ultimately, It appears that banks have de-financialised in that they rely more on deposits now than they did in 2011: Italian MFIs, for example, recorded liabilities of around €350bn in shares in 2006, whilst only €170 bn in 2019. All MFIs show a remarking increase in ratio of deposits to total liabilities since 2011 (Figure 8.4), after a decade of marginally declining deposit-to-total liabilities ratios. Undoubtedly part of the increase in 2021 is a consequence of the Asset Purchases (APP and PEPP) enacted by the Eurosystem that flooded the market with liquidity and that increased the deposits by banks at their NCBs (see Chapter 7 and 6), but the increasing trend was already present before the Pandemic shock. As can be seen from Figure 8.4b, the deposit liabilities of commercial banks in Spain, Italy, Greece, and France started increasing monotonically since 2015,⁴ whilst in Germany and the Netherlands ratios of deposits to total liabilities increased between 2015 and 2018, but declined towards 2020 before increasing again during the Pandemic.

⁴Prior data is not available.

Country	2000	2005	2010	2015	2021
Greece	0.67	0.74	0.89	0.70	0.85
Italy	0.52	0.52	0.61	0.67	0.81
Spain	0.73	0.72	0.75	0.74	0.80
Germany	0.61	0.56	0.62	0.68	0.75
France	0.62	0.59	0.57	0.58	0.71
The Netherlands	0.63	0.63	0.59	0.59	0.67

(a) All MFIs' deposit liabilities to total liabilities ratios.

Country	2015	2018	2020	2022
Greece	0.71	0.85	0.90	0.91
Italy	0.65	0.77	0.81	0.83
Spain	0.73	0.76	0.78	0.80
Germany	0.67	0.73	0.70	0.72
France	0.54	0.65	0.69	0.72
The Netherlands	0.57	0.63	0.61	0.66

(b) MFIs other than Central Bank deposit liabilities to total liabilities ratios.

Table 8.4. MFIs' deposit liabilities to total liabilities ratios.

Notes: All values represent Q1 positions. The largest component of "All MFIs" are commercial banks.
Source: Author's own elaborations on ECB, SDW, and National Central Banks Data.

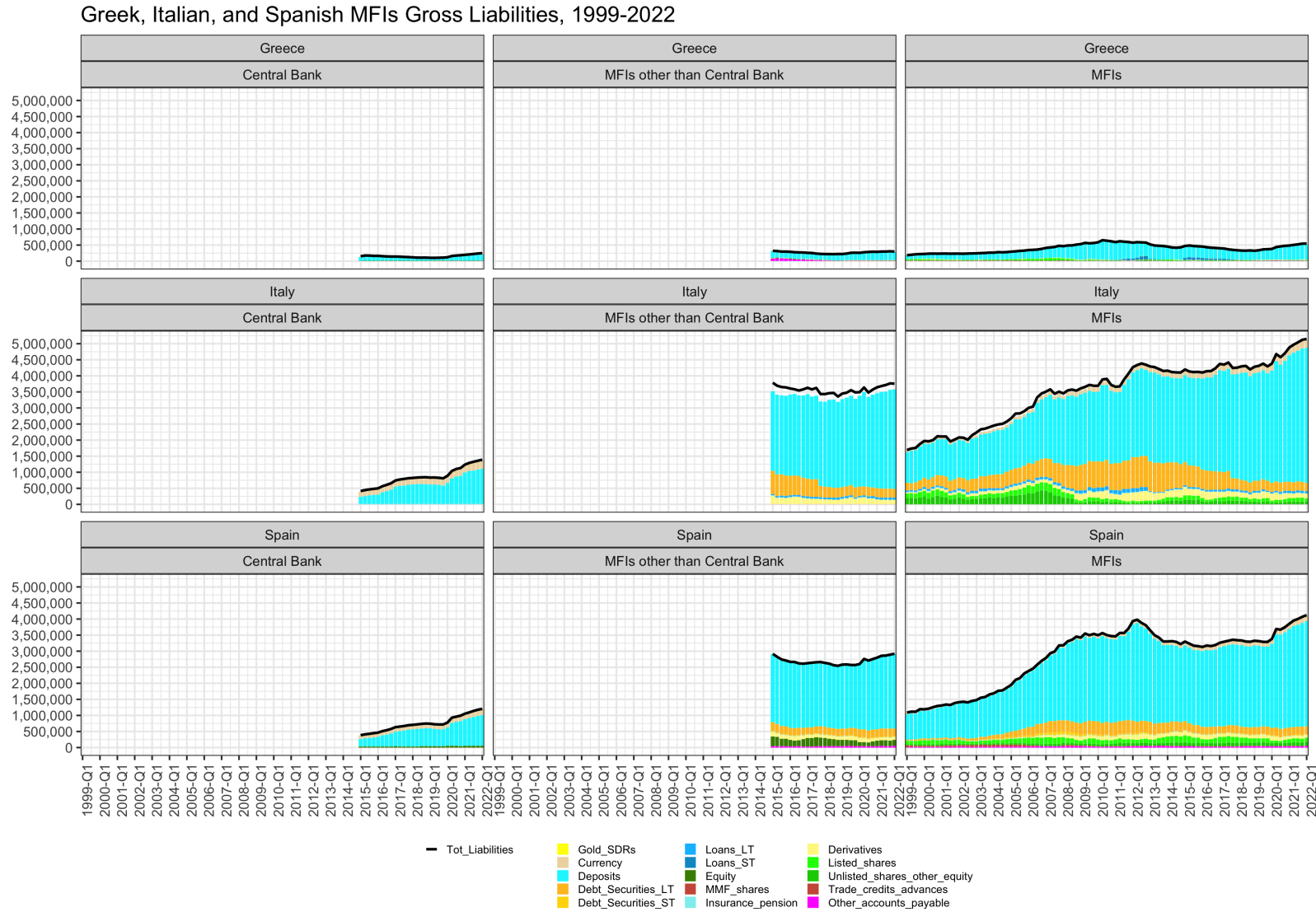


Figure 8.7. Greek, Italian, and Spanish Monetary and Financial Institutions gross liabilities (mn euro), 1999–2022.

Notes: see Appendix 8.2 for an enlargement of the data for Greek MFIs.

Source: Author's own elaborations on ECB, SDW, and National Central Banks Data.

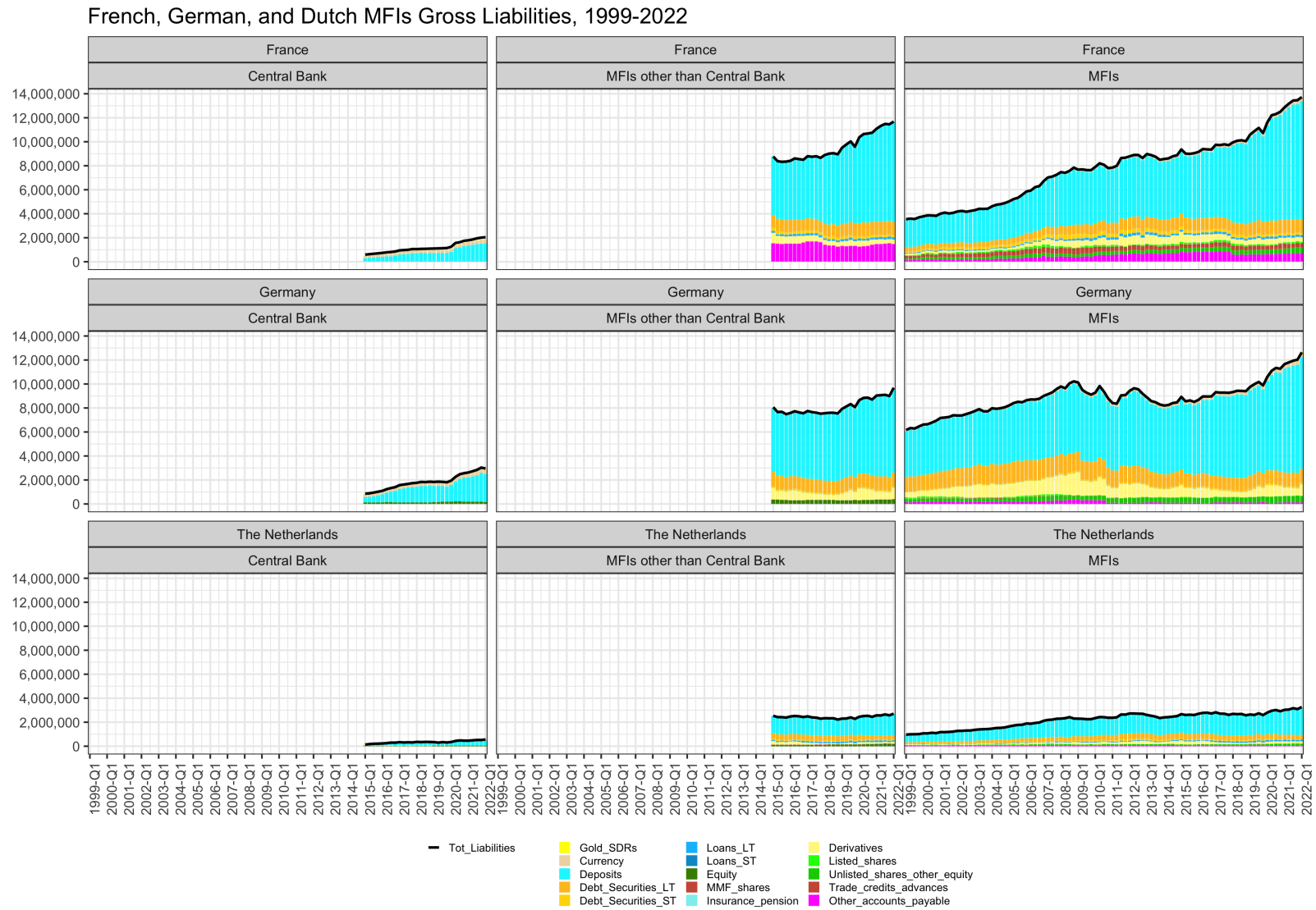


Figure 8.8. French, German, and Dutch Monetary and Financial Institutions gross liabilities (mn euro), 1999–2022.

Notes: see Appendix 8.2 for an enlargement of the data for Dutch MFIs.

Source: Author’s own elaborations on ECB, SDW, and National Central Banks Data.

8.2.3 Households

Households assets and liabilities have increased considerably throughout the life of the Eurozone, as shown in Table 8.6. It is remarkable that especially Italy and Spain have been able to respectively double and triple total assets and triple their total liabilities, proportionally increasing more than German and French Households. Of the three sectors analysed here, Households are the only one in which the crisis-hit countries have grown more than France and Germany. Greece remains an outlier with very small values, though total liabilities increased by a factor of 7 between 2000 and 2010, and of 5 between 2000 and 2021.

Far from a long period of deleveraging, households have considerably increased their interactions with financial markets both on the asset and liability sides, though in different ways. Assets have increased constantly during the lifespan of the euro whilst liabilities have increased at a much slower pace and have declined temporarily between 2010 and 2015 for the Eurozone Crisis-hit countries and the Netherlands, showing temporary deleveraging French households' liabilities never declined, whilst German households' declined moderately in the late 2000s, pointing at the higher exposure of German (and French) financial sectors to the Global Financial Crisis (GFC).

Household	
Deposits	Long-term Loans (Mortgages)
Currency	Short-term Loans
Debt Securities	Trade Credits
Shares	Other Accounts Payable
Investment Fund shares (MMF + non-MMF)	Other
Insurance & Pension schemes	
Other	

Table 8.5. Stylised Household Sectoral Balance Sheet.

Source: Author's own elaborations.

Households assets

The composition of the Households's asset side of their balance sheet has remained relatively stable in France, Germany, and the Netherlands, whilst it has undergone considerable changes in Italy, Spain, and Greece. Once again, Greece represents a unique case

Country	1999	2005	2010	2015	2021
Greece	268,474	282,896	258,365	255,600	295,270
Italy	2,793,253	3,840,878	3,719,367	4,307,951	5,067,753
Spain	995,062	1,575,497	1,799,579	2,276,566	2,646,978
Germany	3,320,070	4,061,599	4,424,221	5,395,078	7,617,732
France	2,633,532	3,247,328	4,067,640	4,831,309	6,486,207
The Netherlands	–	–	1,788,935*	2,297,722	3,072,177

(a) Households' total assets.

Country	1999	2005	2010	2015	2021
Greece	22,301	87,598	155,608	121,937	111,381
Italy	372,952	667,361	899,250	893,777	994,846
Spain	298,122	710,100	953,983	772,104	765,364
Germany	1,453,053	1,552,872	1,519,861	1,622,312	2,042,590
France	633,008	957,917	1,375,942	1,477,742	1,899,056
The Netherlands	–	–	819,682*	811,490	914,299

(b) Households' total liabilities.

Table 8.6. Households' gross total assets and liabilities (mn euro).

Notes: Values are the end-of-the-year positions. *The 2010 Values for the Netherlands are for 2011 due to data availability.

Source: Author's own elaborations on ECB, SDW, and National Central Banks Data.

as shown by the 70% share of deposits to total assets in 2010, and the hikes in currency held following the banking turmoils. The ownership of shares has acquired considerable importance since the Eurozone crisis, whilst ownership of debt securities has fallen.

However, the most staggering change has been the considerable decrease of the amount of debt securities owned by Italian Households, from around 20% of their portfolios until 2011 to less than 5% in 2021. Similar trends have occurred in the other countries shown, but in significantly lower sizes. Likewise, Italian Households also are heavily invested in Investment Funds (blue bars), having more than 15% of their assets in such items since 2012/13.

The biggest difference between the Figure 8.9 and Figure 8.10 is the size of Insurance and Pension Schemes as part of total assets of Households. These have only increased recently in Italy and more moderately in Spain, but remain well below the 30-40% of total

assets shown by France and Germany.

At the same time, however, Italian and Spanish households are heavily involved in Investments Funds, with increasing shares since the Eurozone Crisis that have expanded beyond the German and French counterparts. Investment in equities is also more prominent in Spain and Italy –and Greece as well– than in Germany and France.

In other words, households in subordinated countries like Italy, Spain are more involved in the acquisition of market-based financial products, but seem to rely less on insurance and pension schemes. This suggests a degree of financialisation of the peripheral households that is crucially different from the ‘core’ one, and especially it shows that it is the peripheral household that has been changing and adopting financial investments more than its core counterparts.

Households liabilities

Household liabilities are primarily made of long-term loans including mortgages. Figure 8.11 shows that the ratio of long-term loans to total liabilities increased rapidly in the 2000s, and remaining at a stable level in Italy and Spain throughout the 2010s, whilst it kept increasing in Greece. France, Germany, and the Netherlands show more stable levels of long-term loans, with German Households already having high levels (short of 90% of total liabilities) in 2000, whilst French households increased from 70% to 85% between 2000 and 2021, but not in a monotonic path (Figure 8.12). Italian households remain the only ones with a ratio of long-term loans(mortgages) to total liabilities of around 70%, remaining stable throughout the 2010s.

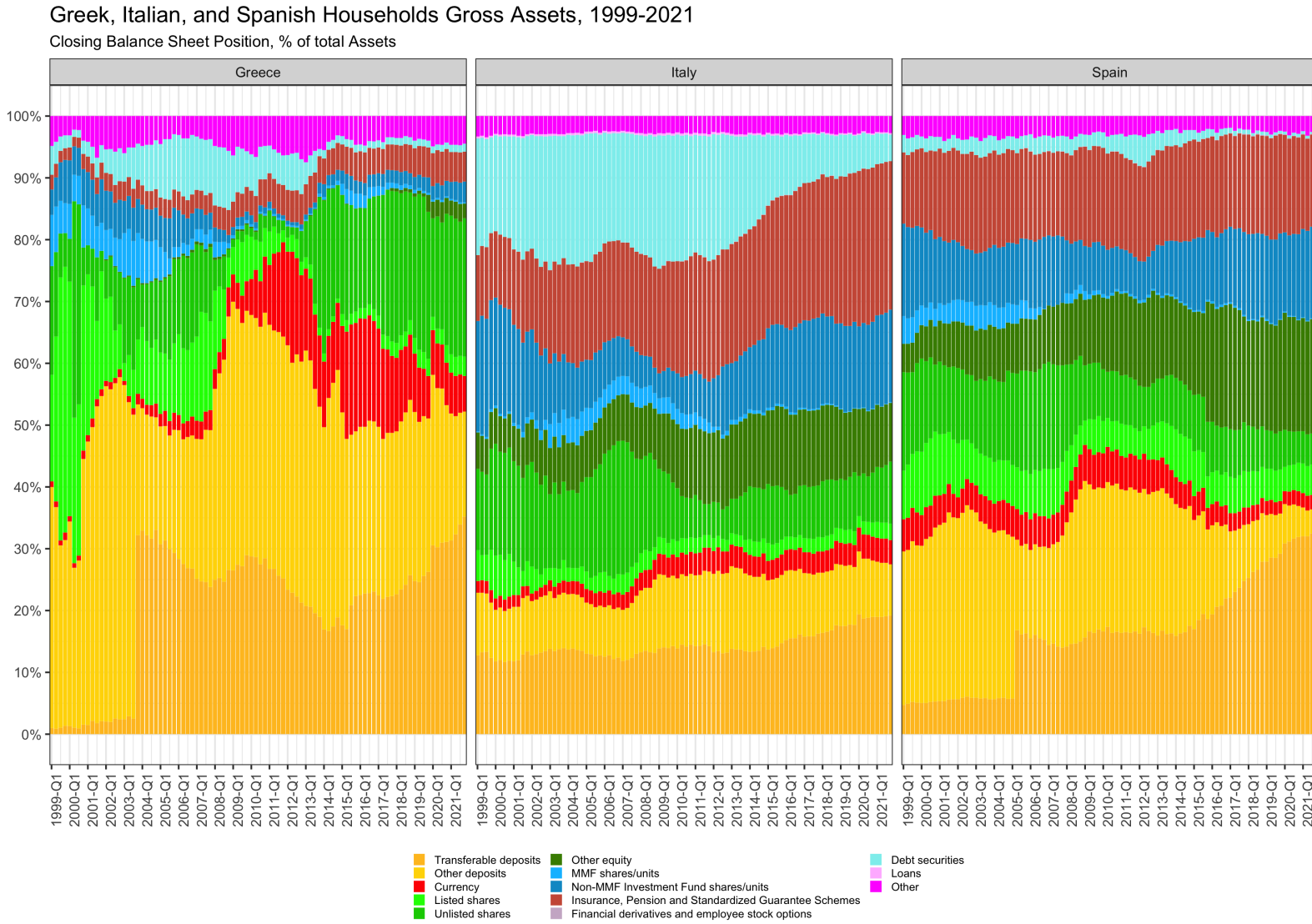


Figure 8.9. Greek, Italian, and Spanish Households gross assets (share of total), 1999–2022.

Source: Author’s own elaborations on ECB, SDW, and National Central Banks Data.

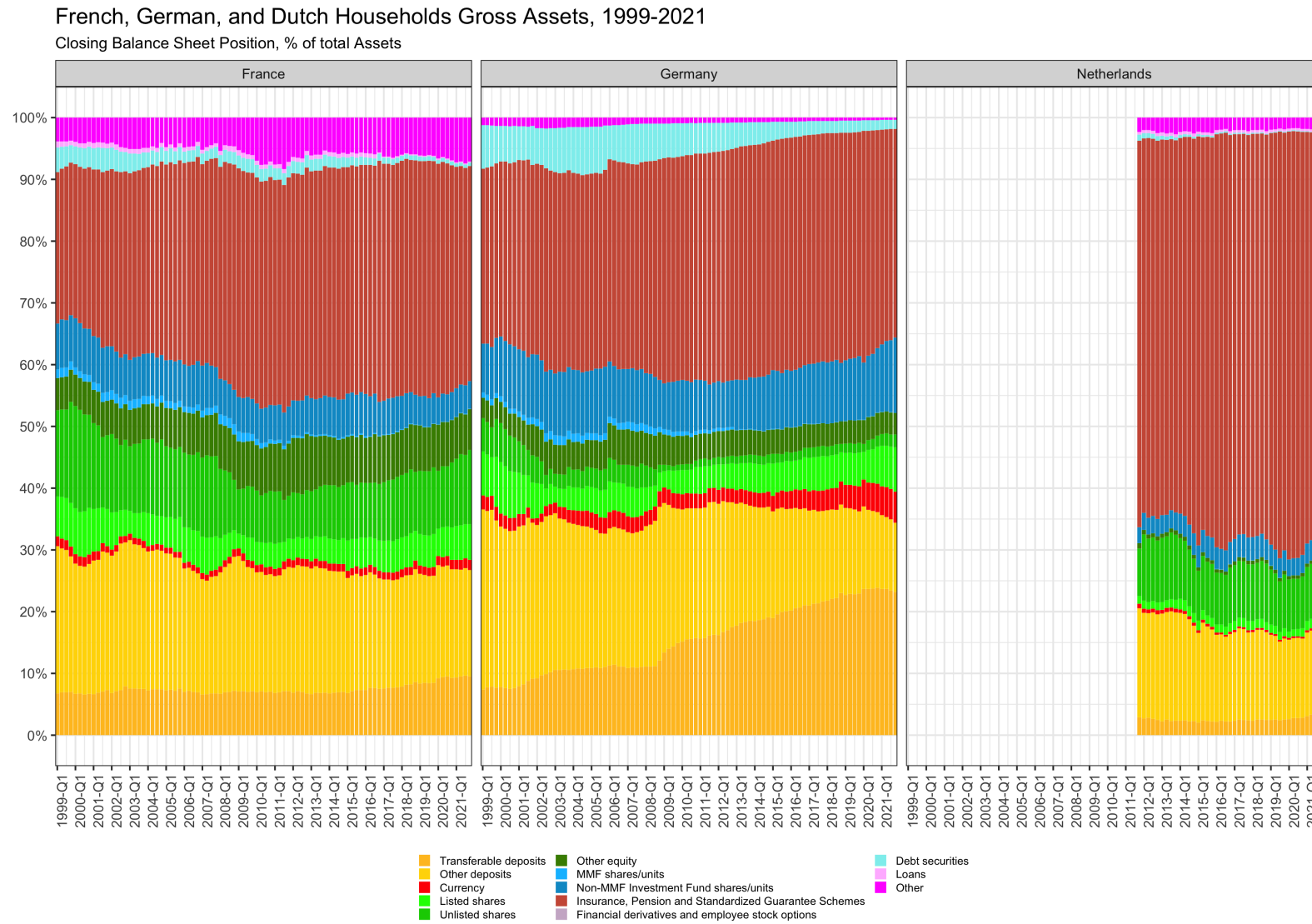


Figure 8.10. French, German, and Dutch Households gross assets (share of total), 1999–2022.

Notes: Data availability is limited for the Netherlands.

Source: Author’s own elaborations on ECB, SDW, and National Central Banks Data.

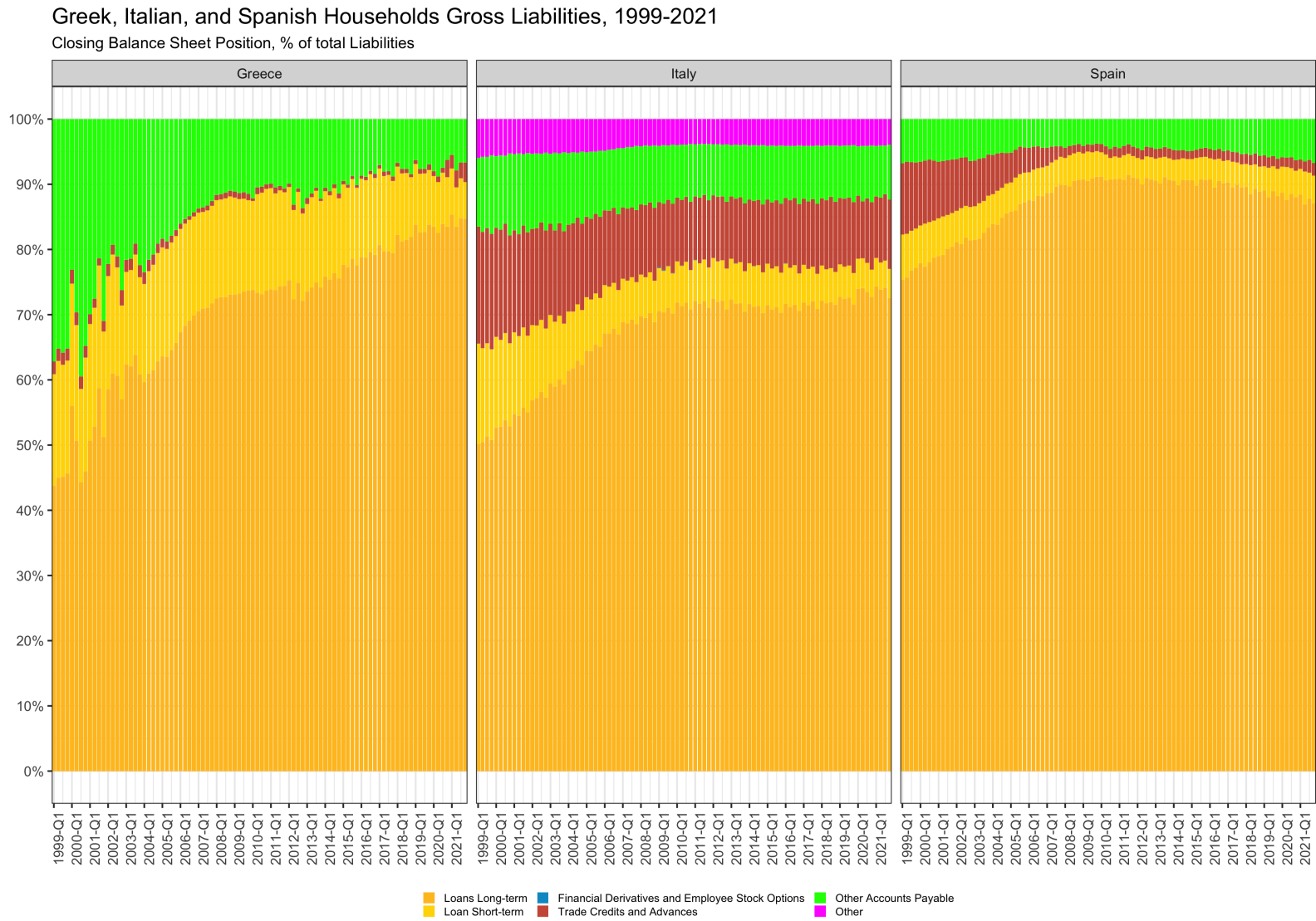


Figure 8.11. Greek, Italian, and Spanish Households gross liabilities (share of total), 1999–2022.

Source: Author's own elaborations on ECB, SDW, and National Central Banks Data.

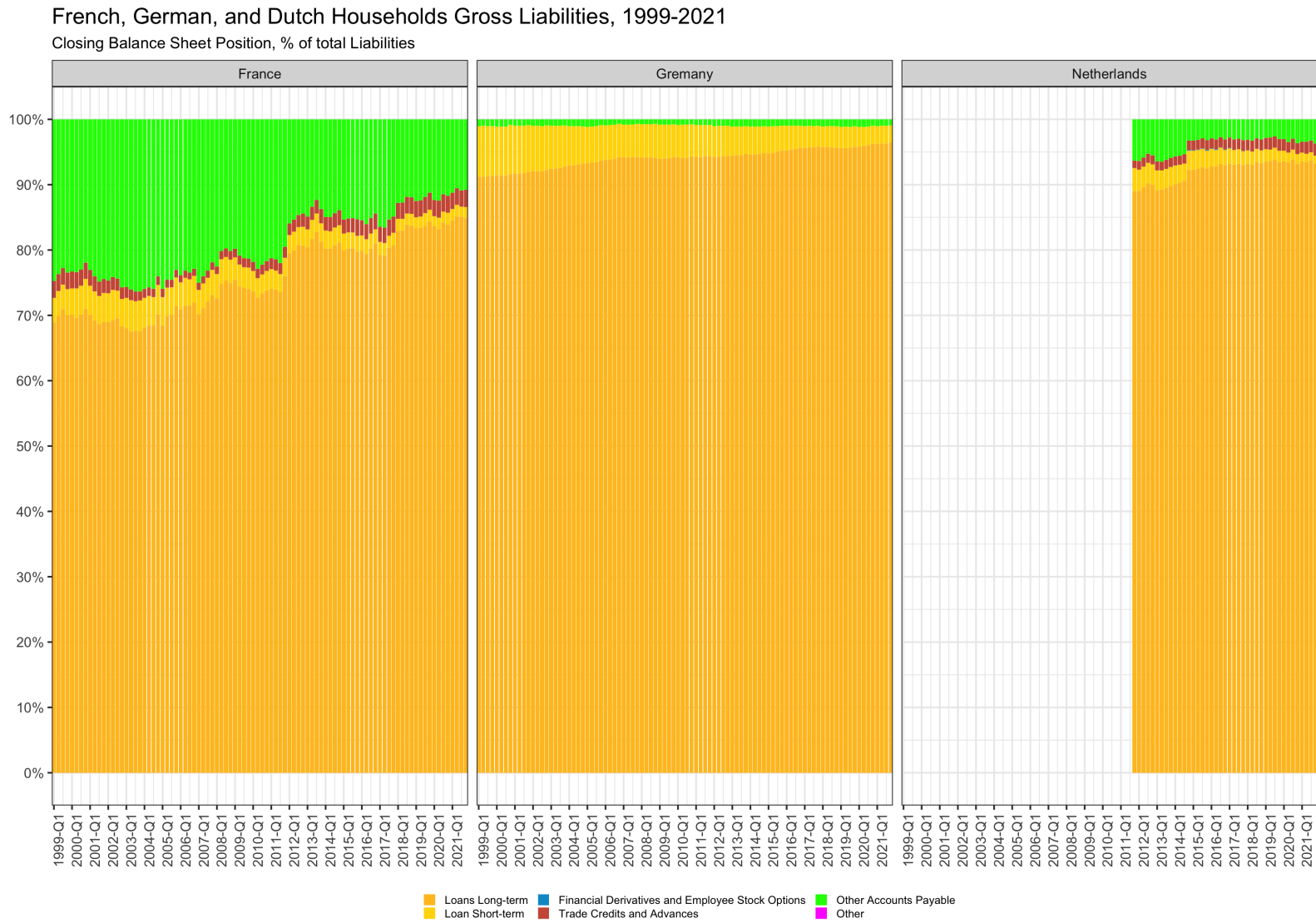


Figure 8.12. French, German, and Dutch Households gross liabilities (share of total), 1999–2022.

Notes: Data availability is limited for the Netherlands.

Source: Author's own elaborations on ECB, SDW, and National Central Banks Data.

8.3 Subordination in the EMU's financialisation?

Assessing the presence of subordination in the financialisation in the EMU cannot be carried out in the same way as for developing countries for one main issue: subordination cannot be proxied thorough the integration in international markets and the change in denomination of financing instruments (Powell, 2013; Kaltenbrunner and Paineira, 2015; Kaltenbrunner and Karacimen, 2016), for the domestic and the regional currencies are the same. Whilst Financialisation in the EMU is reflected by different relationships across domestic actors, the aspect of subordination in it is the different timing and only some specific trends taking place especially since the introduction of thin and single currency. For this reason, whilst it is possible to confirm a degree of subordinate financialisation within Europe, the levels of heterogeneity suggest that financialisation is subtler than the one appearing for Emerging Market Economies and only part of the appearance of subordination in the EMU, which needs to be complemented with an analysis of cross-border flows.

The degrees of EMU's subordinate financialisation stem from the very feature of the Eurozone as a project of 'maturing' financialisation in that the member countries entered the Maastricht Treaty and the Euro already on the path of financialisation, but at different stages and with different features –most notably the widespread reliance on banks as the source of funding. Amongst the members of the Eurozone, France was undoubtedly the most financialised by the late 1990s, showing a greater reliance of NFCs on market-based funding, as shown by the trend predating 1999 and the higher starting point at the introduction of the euro (black line in Figure 8.13).

The deeper financialisation of France is at the heart of France's ability to remain un-subordinated, given that it is able to retain financial independence and to mobilise its financial capital to contrast its faltering economic capital. Germany, on the other hand, possesses both forms of capital, whilst the subordinate countries neither (or in considerably lower forms) because their financialisation took pace after the introduction of the euro and of the Structural subordination described, which allowed for a de-nationalisation of the process of financialisation.

The experience of the countries selected here sheds light on the applicability of the concept of 'Coordinated Market Economies' (Hall and Soskice, 2001) to the financialisation of European countries. Indeed, rather than representing a set of economies, Germany is in a unique position in which the domestic finance can continue in the bank-based form, whilst its financial activities can be focused on cross-border transactions. Germany's position at the core of the Eurozone is based upon the moderate domestic financialisation coupled with the operationalisation of the cross-border 'money power of capital' (Alami, 2020). Other

countries that have historically relied heavily on domestic banking like Italy show few idiosyncratic signs of financialisation before the euro –such as the strong financialisation of government debt as will be shown in the next chapter, which however was accelerated by the euro.

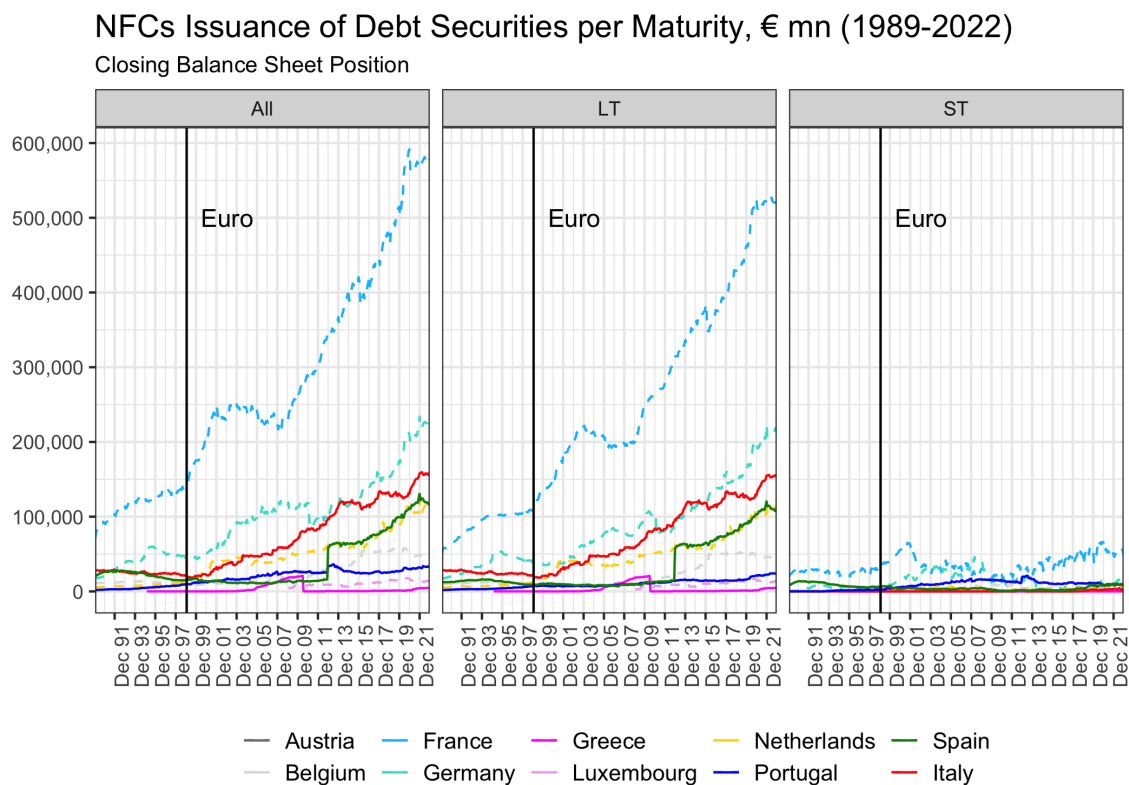


Figure 8.13. Non-Financial Corporations issuance of debt securities per maturity, closing balance sheet position (mn euro), 1989–2022.

Notes: The reason for the break in the NFCs series for Spain in December 2012 is that there was a reclassification (due to a change in methodology from ESA 95 to ESA2010) of the special purpose vehicles (SPVs) used by Spanish NFCs to issue debt securities. These entities were previously classified in S127 and were reclassified to sector S11 as from December 2012 onwards.. Full lines represent the crisis-hit countries, which are also considered here subordinated par excellence. LT= Long-Term securities (longer than 1 year maturity); ST= Short-Term securities (shorter than 1 year maturity); All = All maturities. Source: Author's own elaborations on ECB, SDW, and National Central Banks Data.

Figure 8.13 shows clearly the structural change in the financing of NFCs toward debt securities with the advent of the euro. This is valid for all countries, though France and to a lower extent German had already increased their issuance throughout the 1990s. Spain has shown similar behaviour to Italy since 2012, but data before 2012 is computed with a different accounting methodology: implicitly, Spanish NFCs relied more heavily than other NFCs on Special Purpose Vehicles (SPVs) for the issuance of debt securities, with the funds raised then lent to the parent company (see Banco d'España, 2019, p.5).

Such changing behaviour of NFCs suggests that the euro has caused a significant uptake in financialisation.

The *subordinate* flavour of such financialisation can be appreciated by looking at Figure 8.14 depicting the domestic bank loans to domestic NFCs, which however reflects primarily the changing operations of banks rather than financialisation proper. In subordinated countries like Italy and Spain, NFCs expanded both issuance of debt securities and the acquisition of loans from banks during the first nine years of the euro reaching levels nominally higher than the ones in France and Germany –both having more and larger NFCs and banks. This is coherent with the integration (but not unification) of money markets and specifically interbank markets which helped banks secure financing and expand their balance sheets, but it is not clearly recognised at the institutional level, given that the ECB has argued in multiple occasions that ‘[b]ank loans clearly remain the dominant debt instrument to finance the corporate sector’ (Schnabel, 2021) –a statement that is true only if considering the Euro area as an aggregate entity and not when disaggregating the jurisdictions.

Only since the GFC have banks slowed the creation of loans to NFCs in Italy and Spain, and only later with the onset of the Eurozone crisis have banks contracted their net positions vis-à-vis NFCs. The subordination appears with the clear dichotomy in the paths since 2012/13. Since then, the contraction in domestic bank loan to domestic NFCs has not been balanced by foreign finance as the intra-Euroarea cross-border loans to NFCs remained contracted compared to their domestic counterpart, suggesting that subordinate NFCs have been substituting bank credit with market finance, whilst French and German NFCs have been combining the two with a further expansion in bank loans from around €800bn in 2014 around €1,300bn and €1,900bn respectively.

In combination with Figure 8.3, Figure 8.14 shows a crucial process of subordination for the Eurozone. Although the share of bank financing for NFCs has declined since the GFC in most Eurozone countries apart from France and Germany (ECB, 2021a), the decline in the nominal size of bank loans to NFCs implies two issues for ‘peripheral’ banks. On the one hand, it shows that the bank balance sheet was impaired by the repercussion of the GFC prior to the Eurozone crisis that led to faltering access to financing for subordinate countries. On the other hand, it poses a critical threat to the Spanish and Italian banking system that require ‘restructuring’ away from serving NFCs and into financial activities (as theorised by Lapavitsas, 2011).

Crucially, the two figures combined show also that the decline in domestic bank loans to NFCs was not replace with cross-border loans to NFCs, thus indicating that the monetary project has not removed the barriers to access funding in relation to the banking sector. This also entails that the the cross-border links amongst Eurozone members are the

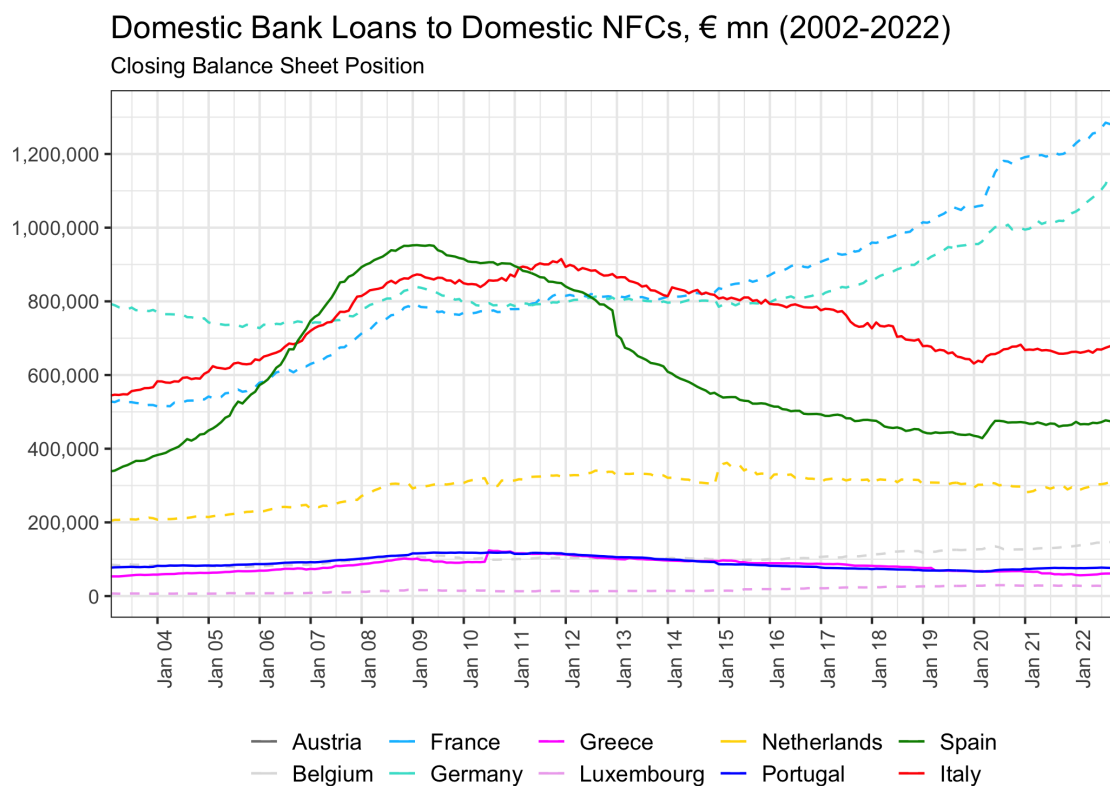


Figure 8.14. Domestic bank loans to domestic Non-Financial Corporations, closing balance sheet position (mn euro), 2002–2022.

Notes: Full lines represent the crisis-hit countries, which are also considered here subordinated par excellence.

Source: Author’s own elaborations on ECB, SDW, and National Central Banks Data.

inter-bank relations or the investment decisions of domestic actors (such as the purchasing of shares of foreign Investment Funds), not decisions regarding the capital structure.

Furthermore, the distinction between Small and Medium-Size Enterprises (SMEs) and Large Corporations shows that the increasing financialisation of NFCs funding is driven by large corporations, which have increased the share of bond financing especially in France since 2011 (Figure 8.15). Italian Large Corporations appear to be accustomed to the use of bond financing, showing 3.5% already in 2004 and increasing to a maximum of 5.49% in 2018. German Large NFCs, on the contrary, show a relatively stable share between 2 and 3% for the whole period. Importantly, SMEs show only limited financialisation, notably in France and in smaller form in Italy, due to the strong policy pressures through the programme of ‘Minibonds’.

The difficulty for SMEs to access debt financing is caused by two main factors:

on the one hand, the issuance of debt requires transparency and a costly process that disincentivises SMEs from pursuing it; on the other hand, the market infrastructure for private debt is limited in countries like Italy. Debt funds –the providers of the underwriting or investments in private debt– have only started to grow recently, scoring for example an increase of 92% between 2020 and 2021 (to €2.2bn in 2021) in the investments in private debt, with an 30% increase in the number of underwriting (AIFI and Deloitte, 2021). Such move was driven by a strong entrance of Pension Funds into the market (in the Italian case, for example, Inarcassa and Fpcgi reallocated part of their portfolios from foreign and public securities to private debt with a focus on Italy), which accounted for almost 30% of the funds collected, and of Insurance companies, accounting for around 46%.⁵

Ultimately, Loans from non-Credit Institutions (including loans from non-banks and loans from other NFCs or intracompany loans) play a significant and increasing role for SMEs in Italy, Spain, and France, whilst they have been increasing for German large corporations. The higher share of Equity reflects the significant increases in *retained earnings* for SMEs. For clarity, Table B2 provides an overview of the number of observations in the BACH database.

If the reducing bank loans to NFCs coupled with the increase in issuance of debt securities point to a financialisation of the NFCs in Italy and Spain, such process remains highly localised in their domestic dimensions. One possible explanation is the demand for debt securities shown by institutional investors: MMFs tend to hold debt securities of all Euroarea members, but concentrate in French and German securities. In 2019Q4, for example, Euroarea MMFs, held around €160bn of French debt securities, €65bn of German, and around €25bn of Dutch, Finnish and Belgian securities. Italy and Spain accounted for less than €10bn each (see Chart 31 of ECB, 2021a).

Looking at the changing pattern of financial investments for NFCs, Figure 8.16 shows financial investments as a share of total balance sheet and financial income as a percentage of net turnover for SMEs and Large Companies in the selected countries. Whilst large corporations, unexpectedly, display overall a larger share of their balance sheets or net turnovers arising from financial assets compared to SMEs, there is no clear distinction in either the levels nor in the trends of NFCs across the selected countries. Overall, NFCs –in particular large corporations– seem to be financialising by increasing their financial fixed assets (shareholdings) into other companies, not by increasing financial assets for trading or derivative (‘Other financial assets’), which have remained constant or decreased over the last 20 years for all countries apart from Spain.

⁵The role of private debt has increased considerably in developed countries during the last decade, for example the US private debt market experienced an tenth fold increase in the 2010s.

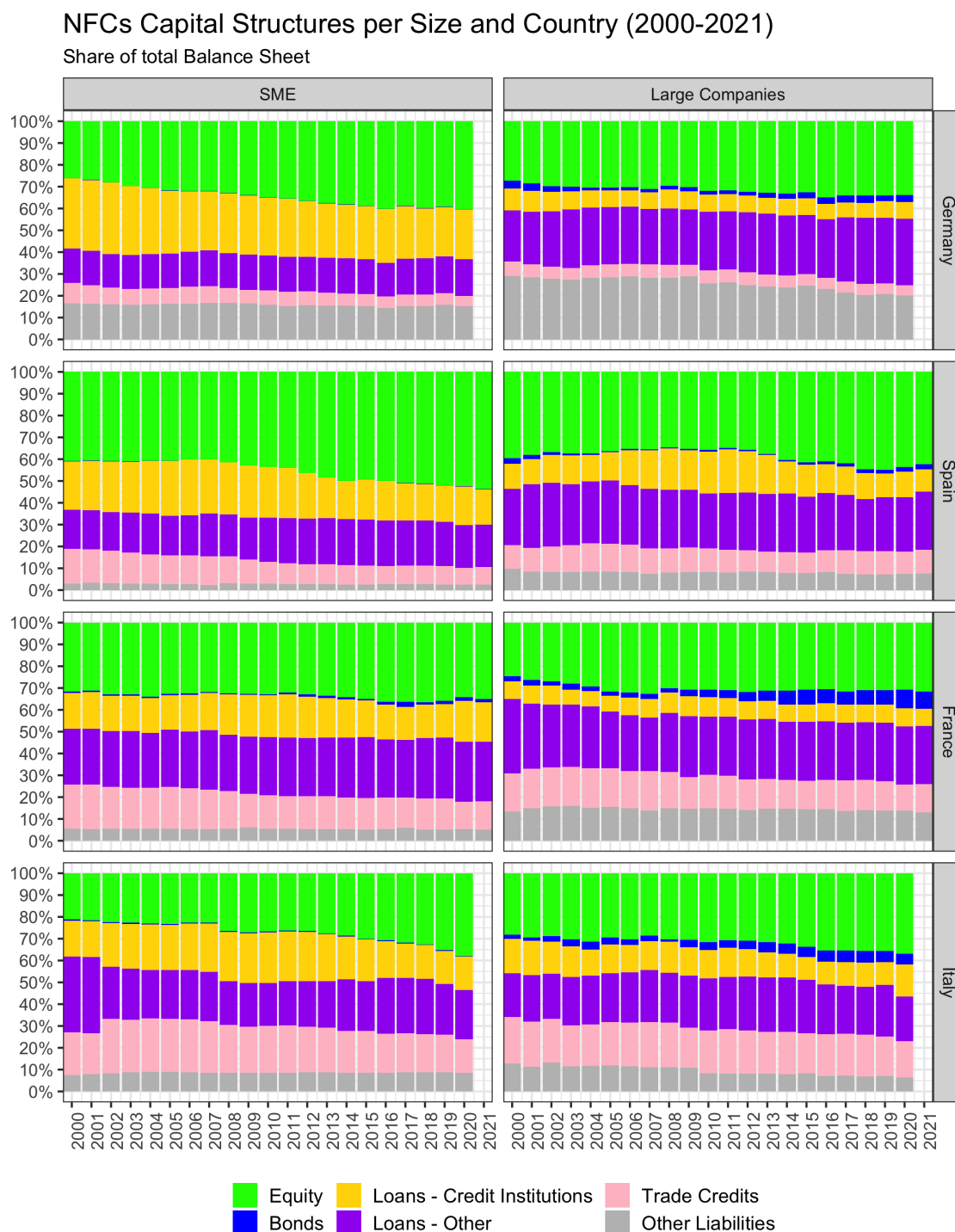


Figure 8.15. Capital structure of Non-Financial Corporations for selected countries based on firm size, share of total balance sheet (share of total), 2000–2021.

Notes: Firm size: Small and Medium Enterprises (SMEs) (BACH code 1) turnover < € 50 million; Large companies (BACH code 2) turnover > € 50 million. Data is unavailable for Germany and Italy for 2021. Other Liabilities include provisions, which account for a large share of the German Large Corporations' Other Liabilities.

Source: Author's own elaborations on BACH Data.

Financial Assets and Financial Incomes for NFCs in Selected Countries, various (2000-2021)

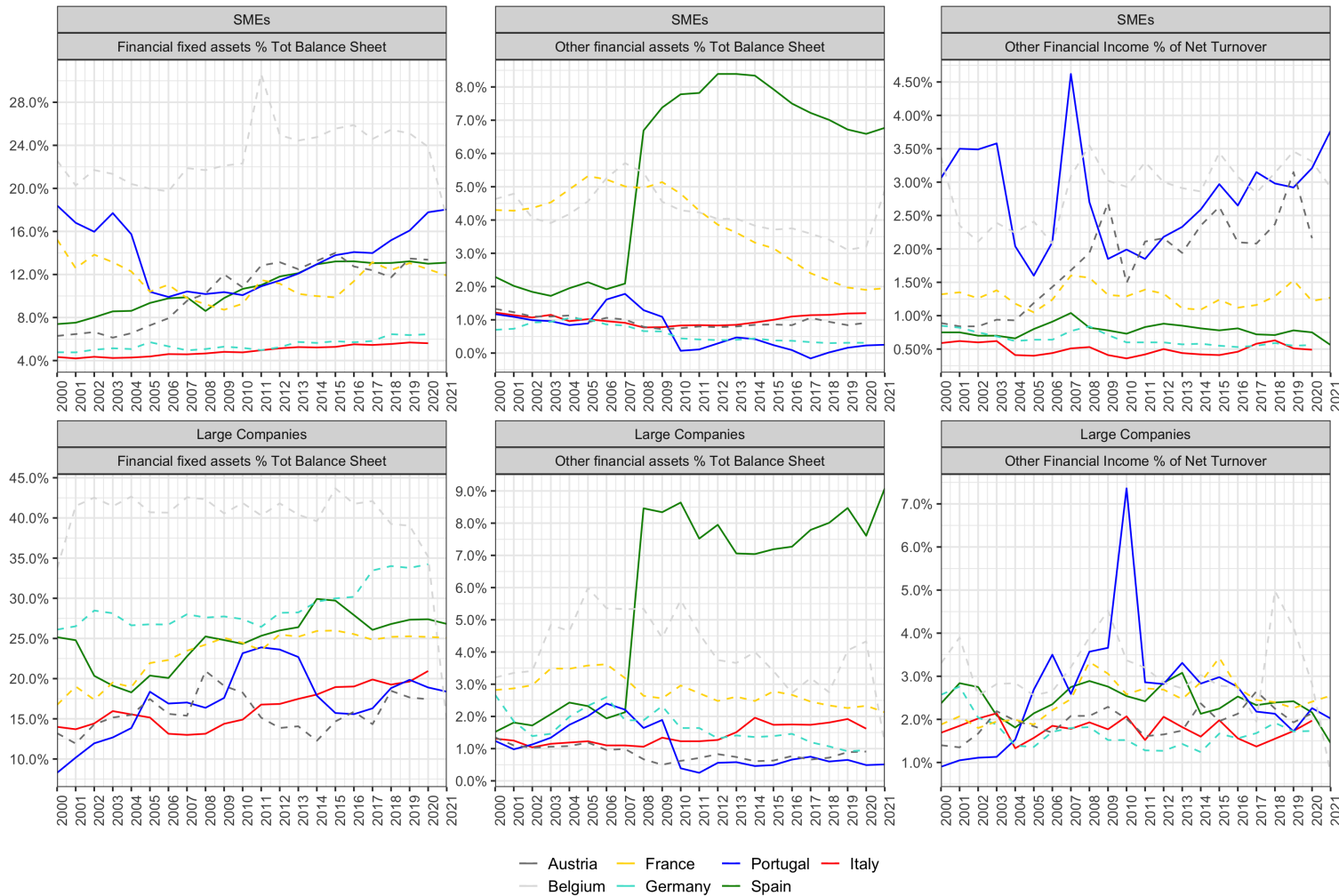


Figure 8.16. Financial assets and financial incomes for Non-Financial Corporations in selected countries (various shares), 2000–2021).

Notes: ‘Financial Fixed Assets’ includes shareholdings in the capital of other entities on a continuous basis, as well as loans made to such entities. ‘Other Financial Assets’ includes financial assets held for trading and derivatives. Data for Luxembourg was not included as the shares were high and would have impaired the readability of the graphs.

Source: Author’s own elaborations on BACH Data.

Ultimately, three facts can be synthesised from this analysis of inter-sectoral financialisation. First, the 7-8 years following the introduction of the single and common currency represented a boom that masked and at the same time laid the foundations for subordination, which starts to appear before the Eurozone crisis.

Second, subordinate financialisation appears in the Eurozone in a way that has some commonalities as well as differences with developing countries. In stylised form, the financialisation of the NFCs of subordinated countries appears to be slow and shallow if compared to France, and on the same level or even deeper if compared to Germany. Similarly, Households are significantly more financialised in Italy and Spain than compared to Germany, as shown by the higher share of assets invested in Funds and Equities. More importantly, from a dynamic perspective, France and Germany have not undergone substantial changes in the inter-sectoral relations as shown in Section 8.2, whilst Spain and Italy (and Greece, which however is often an outlier) show changes in the *trends* of the composition of sectoral balance sheets and inter-sectoral relations (see, for example, Figure 8.14).

Third, similar to the argument offered in Chapter 7 about the ‘selective fragmentation’, Financialisation occurs in the Eurozone only in certain segments, such as the activity of Financial Vehicle Corporations (FVCs) in Italy (Figure 8.17). The mechanisms of the euro that allow for structural subordination to transpire also are the reason for such selective financialisation: the household sector can expand assets through the guaranteed par between legacy-euros, whilst subordinate NFCs financialise but constrained by the fragmented capital markets resulting from the fragmented money markets.

‘Peripheral’ financialisation does not follow the original understanding of the trajectory of financialisation in the periphery or the *dependent* flavour attached to it, as financialisation remains very much a domestic structural change in the Eurozone. The connections cross borders rather appear in two aforementioned forms: inter-bank relations and the investment decisions of domestic non-financial actors, which can be synthesised as the hyper-liberalisation of capital markets which has made the more developed centres (France primarily) the main source of attraction of money capital.

This is shown by the expansion of the asset sides and especially by the combination of domestic financialisation and the structural support for the euro (‘hybrid money’ as defined in previous chapters) that has characterised financialisation with the increasing liquidity outflows from the subordinated countries for protracted time. Crucially such combination is *structural* rather than *temporary*, thus suggesting that the liquidity outflows are inconsistent with a single episode of sudden stop or capital flow reversal (see Calvo et al., 2003; Reinhart and Reinhart, 2008).

In this sense, the direction of money and capital flows reflects the ‘Longue Durée’ approach of Koddenbrock et al. (2020) in explaining the inherently imperialistic role of finance for developing countries, in particular in the form of extracting surplus from the ‘periphery’ and thus giving rise to capital flows from the underdeveloped periphery to the imperialistic core.

Figure 8.17 uses the recent FVC Statistical Database collected since the Global Financial Crisis on the assets and liabilities of Financial Vehicle Corporations (FVCs), the securitisation vehicles and key components –with Investment Funds– of the financial intermediaries other than MFIs. The Figure shows three crucial distinctions in the shadow-banking–based financialisation of the Eurozone economies.⁶ First, a common feature across countries is the fact that the Securitised Loans on the FVCs balance sheets are predominantly domestic. Second, the loans consist almost entirely of loans to households, with Italian, Spanish, French, and Dutch FVCs showing similar levels since 2011 (around €125bn) –though for different reasons: the former two because of Non-Performing Loans (NPLs), the latter two because of their role as financial centres for FVCs.

The third key feature shown by Figure 8.17 is the fact that only Italian FVCs record a considerable increase of around €100bn in securitised loans to NFCs between 2016 and 2022. Historically speaking, Italy has been a primary market for European securitisation, issuing around 10% of the total European market between 2001 and 2007, and increasing to 13-15% around 2010 (Gola et al., 2017).

The importance of Italian securitisation market is explained by a combination of different factors amongst which the use of securitised products for refinancing operations with the Banca d’Italia (a process called ‘self-collateralisation’). The significant increases in 2010 and then in 2016 were caused by the presence of a large pool of Non-Performing Loans (NPLs) coupled with policies (*Decreto Legge*) devised by the Italian government to support and incentivised securitisation. In the second half of the 2010s, around 75% of NPLs-based deals have been carried out in Italy, followed by Greece and Ireland at around 10% each.

The launch in 2016 of the government-sponsored Garanzia Cartolarizzazione Soferenze (GACS) programme that offers guarantees to the senior tranches of the securitised products, which securitised not only commercial and residential real estate mortgages but also SMEs loan receivables and trade credits. Since the Decreto Legge 145/2013, the link

⁶Financialisation was theorised as an ‘epochal change’ of capitalist economies. However, whilst the first round of financialisation took the forms defined in Lapavitsas (2011), a second phase of financialisation is now nuder way in the form of the expansion and proliferation of shadow banking. This financialisation is yet to be theorised, but can be observed easily with the development involving Central Banks and Other Financial Institutions since the GFC.

between Italian shadow banks and SMEs has been strengthened by allowing insurance companies and pension funds to acquire SME-issued instruments, encompassing ‘mini-bonds’ and in non-investment grade securitization bonds’ (Gola et al., 2017, p.20). The different behaviours of shadow-banking-based financialisation reflects the presence of a market for the instruments to be securitised coupled with the national (or jurisdictional) regulatory framework for shadow banks, as securitisation and shadow banking practices at large are regulated by national authorities, with only some harmonisation at the European level.

Securitized Loans to Selected Sector Originated by Euroarea MFIs reported by all FVCs in selected countries, € mn (2009-2022)

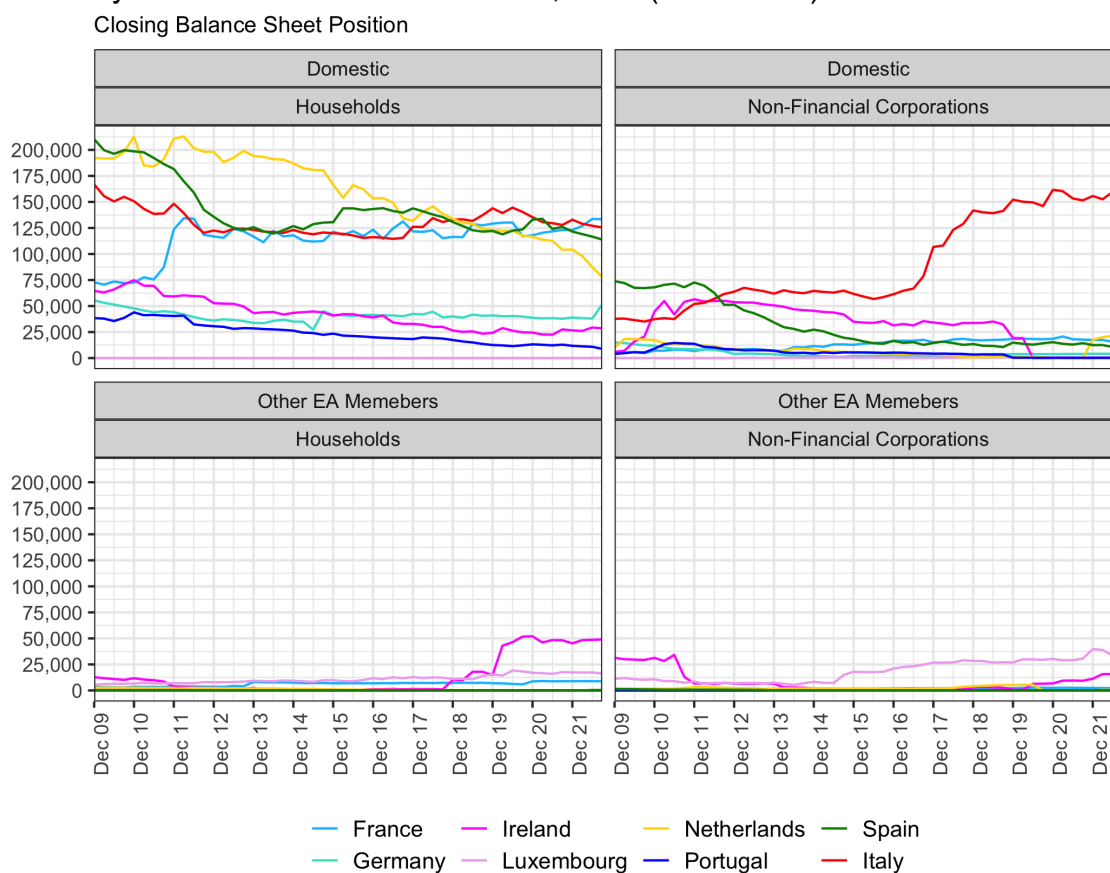


Figure 8.17. Securitized loans to selected sectors originated by Euroarea MFIs reported by all FVCs in selected countries (euro mn), 2009-2022.

Notes: Assets of FVCs, Securitized Loans to selected sectors.
Source: Author’s own elaborations on SDW, FVC Data.

In conclusion, the financialisation of the main Eurozone countries shows a particular trend of subordinate behaviour in so far as the ‘peripheral’ countries financialise

(even more deeply than the ‘core’) in some segments, and lag behind in others. A possible explanation for such peculiar subordinate financialisation is the efforts of ‘peripheral’ countries to use the euro and the euro-induced push of financialisation to catch up with the other members, which was prevented by the financial structure beneath the euro that has caused the subordination. In fact, looking at the evidence from a micro-level perspective, it is instructive to note that a milestone in the development of the euro corporate bond market was represented by the issuance of €5bn bonds in 1999 by the Italian company Olivetti, leading the way for issuances by other corporations (Galati and Tsatsaronis, 2003).

8.4 Channels of European subordination: the banks

The direction and composition of capital flows alone does not show subordination (Powell, 2013). However, given the changing relations across MFIs, NFCs, and households described in the previous section that hinted towards an asymmetric and uneven process of financialisation, cross-border balances can identify subordination in more complete ways. In this regard, the behaviours of *banks* are crucial in story of the Eurozone subordination, not because of their role at the centre of the European capitalist process (as has been argued in the Varieties of Capitalism Approach, Hall and Soskice, 2001), but because of the financialised role of banks in the European financial macro-structure –i.e. they are primary demand for collateral, allocate liquidity, interact with the ESCBs, NFCs, households, and the growing Shadow Banking sector. Furthermore, MFIs were shown to display some hints of a temporary slowdown or retreat of financialisation in the aftermath of the Eurozone crisis, which does not imply a retreat of subordination too.

This section aims precisely at qualify subordination through the banking sectors, without using the prism of financialisation, but expanding the previous analysis of TARGET balances in relations to banks (as conduits and sources). The integration into the Eurozone has automatically lead to an increased financialisation of the banking sectors by allowing an implicit *sterilisation* of liquidity inflows through the expansion issuance of official debt securities, which then can be used by banks to expand balance sheets (as analysed by Kaltenbrunner and Karacimen, 2016; BIS, 2007, for emerging market economies opened to capital inflows). Although banks are the primary demand for these securities in the Eurozone (see Chapter 7), the focus here is on the exposure to cross-border bank flows per domestic sector and origins of banks, moving from subordinate financialisation

to subordination per se.

Before considering the cross-border bank exposures, Figure 8.18 shows that peripheral countries (dotted lines) have had the highest ratios of domestic to total assets and liabilities since 2012 (despite the change in measurement methodology). Their banking sectors tend to be concentrated nationally, though France and Germany follow closely hovering around 70% of their domestic bank claims to total claims, and 75% for German banks in terms of domestic liabilities to total liabilities, whilst France has declined from more than 70% in 2012 to 60% in 2021.

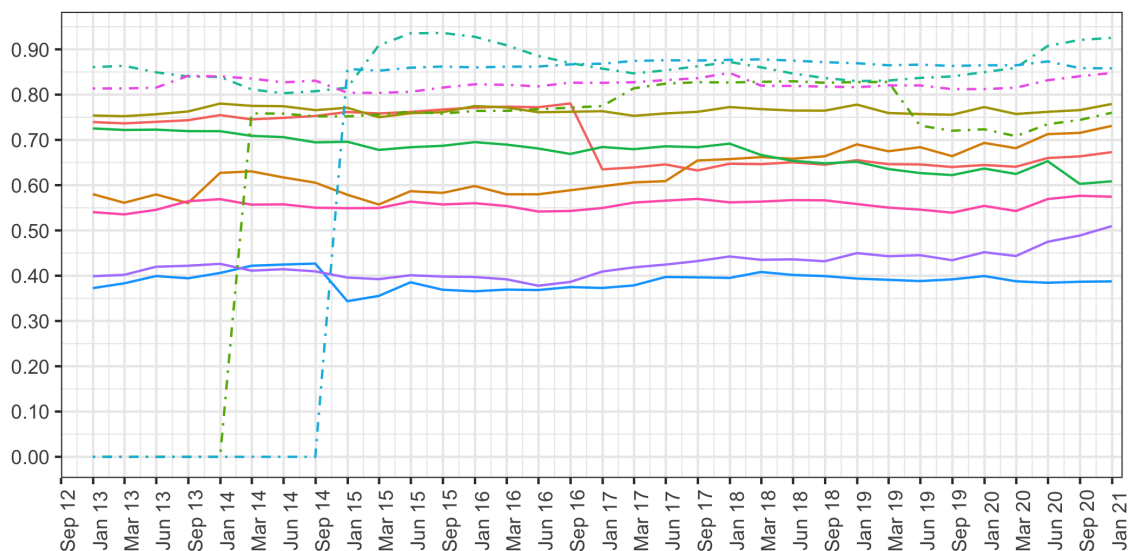
Unsurprisingly, banks located in Luxembourg and the Netherlands have only 40% of their liabilities with domestic counterparts, suggesting that there are considerable inflows of liquidity in these two countries from abroad, both from within and outside the Euroarea. This corroborates the finding of Chapter 6 on TARGET balances and the direction of liquidity flows from the periphery to financial centres, and only then to Germany and/or France.

From a different stance and expanding the time frame, Figure 8.19 shows the tendency of subordination in banking sectors because around 1997-1999 subordinate European countries started lowering their exposures (both assets and liabilities) to the foreign banks in non-Euroarea countries, whilst Germany, France, Luxembourg and the Netherlands maintained relatively stable ratios, entailing that subordinate banking system either shrank, or shifted exposure from non-Euroarea countries to Euroarea counterparts. In addition, a crucial difference between subordinated and non-subordinated countries is the relationship between claims and liabilities. Subordinate countries have higher claims on the top 5 banking system than liabilities to them, entailing that subordinate eurozone countries rely on eurozone counterparts for financing (low red lines) whilst liquidity still flows to banking sectors outside the eurozone, though at a declining rate.⁷

To analyse the role of banks in relation to subordination, the cross-border exposures are here divided in cross-border bank claims and liabilities per sector of the receiving economy (Section 8.4.1) and in cross-border bank claims and liabilities per residence of reporting bank (Section 8.4.2). The data is collected in all currencies exchanged in USD, and the claims and liabilities per receiving sectors cannot be limited to intra-EMU claims and liabilities due to data constraints.

⁷The journey of the liquidity is not analysed in the graph.

Ratios Domestic to Total Liabilities of Banks located in the selected countries



Ratios Domestic to Total Claims of Banks located in the selected countries

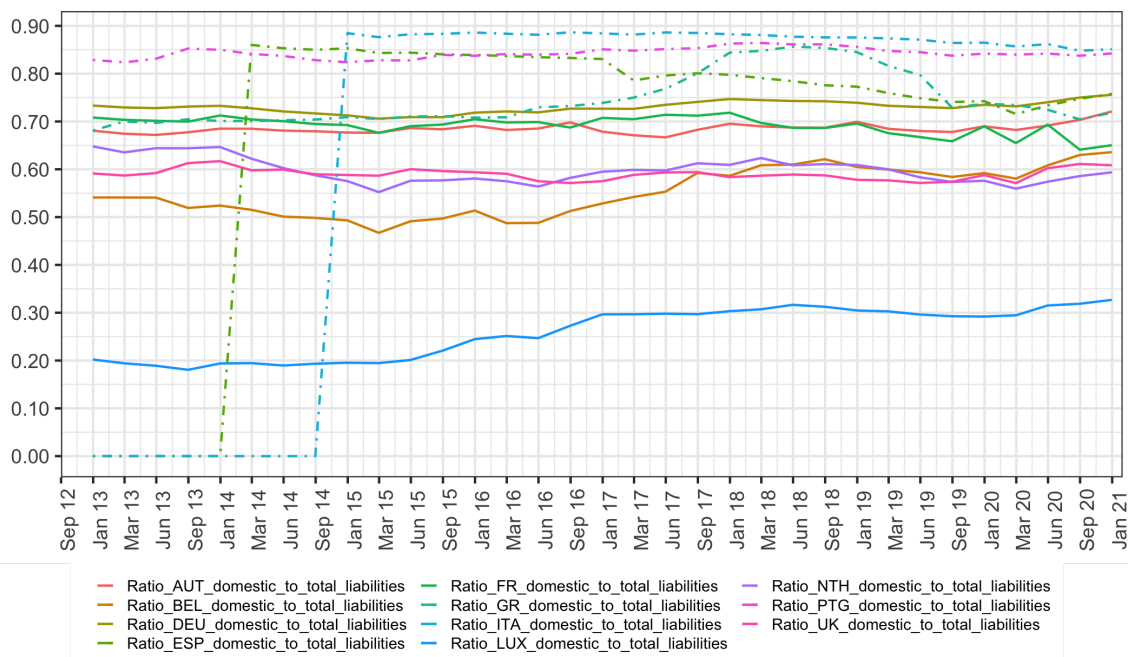


Figure 8.18. Ratios of domestic to total claims and liabilities of banks located in the selected countries, all instruments, all currencies (share of total), 2012–2021.

Notes: the two spikes in 2014 are due to the change in the data methodology used by the BIS. The share of total is calculated for each year to show the exposure to domestic and non-domestic counterparts, not the growth of the domestic and foreign claims/liabilities. A constant ratio means that the exposure as a share of the total assets or liabilities remains constant, though the two may have increased at the same rate.

Source: Author’s own elaborations on BIS Locational Banking Statistics (LBS) Data.

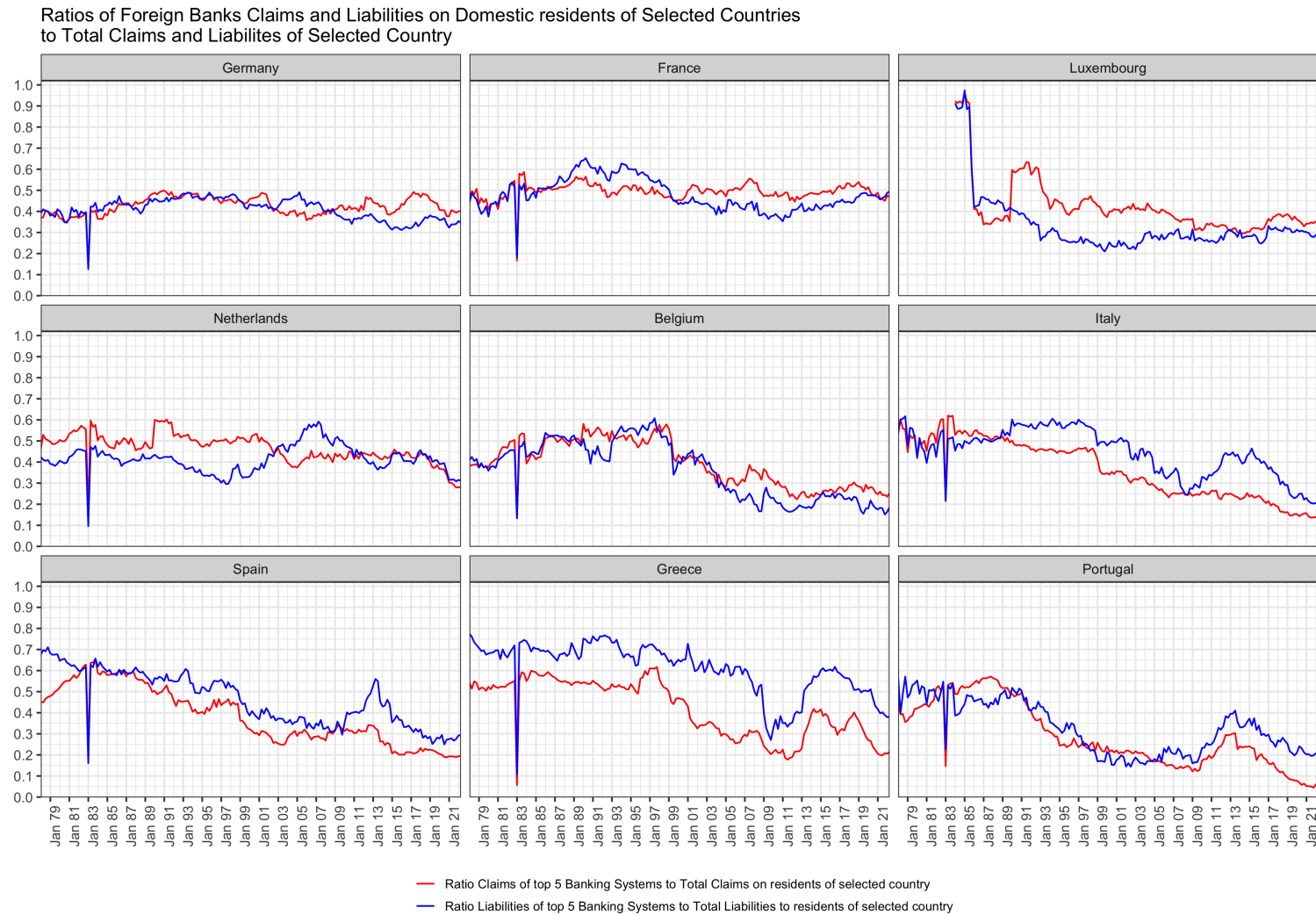


Figure 8.19. Ratios of foreign banks (domiciled in highest 5 countries, non-EA) claims and liabilities on domestic residents of selected countries to total claims and liabilities of the selected country, 1979–2021.

Notes: The banks domiciled in the 5 countries with the highest claims and liabilities are United States, United Kingdom, Switzerland, Japan, and Honk Kong. The composition changes; Hong Kong has gaps in the data until 2000s.

Source: Author's own elaborations on BIS Locational Banking Statistics (LBS) Data.

8.4.1 Cross-border bank claims and liabilities per sector

Figure 8.20 shows that cross-border bank claims on NFCs have not increased substantially since 2014, which means that NFCs have not increased their access to foreign bank finance directly. At the same time, foreign finance may have been accessed by NFCs in an indirect way, namely through the banking sector: domestic banks can fund themselves in cross-border markets and provide financing to domestic firms. However, such mechanism was shown to be absent for Spain, Italy, and France, given that their banking sectors display net liquidity outflows (i.e., net lending). This is not the case for Greece, where NFCs have drawn considerably (almost half of total cross-border bank claims are on NFCs in 2021) on foreign bank finance.

Coherent with the approach of subordination taken, Figure 8.21 shows that cross-border bank liabilities held by households are a higher share of total cross-border positions in Italy, Spain, and Greece than in France, Germany, and the Netherlands. This entails that Households in subordinated countries tend to acquire proportionally more bank liabilities (i.e., bank deposits) in foreign banks than the non-subordinated ones. Such a tendency may be explained either by the perceived security of banks in other EA jurisdictions (and abroad in the UK or US) –an argument that is reinforced by the possibility of a subordinated country exiting the eurozone and the necessary devaluation of the new currency, or by the need to have liquid funds in foreign banks for investment purposes. It may also be explained by the higher activity of French and German banks in issuing bonds to raise finance, as explained in the previous sections.

The cross-border Inter-Bank positions are also relevant, and add the discussion of the interbank markets from a different perspective (and with different data). Table 8.7 shows the changes in cross-border liabilities and assets for banks on banks from figures 8.20 and 8.21. With the due caveats,⁸ Table 8.7 points at the crucial change between the 1999–2007 regime and the 2011–2022 one: over these periods, Italian and Spanish banking sectors have moved from being the source of more than \$300bn liquidity inflows to being the source of \$330bn and \$405bn liquidity outflows respectively. German banks, on the contrary, moved from a liquidity outflow positions of \$48 bn in the first 8 years to attracting interbank liquidity in the size of \$415bn during the 2010s. These changes are intrinsically related to the changes in the TARGET balances of these countries, and support the argument that TARGET imbalances arise not only because the interbank market is frozen, but because it has come to work in a perverse way. subordination –not dependency– is shown by such interbank relations.

⁸USD and not Euro positions; global and not only intra-Euroarea positions

The role of cross-border bank finance shows, further changes occurred during the lifespan of the Euro. Figure 8.22 sacrifices granularity by looking at bank and non-bank sectors, in exchange of a longer timeframe, 1980 to 2022. A ratio of 1 would indicate that foreign banks have acquired as many claims on domestic banks and on non-banks; ratios higher than 1, on the contrary, indicate that foreign banks acquire more claims on non-banks than on banks, thus effectively providing finance to domestic non-bank more than to domestic banks. Whilst Greek is the usual outlier, three periods can be identified: the late 1980s and 1990s up to the introduction of the euro showing relative convergence and stability around a ratio of 0.75, the years between the introduction of the euro and the GFC pointing at the convergence of German and French ratios and higher ratios and volatility of the other members selected,⁹ and the period starting with the maturing Eurozone crisis (around 2013) during which Spain and Italy have seen the ratio go above one.

The third period is the most puzzling, as it coincides with the Asset Purchase Programmes (APP), which decrease the amount of government debt in circulation (thus declining overall claims on non-bank sector by investors and banks holding government debt) and thus should not lead to an increase in the ratio. A possible explanation is that banks have not sold (in net terms) the government securities through the APP (as suggested also by the shares of government debt held by resident vs. non-resident banks shown in Merler and Pisani-Ferry, 2012), though the rise in the ratio already started sloping upwards during the Eurozone crisis, pointing at a structural change not policy induced –such as the faltering cross-border lending in interbank markets.

Compared with the previous figure, Figure 8.23 shows an intrinsically different picture: the euro decreased the ratio of cross-border bank liabilities to non-banks to cross-border bank liabilities to banks towards 0.2, meaning that in all the selected countries except Netherlands banks showed five times as many claims on foreign banks as non-bank on foreign banks. In other words –and with the same caveats as the previous figure, the findings of Figure 8.23 entail that the euro has encouraged the expansion of cross-border bank claims vs-à-vis cross-border non-bank-to-bank claims until the Eurozone crisis, when bank liabilities to domestic non-banks started increasing for all countries, though they remained upward sloping only for Greece and Italy.

⁹The increase in claims on non-Banks may have been driven by increases in the holding of Spanish or Italian government debt by banks located in other (Eurozone) countries

Position	Banking Sector	2007Q2-1999Q1	Claims–Liabilities	2022Q1-2011Q1	Claims–Liabilities
ΔClaims on	French Banks	981,290		345,315.657	
ΔLiabilities to	French Banks	556,130		377,715.402	
Net Change			425,160		–32,399.745
ΔClaims on	German Banks	596,442		349,913.27	
ΔLiabilities to	German Banks	1,080,445		–65,591.301	
Net Change			–484,003		415,504.571
ΔClaims on	Greek Banks	43,144		–63,507.212	
ΔLiabilities to	Greek Banks	21,875		–75,179.995	
Net Change			21,269		11,672.783
ΔClaims on	Italian Banks	551,742		–329,179.34	
ΔLiabilities to	Italian Banks	162,126		1753.571	
Net Change			389,616		–330,932.91
ΔClaims on	Spanish Banks	506,112		–351,126.68	
ΔLiabilities to	Spanish Banks	188,902		54,558.752	
Net Change			317,210		–405,685.43
ΔClaims on	Dutch Banks	471,271		–238,746.03	
ΔLiabilities to	Dutch Banks	414,708		–49,551.495	
Net Change			56,563		–189,194.53

Table 8.7. Cross-border interbank positions on selected banking sectors and respective changes for selected quarters (mn USD).

Notes: The Quarters picked are based on the change in TARGET balances: until 2007Q1, TARGET balances remained stable, whilst since 2011Q1 we see the polarisation of TARGET Balances along the subordinated–non-subordinated lines. Liquidity flowing into the national banking sector is recorded as *positive net changes*, whilst liquidity flowing out of the national banking sector is indicated with *negative net changes*. This is a consequence of the fact an increase in foreign bank claims on domestic banks is equivalent to a liquidity inflow, whilst an increase in the foreign bank liabilities to domestic banks corresponds to a net liquidity outflow. The positions used for these calculation are in USD (not Euros), and do not reflect only intra-Eurozone positions due to data availability.

Source: Author’s own elaborations on BIS Locational Banking Statistics (LBS) Data.

Cross-Border Bank Claims on selected sectors in selected countries
millions of USD

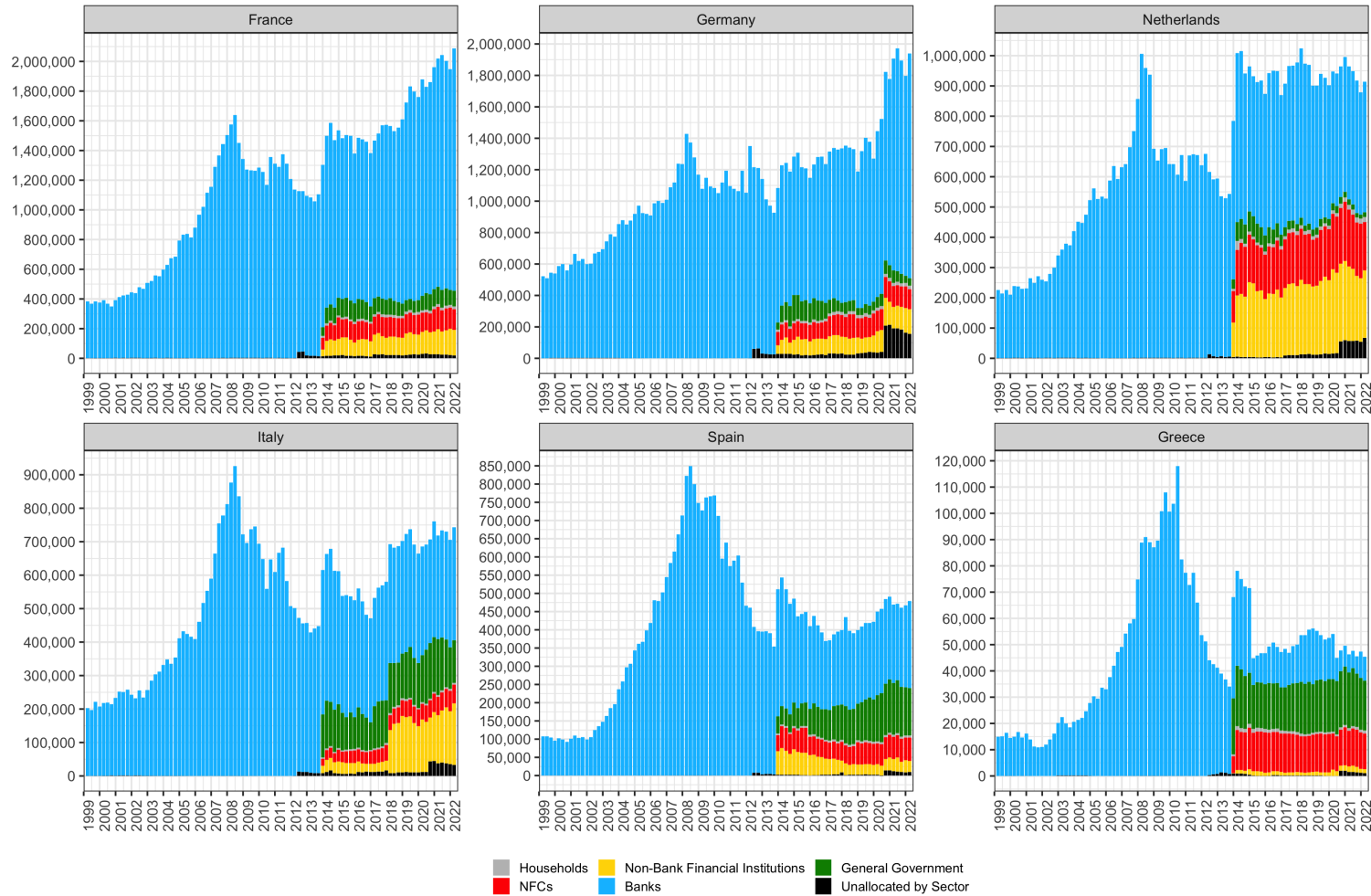


Figure 8.20. Cross-border bank claims on selected sectors in selected countries (mn USD), 1999–2022.

Notes: Limited data availability for some sectors prior to 2012.

Source: Author's own elaborations on BIS Locational Banking Statistics (LBS) Data.

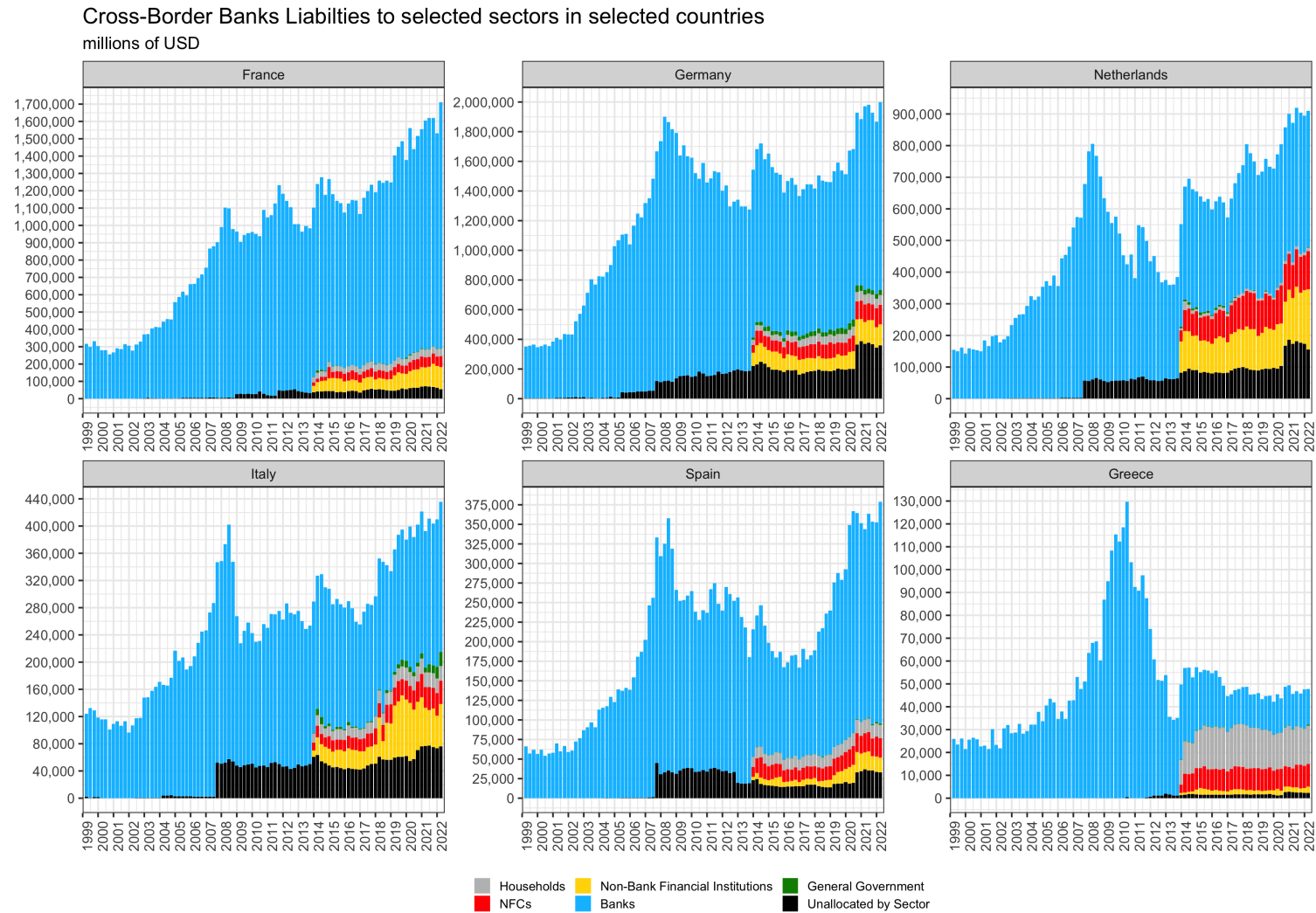


Figure 8.21. Cross-border bank liabilities to selected sectors in selected countries (mn USD), 1999–2022.

Notes: Limited data availability for some sectors prior to 2012.

Source: Author's own elaborations on BIS Locational Banking Statistics (LBS) Data.

Ratios of Cross-Border Bank Claims on domestic Non-Banks to Cross-Border bank claims on domestic Banks (1980-2022)

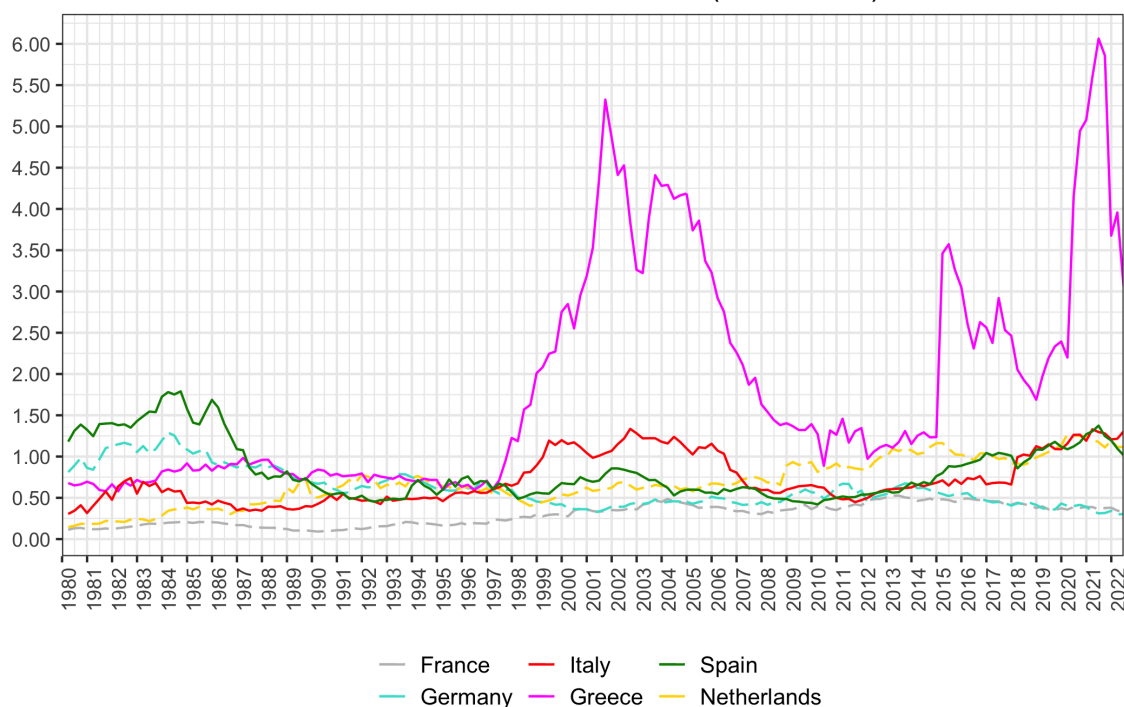


Figure 8.22. Ratios of cross-border bank claims on domestic Non-Banks to cross-border bank claims on domestic Banks, 1980–2022.

Notes: Non-Bank sector includes NFC, Household, and Government sectors.

Source: Author’s own elaborations on BIS Locational Banking Statistics (LBS) Data.

8.4.2 Cross-border bank claims and liabilities per country of residence

Figures 8.24, 8.25, 8.26, and 8.27 show the cross-border claims and liabilities of the banks located in the selected countries on all sectors of the four crisis-hit Southern European countries and the five main countries the rest of the Eurozone. These figures aim at pointing to the exposure of the different economies to foreign banks based on their location in order to corroborate the thesis that banking sectors reflect the subordination of the EMU One caveat is the data availability, as complete data for all countries is available only since 2014; for previous years, the claims and liabilities of banks located in Italy and Spain are not recorded by the BIS Locational Banking Statistics (LBS), though they are included in the aggregate Claims and Liabilities (item ‘All_reporting_countries’ in the figures).

In terms of the claims on domestic economies (Figures 8.24 and 8.25), three groups

Ratios of Cross-Border Bank Liabilities to domestic Non-Banks to Cross-Border bank Liabilities to domestic Banks (1980-2022)

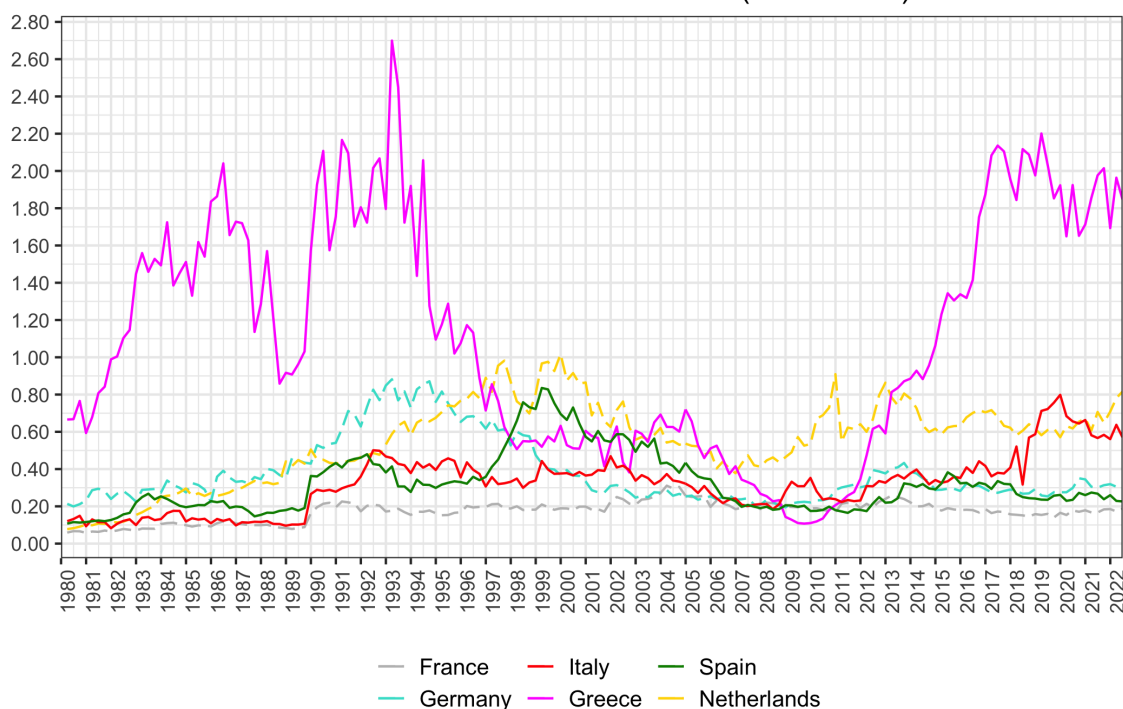


Figure 8.23. Ratios of cross-border bank liabilities on domestic non-banks to cross-border bank liabilities on domestic Banks, 1980–2022.

Notes: Non-Bank sector includes NFC, Household, and Government sectors
 Source: Author’s own elaborations on BIS Locational Banking Statistics (LBS) Data.

of countries can be recognised. First, France and Germany. Both shows that banks located in the eurozone countries have claims on France and Germany, but each banking sector is a small proportion of the total claims on the two economies. Furthermore, UK banks have considerable claims on both France and Germany, and US banks seem to be concentrated on Germany. French and German banks have also considerably expanded the claims on all sectors in Germany and France respectively since the GFC. Despite major banking systems are included in the figures, there remains a large gap between the total claims of all reporting countries and the claims accounted for, suggesting that France and Germany are net liquidity receivers from banks worldwide.

Second, the four Southern European countries: they all show declining shares of UK or US based bank claims on these economies. The total cross-border bank claims of all reported countries is very close to the stacked bars of the Euroarea-based banks in addition to the UK and US ones, entailing that there are not many other banking systems

acquiring claims on the Southern European countries. Interestingly, French banks are the major owners of claims on Italy and Spain, with Germany being it for Greece.

Third, the Netherlands, Luxembourg, and Belgium: these show mixed tendencies, with clear subordination to German and French Banks (see the claims of these two banking systems on Luxembourg, for example), but also higher internationalisation than the second group –given by the difference between ‘All reporting’ claims and the ones highlighted. These three countries also show different relationships with extra-Euroarea banks, with UK-based banks decreasing claims on the Netherlands and Belgium since the GFC.

Three main points should be highlights before moving to the liabilities. The Eurozone crisis does not seem to have caused any changes in the cross-border bank claims on all of these counties, whilst the GFC is the cause for withdrawing exposures to all countries. Crucially, such withdraw plagued Southern European countries for the rest of the decade with only marginal improves towards 2018, whilst claims on French and Germany have returned to the levels pre-GFC. Second, in terms of unique trends, Greek banks are primarily (and almost entirely) invested in claims on Luxembourg or UK residents, not France or Germany. Third, bilateral affinities, such as Spain-Portugal or France-Belgium or Belgium-Netherlands, can also be appreciated from the figures, which are in line with gravity-models of trade and financial integrations and their historical trends.

In terms of the liabilities of the banking sectors, there are not clear groups of countries behaving similarly. Indeed if the claims on France by all reporting countries were the highest, Figures 8.26 and 8.27 show that all sectors aggregated in Germany own the higher amount of cross-border liabilities of foreign banking systems. This point at the expansion of German capital beyond its border, though as can be noted it is not directed to ‘peripheral’ banks, but to France, Luxembourg and the UK.

France, on the other hand, shows to have the most various composition of liabilities of the foreign banking sectors: Italian and Spanish banks are the highest Euroarea sellers of liabilities to France, whilst both the UK and the US banks surpass them by large. Liabilities of French banks, at the same time, are the most prominent liabilities owned in the Netherlands, Germany, Luxembourg, Belgium, Italy, and Spain, which entails that the French banking system attracts liquidity from all Euro area countries, as well as from the UK (Figure B24), to a much greater extent than German banks.

The ‘peripheral’ economies show the expected trends congruent with their subordinate position: high concentration of liabilities of the main banking sectors –in particular France, declining extra-Euroarea ownership of bank liabilities, and investments in bank liabilities of the Eurozone conduits, Luxembourg and to a smaller extent the Netherlands.

Ultimately, through the prism of cross-border banking positions, it is possible to observe and qualify the *spectrum* of subordination mentioned in Chapter 3. Countries like the Netherlands and Luxembourg show tendencies in common with the subordinated ‘periphery’ such as the lowering of exposure to the UK since the GFC, though they also have shown some features of non-subordination, such as the increase in claims and liabilities held by foreign banks on all sectors of Luxembourg.

Total Cross-Border Claims of banks located in main reporting countries on all sectors in selected Eurozone countries (2001Q1-2021Q4)

millions of USD, all currencies, all instruments

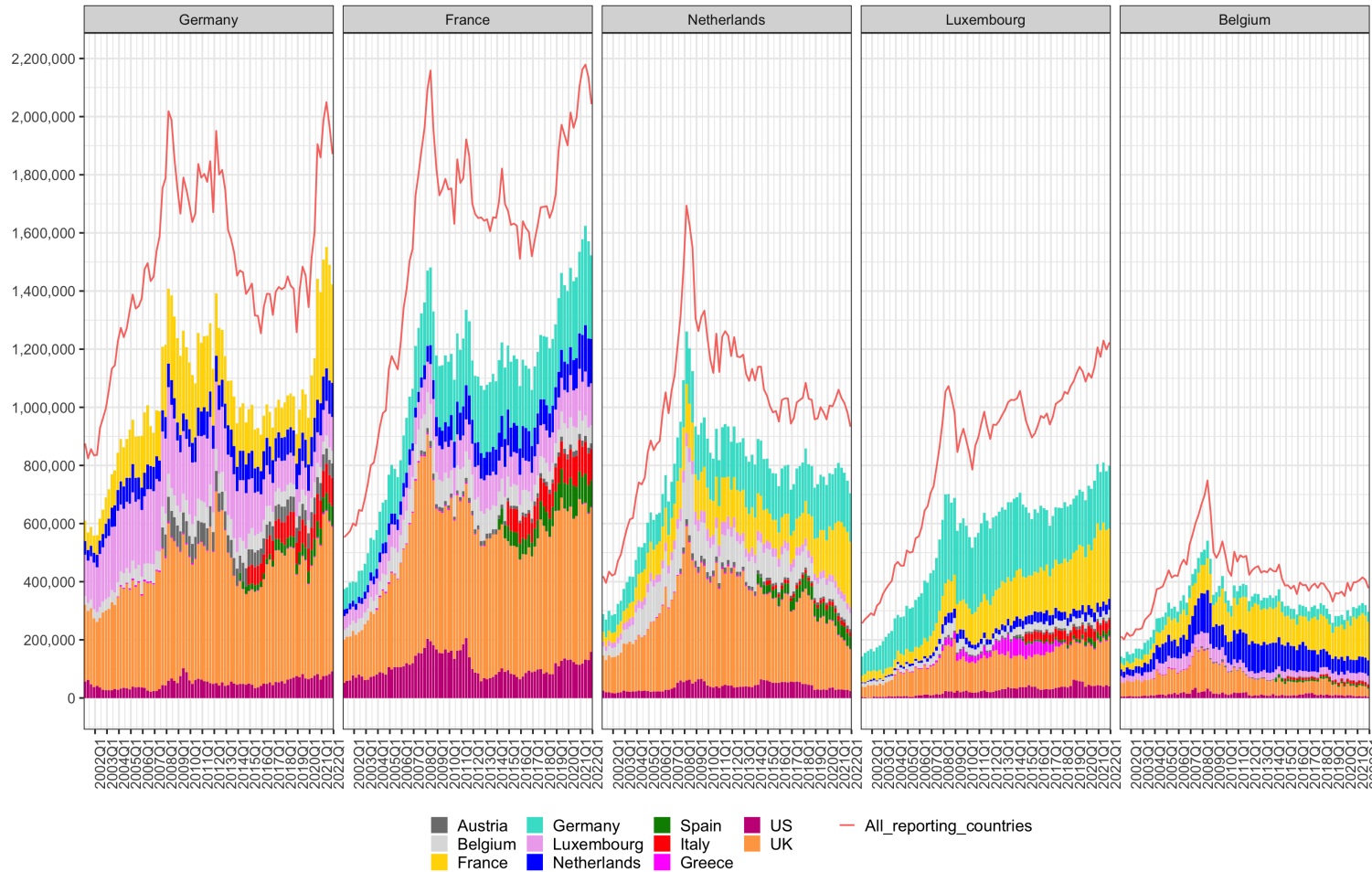


Figure 8.24. Total cross-border claims of banks located in main reporting countries on all sectors in selected Eurozone countries (mn USD), 2001Q1–2021Q4.

Notes: All currencies, All instruments included. Data availability on the reporting country of origin varies. Claims of Italian and Spanish Banks on residents of selected countries are available only since 2014.

Source: Author's own elaborations on BIS Locational Banking Statistics (LBS) Data.

Total Cross-Border Claims of banks located in main reporting countries on all sectors in selected Eurozone countries (2001Q1-2021Q4)

millions of USD, all currencies, all instruments

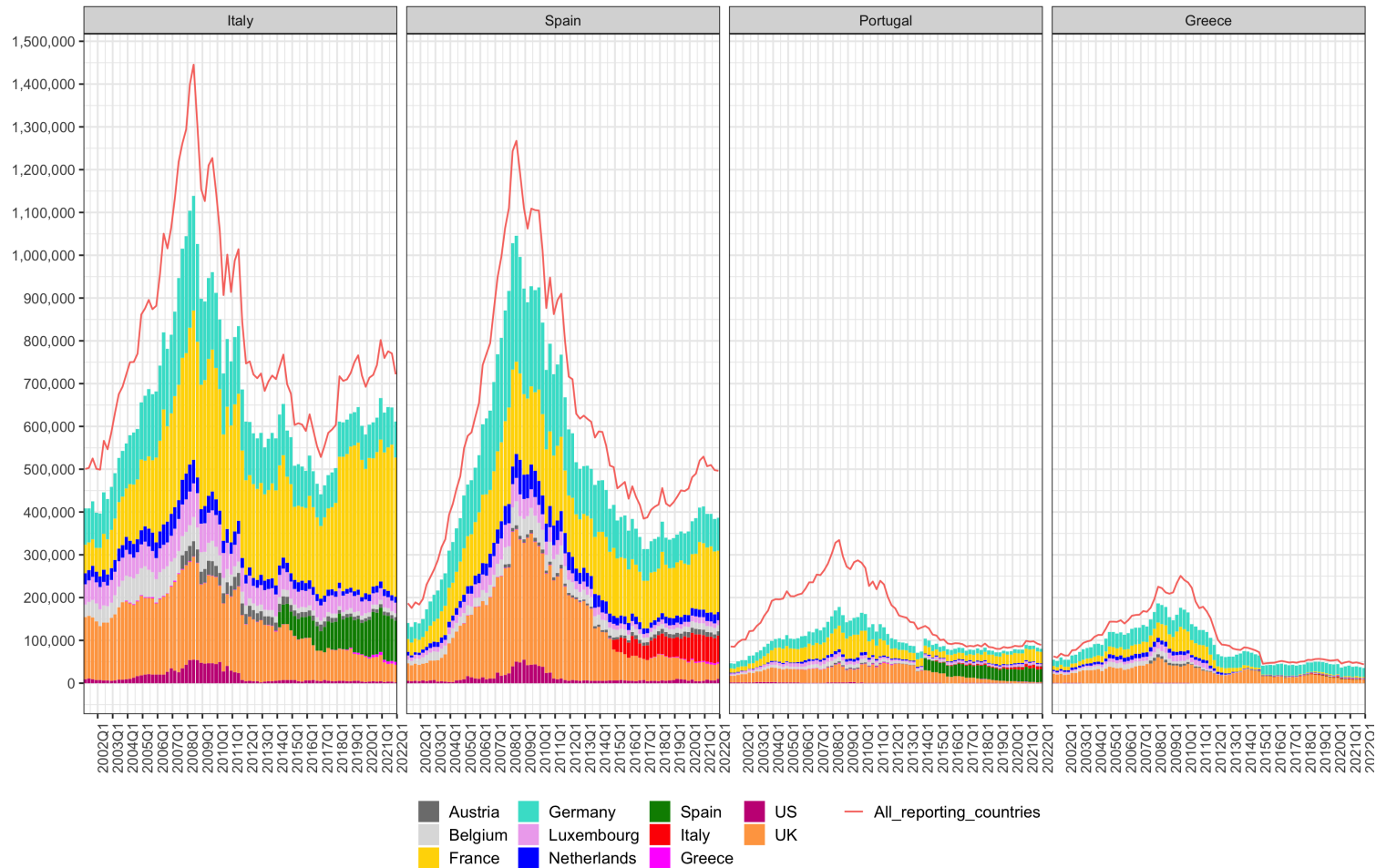


Figure 8.25. Total cross-border claims of banks located in main reporting countries on all sectors in selected Eurozone countries (mn USD), 2001Q1–2021Q4.

Notes: All currencies, All instruments included. Data availability on the reporting country of origin varies; Claims of Italian and Spanish Banks on residents of selected countries are available only since 2014.

Source: Author's own elaborations on BIS Locational Banking Statistics (LBS) Data.

Total Cross-Border Liabilities of banks located in main reporting countries to all sectors in selected Eurozone countries (2001Q1-2021Q4)

millions of USD, all currencies, all instruments

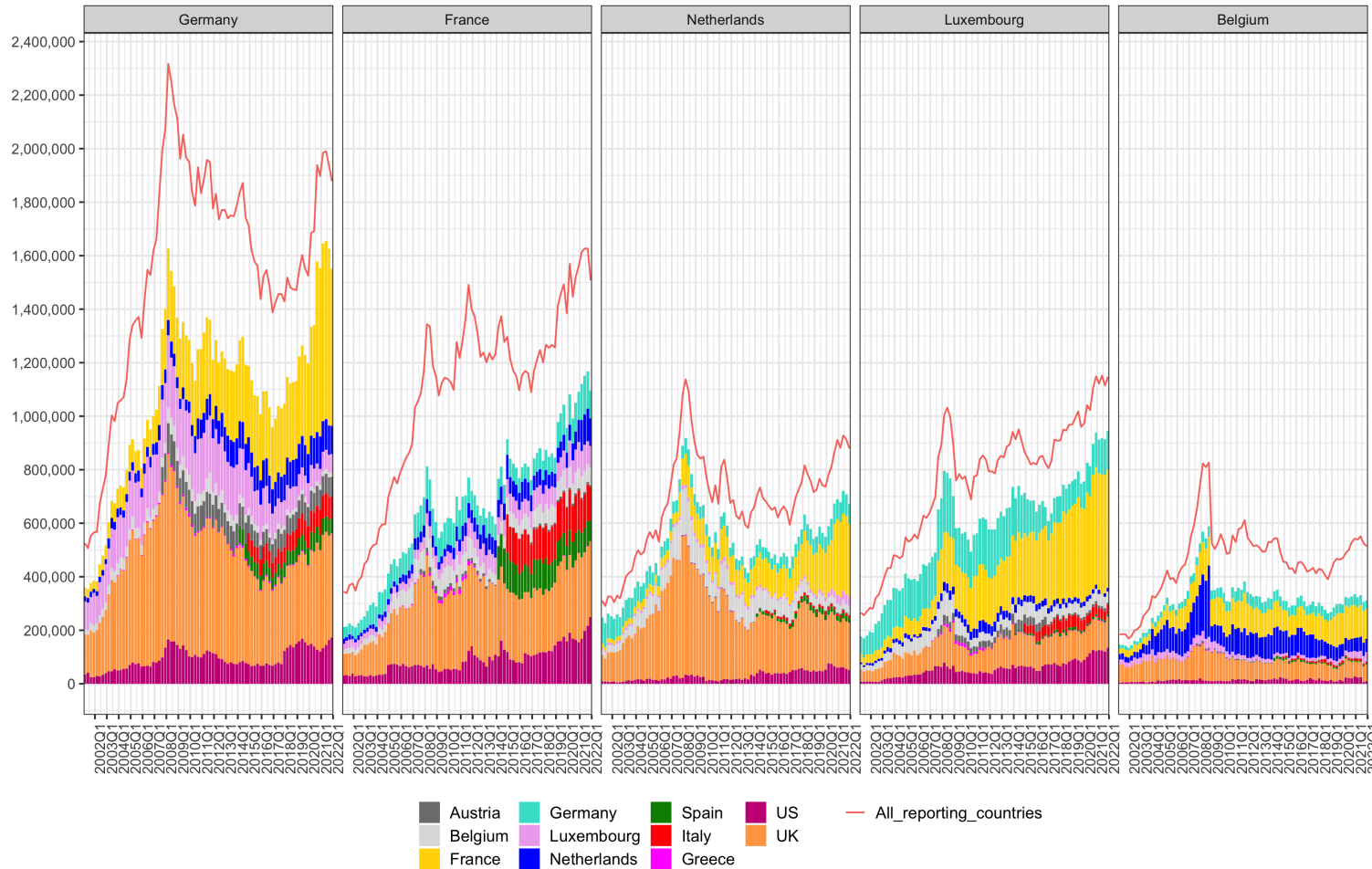


Figure 8.26. Total cross-border liabilities of banks located in main reporting countries to all sectors in selected Eurozone countries (mn USD), 2001Q1–2021Q4.

Notes: All currencies, All instruments included. Data availability on the reporting country of origin varies. Liabilities of Italian and Spanish Banks on residents of selected countries are available only since 2014.

Source: Author's own elaborations on BIS Locational Banking Statistics (LBS) Data.

Total Cross-Border Liabilities of banks located in main reporting countries to all sectors in selected Eurozone countries (2001Q1-2021Q4)

millions of USD, all currencies, all instruments

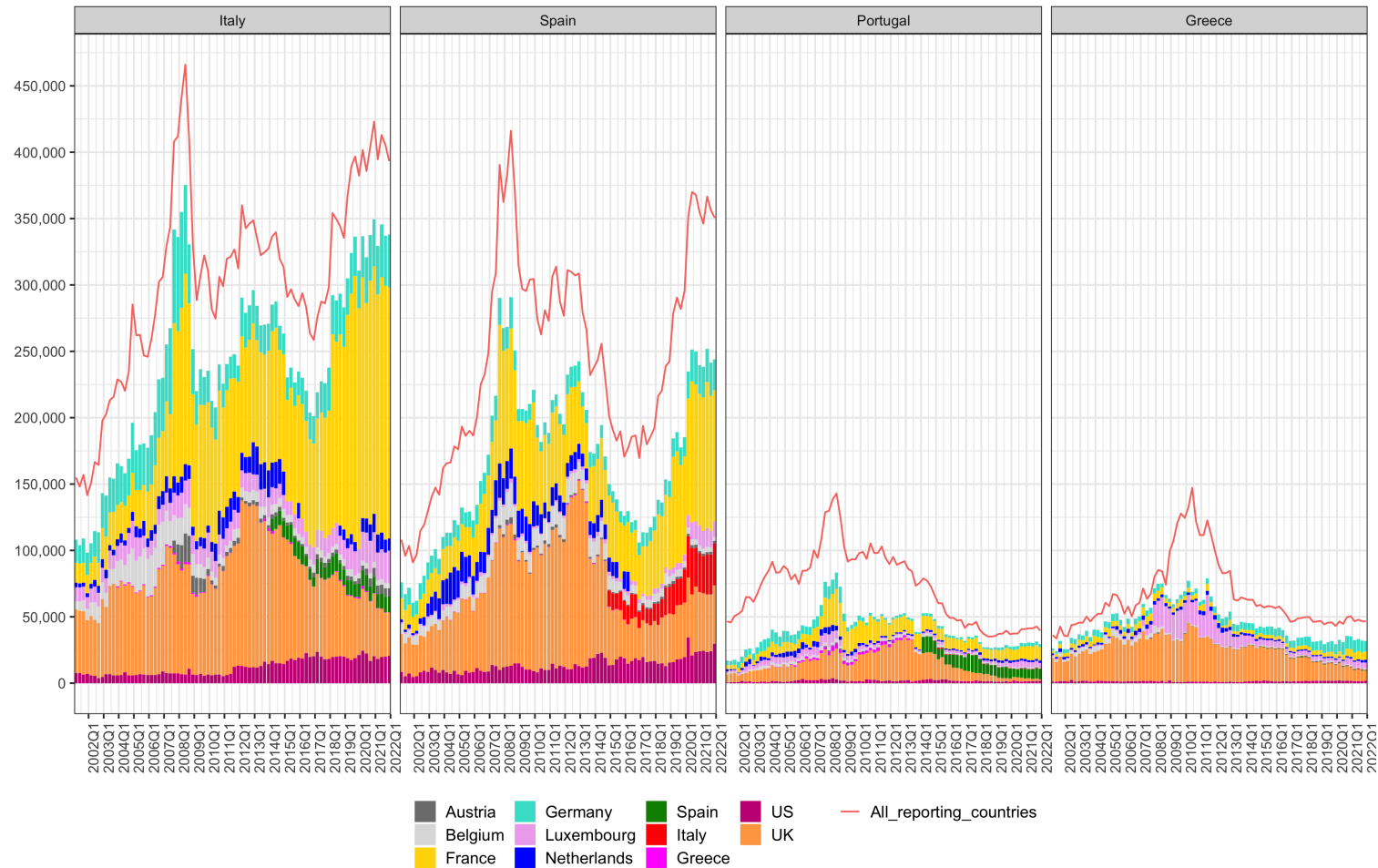


Figure 8.27. Total cross-border claims of banks located in main reporting countries on all sectors in selected Eurozone countries (mn USD), 2001Q1–2021Q4.

Notes: All currencies, All instruments included. Data availability on the reporting country of origin varies. Liabilities of Italian and Spanish Banks on residents of selected countries are available only since 2014.

Source: Author's own elaborations on BIS Locational Banking Statistics (LBS) Data.

8.5 Connecting EMU unification, integration, the structures, and subordinate financialisation

In conclusion, this chapter analysed the behavioural side of subordination by looking first at whether subordination appears in the EMU in the form of subordinate financialisation by examining the national inter-class relations, and then by focusing on the banking systems as ephors of the subordination.

Four main arguments can be made as a consequences of the analysis transpired from the data. First, financialisation has taken distinct shapes in the Southern European countries compared to Germany and France (and other key eurozone members), but with similar tendencies; crucially different have been the timeframes of financialisation, with Italy and Spain financialising with the common an dingle currency. Though asymmetries persist, there is no subordinate financialisation à la EMEs in the Eurozone. Second, subordination appears both through domestic relations and cross border finance. Third, the behaviour of banks (i.e., bank exposures), which needs to analysed in the context of financialisation, shows more clearly the subordination, thus pointing at a role for banks as ephors of subordination in the EMU, implying that thus subordinate banks mean subordinate economic systems. Fourth, subordination of inter- and intra-class behaviours hinges on structural fragmentation (fragmentation of financial markets, the monetary hierarchy, and the hybrid money).

The chapter on TARGET balances and BoP showed that a stylised feature of the subordinate countries is liquidity outflows due to portfolio private investments, especially of the private non-financial (Household) sector. Indeed, it explains that the financialisation of peripheral countries appears evident in the household sector, suggesting then that the liquidity outflows driven by portfolio investments are a consequence of the 'domestic' Financialisation in Spain, Italy, and Greece. The subordination of peripheral households appears in the fact that domestic non-financial agents, being exposed to the possibility of investment in more developed capital markets (in the 'core'), invest in such markets. Such a phenomenon is in line with the subordinate financialisation literature, and with the thesis of 'Subordinate Integration' developed for Italy in Chapter 9.

Furthermore, this chapter showed that subordination in the EMU is actively driven by the behaviour of one specific sector, the banks, whilst it can be argued that subordination appears in the NFC sector by means of the higher efforts to financialise, but the lower ability to do so as NFCs are restrained within the domestic markets.

Ultimately, it can be noted that France is leader in financialisation and possesses financial capital, whilst Germany has productive and financial capital. This allows France

to show a certain degree of non-subordination, whilst the combination of the two is what defines Germany as the core of the Union. Subordinate countries have neither, showing distinctive subordinate trends in the adaptation to financialisation. There are some countries that are de facto extensions of the core, such as the Netherlands and Luxembourg.

As a final step of the comparative analysis of the subordination of agents' behaviours through financialisation and bank exposure, it is necessary to connect the changes observed in this chapter with the structures of the single and common currency defined in the previous chapters. In other words, it is necessary to explain how the monetary subordination present in structures of the EMU affects and is reflected by the subordination of inter-class relations and cross-border intra-class relations. Monetary subordination is a necessary requirement for the existence of subordinate financialisation in the Eurozone.

Monetary Hierarchy

The hierarchical tiering of the eurozone jurisdictions analysed in Chapter 5 on the one hand arises from the technical structure of the Eurosystem, whilst on the other hand it reflects the preferences of market participants for some jurisdictions over others. Such Monetary Hierarchy, then, further affects the decisions of financial agents as to the denomination of the assets and liabilities held, especially for financial intermediaries like banks. As a consequence, the hierarchy within the Eurosystem affects the domestic developments by distorting both the financial investment decisions of households and NFC, and the financial and liquidity management decisions of banks, which in turn will reflect their behaviour on the financialisation of their domestic jurisdiction. The Hierarchy forces subordination to arise in the form of liquidity being drained from the periphery and concentrated in the core.

At the same time, however, this chapter showed that France –not Germany– is the driving force and prime beneficiary of the subordination appearing through financialisation and bank behaviour. Indeed, such role for the French financial system helps to make sense of the reasons that locate France as a non-subordinate country: it is able to mobilise the financial capital to counter its lacking in term of productive capital. As a consequence of such ability, the French monetary jurisdiction has been only partially subordinate to the German one.

Hybrid Money

The feature of Structural subordination identified as 'Hybrid Money' supports the subordination of agents' behaviours in three ways.

First, it provides elasticity without building a counterbalancing mechanism. This entails that cross-border flows will not be curbed, and can be carried out above constrained through collateralised loans aimed just at the settling of cross-border payments. In turn, this guarantees the safety of cross-border flows of money, which will then be concentrated in the hierarchically higher jurisdictions.

Second, supports the domestic Financialisation of HH and NFCs by connecting them with the other Eurozone markets, thus offering the possibility to invest in jurisdictions other than the domestic –which indeed happens as shown by the portfolio investments of the Southern European Countries.

Third, it supports the ‘money-power of capital’ in that it removes jurisdictional (legacy borders) barriers and promotes the circulation of capital in the region. Such a feature represents more than the mere integration into a global financial system that developing countries face, and is carried out by the bank exposures within the EMU. Banks play such a significant role because they access the Eurosystem balance sheet through monetary policy operations, and thus connect the dynamics of private markets with the support offered by the Eurosystem.

Fragmentation

In terms of the Fragmentation of the Infrastructure underpinning the euro, three ways explain how financialisation and bank exposures have been shaped by such Structural Fragmentation.

First, the distinction between unification and integration –with the latter being the true form of the euro project, reveals that the national jurisdictions are distinct entities, thus allowing for the understanding of financialisation still as a *national* phenomenon and not as a change of the aggregate regional economic system. If financialisation can occur at the national level, then different inter-class relations and behaviours can suggest a subordinate dimension of such financialisation. If the Eurozone was unified, on the other hand it would not be possible to distinguish the national sectors.

Second, the infrastructural fragmentation showed that money markets develop asymmetrically and that the different jurisdictions have different structural features. If the money markets function differently and are *fragmented*, then the capital markets will show consequences: the depth of money markets, by affecting the short term markets for funding, necessarily renders the capital market more or less developed. Even without causal relations, money markets and capital markets need to coexist harmoniously, implying that if France is the centre of the Eurozone money market, it will also be the

centre of the capital markets. This in turn affects the trajectory of financialisation for the countries receiving the liquidity inflows and the ones making the cross-border investments. A first-mover advantage by integrating with deeper markets at the beginning of the euro leads to a prices of circular causation that concentrates such markets.

Third, the fragmentation and polarisation of financial markets affects the growth of domestic financial markets in the subordinate countries, which need substantive support through government programmes to stimulate, for example, the issuance of debt securities as in the case of the Italian Minibonds. This entails that financialisation not only takes subordinate appearance due to fragmentation, but also that financialisation requires some extents of government intervention in de-risking (a term used in a different context but with a similar meaning by Gabor, 2021) and supporting the move to new financial practices in the ‘periphery’. This, in turn, is a symptom of subordination beyond structures.

Monetary Policy Considerations

Because of the lower lending to NFCs and Households shown by banks in subordinated countries, their securities or credit claims to access the Eurosystem refinancing operations are lower than in Germany or France. Indeed, certain programmes by the Eurosystem such as the Targeted Longer-Term Refinancing Operations offer liquidity to banks in exchange only for credit claims (i.e., loans) to the non-financial sectors except mortgages. This is shown, for example, by the use of refinancing in Q2 of 2020: French and German Banks drew respectively €254bn and €210bn worth of long-term refinancing, whilst Italy and Spain used €130bn and €126bn each.

8.6 Conclusion

In conclusion, this chapter analysed the behavioural side of subordination by looking first at whether subordination appears in the EMU in the form of subordinate financialisation by examining the evolution of sectoral balance sheets, and then by focusing on the banking systems as ephors of the subordination. Four main arguments can be made as a consequences of the analysis transpired from the data.

First, financialisation has taken distinct shapes in the Southern European countries compared to Germany and France (and other key eurozone members), but with

similar tendencies; crucially different have been the timeframes of financialisation, with Italy and Spain financialising with the common and single currency.

Second, subordination appears both through domestic relations and cross border finance.

Third, the behaviour of banks (i.e., bank exposures), which needs to be analysed in the context of financialisation, shows more clearly the subordination, thus pointing at a role for banks as enforcers of subordination in the EMU, implying that thus subordinate banks mean subordinate economic systems.

Fourth, subordination of inter- and intra-class behaviours hinges on the structural monetary subordination established in this work (fragmentation of financial markets, the monetary hierarchy, and the hybrid money).

The chapter on TARGET balances and BoP showed that a stylised feature of the subordinate countries is liquidity outflows due to portfolio private investments, especially of the private non-financial (Household) sector. Indeed, it explains that the financialisation of peripheral countries appears evident in the household sector, suggesting that the liquidity outflows driven by portfolio investments are a consequence of the 'domestic' Financialisation in Spain, Italy, and Greece. In other words the subordination of peripheral households appears in the fact that domestic non-financial agents, being exposed to the possibility of investment in more developed capital markets (in the 'core'), invest in such markets. Such a phenomenon is in line with the subordinate financialisation literature, and with the thesis of 'subordinate integration' developed for Italy in Chapter 9.

Furthermore, this chapter showed that subordination in the EMU is actively driven by the behaviour of one specific sector, the banks, whilst it can be argued that subordination appears in the NFC sector by means of the higher efforts to financialise, but the lower ability to do so as NFCs are restrained within the domestic markets.

Ultimately, it can be noted that France is leader in financialisation and possesses financial capital, whilst Germany has productive and financial capital. This allows France to show a certain degree of non-subordination, whilst the combination of the two is what defines Germany as the core of the Union. Subordinate countries have neither, showing distinctive subordinate trends in the adaptation to financialisation. There are some countries that are de facto extensions of the core, such as the Netherlands and Luxembourg.

The evolutions of sectoral balances suggest subordination is present not only in the structure but also in the behaviours of Eurozone's members, but in a peculiar, more subtle manner compared to Emerging Market Economies in the international financial system.

Chapter 9

Italy through Subordination: Money, Finance, and Subordinate Integration

9.1 Introduction

Some of the features of financial subordination affecting developing countries – primarily the forced access to finance denominated in foreign currency– have been argued to be the main cause of the division between Core and Periphery and the protraction of hegemonic power instead of the division of labour in the real economy (see Tavares, 1985; Vernengo, 2006). However, whilst these authors highlighted the constraints on the Balance of Payments (BoP) resulting from the use of external finance as the cause of divergence (Alami et al., 2022), it was shown that the Eurozone has the opposite problem: polarisation is driven by the removal of the necessity for BoP adjustment mechanisms.

Such study is supported by the thesis that subordination and Core-Periphery relations are not only realities of developing countries, but can be reframed to describe also relations amongst advanced countries. Consequently, this chapter builds on the analysis of subordination –though some authors use the word Dependency for similar concepts– offered for developing countries. Such analysis has primarily focused on financial subordination, using monetary subordination as a component of the former (Kaltenbrunner and Paineira, 2018; Musthaq, 2021; Alami et al., 2022). In a novel way, this chapter delves primarily in the monetary subordination and shows the symbiotic nature of monetary and financial subordination, reinforcing one another.

It is argued that monetary subordination is in turn the primary catalyst, and

thus causes, of financial subordination. This is supported by the fact that monetary subordination in the Eurozone entails more than just the constraint on domestic policy and vulnerability to capital flows. In fact, it is also found that the experience of Italy and of EMEs is indeed not that dissimilar: the essence of monetary and financial subordination is the same, but the shapes and forms it takes are crucially different, established by the specific monetary structures of the euro –discussed in the previous chapters. European monetary subordination appears in unique forms because of the vary nature and architecture of the EMU and of the euro, and thus affects affect Italy in unique ways, though leading to similar consequences to those experienced by EMEs.

As a consequence, this chapter encapsulates the repercussions of this research by putting forward two main arguments: first, the subordination lens offers a different account of the disappointing performance of the Italian economy, which should be framed as a consequence of monetary subordination; and second, the existence of *subordinate integration*, namely the idea that monetary structures protract, replicate, and polarise subordination. Furthermore, it is shown that precisely the existence of subordination in the EMU is needed as much as it is the cause for the failing Eurozone project, giving rise to the inconsistencies that have characterised most supra-national monetary systems. Ultimately, this chapter explores the consequences and the *reproduction* of subordination in the Eurozone for Italy, though such exercise can and should be replicated for other countries and monetary unions.

As explained in the Chapter 1, the focus on Italy is warranted by the unique features of the country: it is the ‘marginal’ member in that it is the second manufacturing power of the Area and in the 1990s reached levels of output an income comparable to Core countries; in addition, historically it has been recognised to be in the ‘semi-periphery’ of Europe.¹ From a financial perspective, the previous chapters also show the importance of Italian sovereign debt markets for the working of secured transactions. Ultimately, it was also shown the peculiar puzzle of Italy, France, and Germany: Germany being the core country as in possess of financial and productive capital, France being able to remain independently central thanks to its paramount financial capital, and Italy which struggles on both and hence is relegated to a subordinate position in comparative terms. However, the use of such a framework for the study of the Italian economic experience of the last three decades has eluded scholars, who have offered few but diverging opinions on the causes for the Italian demise.

The chapter proceeds as follows. Section 9.2 outlines the key explanations put

¹See Chapter 2 and the various definitions of Italy by different proponents of the European Dependency School.

forward in the literature to account for the Italian path during the last half decade. It is shown that whilst there are primarily two competing explanations (the external constraint and the internal deficiencies), the use of ‘subordination lens’ to provide a complete evaluation is missing. Section 9.3 then analyses the historical trajectory of Italy throughout the second half of the XX century leading to the introduction of the Euro. This Section focuses on the Italian experience from a historical perspective seeking to understand whether Italy has always been monetarily subordinated or not, and how the introduction of the common and single money has changed such subordinate position from a Dollar-based to a Euro-based one. Successively, Section 9.4 shows that subordination persists by changing its form, and in the EMU such change revolved around it becoming structural and formalised in the working of the single money. The question then arises as to how similar the case of Italy is compared to the one of the Emerging Markets, which suffer from structural but in-formalised monetary subordination. Section 9.5, then, establishes the consequences of being subject to monetary subordination within the Eurozone for Italy, highlighting the higher degree of financial fragility as a structural feature of the subordinated member. Section 9.6 draws the concluding remarks.

9.2 The Italian question

Recent Italian economic development has been defined as characterised by ‘convergence with tails’ (Toniolo, 2013, ch.1), due to the lack of convergence during the two decades after Unification and the two decades since 1990s. Undoubtedly, an economic ‘miracle’ took place in Italy after World War Two, with productivity and income per capita increasing rapidly and to levels comparable to other central European countries. Whilst the literature is limited overall, it is especially so regarding the monetary history of Italy, as well as applications of Structuralist approaches to the Italian trajectory in the context of the Monetary Union. Nevertheless, the study of the Italian economy and of economics in Italy has proven to be extremely insightful precisely because of the political economy challenges faced by the *Bel Paese*, as shown for example in the analysis of austerity in the context of the early post-WWI period and the rise of Fascism in Italy offered by Mattei (2017a,b, 2022).

The interpretations of the ‘Italian question’ are broadly divided into two main strands, each finding the causes in distinct factors: the external constraint and the internal deficiencies. Whilst it is difficult to abstract from the interconnections between internal

and external factors, most scholars tend to focus on one or the other, rarely looking at the dynamic relations between the two.

The extent to which external constraints affect the Italian failure to converge over the last three decades is debated. Baccaro and D'Antoni (2022), for example, argue that the the 'external constraint' should be seen as a necessary but not sufficient condition for the Italian outcomes. Both rely on the definition of external constraint as a limiting on domestic policies to facilitate the convergence towards neoliberal status proper of the European project (the 'beneficial constraint' suggested by Streeck, 1997), and that might have been otherwise contrasted (Ferrera and Gualmini, 1999; Dyson and Featherstone, 1999).

The external constraint, importantly, has been argued to be the deliberate choice of the Italian technocratic elite, perceiving it as a tool to impose domestic reforms (Dyson and Featherstone, 1996). An example of such policies is the European drive towards deregulation of both good and capital markets, embraced towards the second half of the 1980s. Similarly, the liberalisation policies of the late 1980s occurred together with the decline in activist industrial policies and the increase exposure to foreign European capital (Celi et al., 2018). These led to the de-industrialisation of the Southern Periphery at large, and thus shift the focus to the failure of domestic changes –most importantly the losses in competitiveness and productivity.

If Celi et al. (2018) locate the slowdown in Italian industrialisation in the mid-1960s (followed by the rest of Southern Europe in the 1970s), the limited gains in productivity in the 1990s, in addition, have been explained in terms of the failure of Italian firms to adapt to the rapid technological innovations taking place (Pellegrino and Zingales, 2017). Coupled with such lack of technological competitiveness, Storm (2019) argues that the permanent fiscal austerity and real wage restraint, whilst in line with the EMU requirements and prerequisite, have caused contraction in domestic demand and more importantly a substantial weakening of Italian supply side. Further domestic explanations for the Italian stagnation have been attributed to the poor governance and rule of law (Gros, 2011).

A crucial, but neglected, lens of analysis is the study of Italian *financialisation* as a possible explanation for or consequence of the stagnation (Forges Davanzati et al., 2019; Lagna, 2016). Crucially, Forges Davanzati et al. (2019) argue that whilst Italian financial accumulation started in the 1980s following the acquisition of power by workers in the 1970s,² such financialisation deepened since mid 1990s and has contributed significantly

²The deregulation of labour markets was substantially achieved with the Treu Act of 1997 and the Biagi

to the stagnation of Italian economic growth as well as to the polarising distribution of income (D'Alessio, 2012).

Ultimately, Guarascio et al. (2023) argue that the explanations offered by the literature –primarily focused on single internal or external factors– cannot explain the Italian experience, which needs to be evaluated in conjunction with external forces, both European and global nature. A similar argument is offered by Krahé (2023), who finds the long-run Italian stagnation to be explained by two key moments (the 1990s and the early 2010s), both characterised by the ‘wrong’ policies to reignite economic growth –primarily, liberalisations and austerity. Their merit, furthermore, is the realisation that whilst Italian decline is underpinned by long-lasting supply-side factors, the decline accelerated in the 1980s-90s.

These studies, however, never introduced the possibility that the Italian recent trajectory may be explained in terms of *dependency* or *subordination*. The decades preceding the Euro saw complex and more informal forms of subordination appear, which have shaped the process of domestic structural transformation. For example, it has been recently argued that Italy played a key role in the creation and development of *eurodollar* markets in the 1950s. Almost a decade before British banks (Altman, 1961), it was Italian financial institutions and the Bank of Italy that spurred the creation of such foreign currency-denominated deposits in the domestic banking sector (Balaban, 2022).

Indeed, the ‘dependency lens’ has been utilised primarily to study the trade and industrial (including labour productivity) relations in the European Union (Weissenbacher, 2018), not to examine the monetary and financial subordination at play in the area, and especially not applied in a complete way to a single country. For example, Gräbner and Hafele (2020) find at least four arguments explaining why the peripheral industrial complexes³ were not ready to the integration with Union: lower productivity (Seers, 1979; Musto, 1985), more limited economies of scale (Hummen, 1977), lower propensity for innovation (Simonazzi and Ginzburg, 2015), and fewer linkages across industries (Simonazzi and Ginzburg, 2015).

Similarly, in the Regulation tradition, the phenomenon of dependent financialisation is described as being the cause of the Eurozone crisis (Becker and Jäger, 2012; Becker et al., 2015), though it finds the roots in the process of financialisation rather than in the asymmetric process of monetary integration. An alternative study in the line of Regulation is offered by Gambarotto and Solari (2015), drawing on the Varieties of Cap-

act of 2003.

³Their periphery refers to Cyprus, Greece, Italy, Portugal, and Spain.

italism literature coupled with asymmetric integration; the focus, however, is again on the productive sector and on the financialisation caused by the peripheral condition, an argument strongly countered in this work –in which financialisation takes a subordinate form, but is not caused by the peripheral position.

The lens of subordination offered in this work helps in understanding and defining Italy in a critical lens that is able to combine both the ‘external constraint’ and ‘internal deficiencies’ strands: the two are not independent alternatives, but are the domestic and regional faces of subordination. In turn, the catalyst for such subordination is money and the monetary architectures shaping Europe, coupled with their effects on framing the role and extent of finance.

Indeed, the definition of Italy as a ‘periphery’ or ‘semi-periphery’ has never followed a precise taxonomy, as mentioned in Chapter 1, because it has never risen from a monetary perspective. The lack of such ‘money-less definition’ is primarily due to the fact that Italy is not peripheral in all respects: manufacturing-wise, Italy has proven to be the second producer in Europe behind Germany, being able to rebalance the trade deficit vis-à-vis Germany with surpluses with the rest of the Eurozone, though at the same time its production structures and industrial changes have features of more peripheral members (Celi et al., 2018). The position within the Eurozone monetary architecture, on the contrary, allows for a clear definition of Italy as a subordinated country and with a trajectory of recent development shaped by such monetary and financial subordination –à la EMEs.

Ultimately, Pouemi (1980) was correct in saying that subordination is monetary-based, but not in the form that he suggested as credit-creation was not constrained prior to the Euro crisis. Rather, subordination is monetary because money shapes the organisation of production and exchange, and shapes the role and features of finance. Not only does money –and the monetary plumbing– affect the implicit Real Effective Exchange Rates (REER), but it dictates how and to what extent national markets integrate and the direction of asymmetric relations. Control over money and the hierarchical tiering in the monetary structure define the positioning of a country both vis-à-vis other member states and vis-à-vis private finance.

9.3 Monetary and financial subordination for Italy: from dollar- to euro-centric

subordination is not a condition imposed on Italy by the Euro. More specifically, Italy has long been subordinated in the spheres of money and finance, as for example in the silver-based Latin League within the Gold Standard or during the negotiations for the structure of the Bretton Woods System.⁴ The purpose of this section is to determine the forms of monetary subordination characterising Italy, comparing them with the experiences of emerging markets as described in Alami et al. (2022), and ultimately establish how the introduction of the single and common currency reshaped such subordination.

9.3.1 Italy and monetary subordination pre-EMU

The developments of the eurodollar markets in the 1950s reflect a behaviour similar to the one found in the 2000s and the Euro: the commercial banks' eagerness to find funding for foreign trade, especially supported by the most important Italian banks of the time, the Banca Commerciale Italiana, Credito Italiano, Banco di Roma,⁵ and the treasury-owned Banca Nazionale del Lavoro (Balaban, 2022). Indeed, the creation of a foreign currency credit market and the accumulation of foreign currency deposits served the purpose of financing *imports* (Banca d'Italia, 1970, p.280), a practice reversed later in 1960 by the decision of the Banca d'Italia to have banks finance trade through reserves rather than foreign currency deposits. This practice can be interpreted as an early form of monetary subordination and puts in place a mechanism that is ultimately underpinned by foreign exchange swaps provided by the Ufficio Italiano dei Cambi (UIC) –the Italian Foreign Exchange Office– available for the commercial banks in case foreign depositors suddenly withdrew the foreign currency deposits, as occurred in 1959 with Swiss banks (Balaban, 2022).

This is remarkably similar to the story offered in Chapter 5 and 6, and underlines the close connection between bank funding and its origins (and currency of denomination) and the funding of cross-border transactions, whether generate from the current or capital account. In this sense, whilst Italy showed a remarkable ingenuity and ability to be at the frontier of financial development with the eurodollar markets, it also shows the

⁴Research on the role of 'peripheral' countries in the setting up of the Bretton Woods monetary agreements are currently being carried out, and have been discussed at conferences attended during 2022-23.

⁵The three banks (the Banca Commerciale Italiana, Credito Italiano, Banco di Roma) were part of the nine banks owned by the public holding Istituto per la Ricostruzione Industriale, which played a key role in the Italian post-war miracle (Saraceno, 1955).

persistence of the subordinate position of Italy in monetary matters: Italian banks have found themselves in the position of having to resort to finding exotic funding systems for cross-border payments as well as for sustaining domestic demand, first through eurodollar deposits, then through the ECU and central bank FX lines, and ultimately through the Euro and the TARGET system.

The Italian experience, despite the economic miracle, follows closely the stylised feature of subordination provided by Alami et al. (2022) for developing countries, especially what have been recognised as Post-Keynesian and Marxist traditions. Indeed, Italy showed exchange rate instability and vulnerability to external actors as shown in the case of the Eurodollar markets and in the successive exchange rate crises. The liberalisation of foreign exchange markets started in 1958, when convertibility was introduced for the Lira, and Italian banks could thus participate in FX transactions, though they had to comply with rigorous rules imposed by the UIC on guidance of the Ministero del Commercio Internazionale aimed at maintaining balanced positions of assets and liabilities as well as compliance to the needs of the BoP of net positions against non-residents (see Biagioli, 2003).

As the process of liberalisation proceeded with the introduction in the 1960s of domestic swap arrangements (primarily for USD) between the UIC and banks to provide implicit backstop to the transactions in private FX markets, the Lira entered two decades of recurrent exchange rate pressures. Such pressures initially were driven by capital outflows, which prompted the introduction of a ‘dual exchange market’ (1973–74) creating an official exchange rates for current account transactions and a financial rate for financial transactions (Lanyi, 1975).

If compared with the case of France, which also introduced a dual exchange rate system (1971–74) to constrain foreign liquidity inflows rather than outflows, the drivers of the dual exchange market systems are the same that cause the *net liquidity imbalances* in the Eurozone – a system that prevents the creation of mechanisms to curb such imbalances (as shown in Chapter 6). The exchange rate pressures, which occurred during the revamping of Italian inflationary issues that lead Italy off the European Economic Community (EEC) ‘snake-in-the-tunnel’ and into its aforementioned exchange rate system, stemmed from the recurring BoP imbalances shown by Italy and the excessive monetary financing of the Treasury’s debt issuance. This can be seen with the crisis of 1976, which led to the BdI suspending the Lira from FX markets for 40 days (Verde, 2003).

The crisis of 1976 and monetary instability of Italy at large have also been affected by the requests for IMF assistance, which Italy used repeatedly in 1970s, and which came with the conditionalities that have been imposed on developing countries by the end of the century. The recession in 1975 was largely brought by the restrictions implemented as

part of the IMF programme of April 1974 (\$1.235bn plus \$826mn through the oil-facility line), which aimed at rebalancing BoP and thus re-establish financial and monetary stability (Ventresca, 2022). Similar IMF programmes and conditionalities were implemented following the 1976 crisis.

Full liberalisation only occurred in 1990, which led directly to the crisis of 1992 in which devaluation could not be prevented (except through significant increases in the domestic interest rates) due to the arbitrage in Lira markets that prompted Italian banks to repay external foreign currencies liabilities (Biagioli, 2003). Importantly, the fragility of the Italian Lira in 1992 stemmed from a specific feature of the Italian government's funding strategy: given the use of short-term bills (BOTs) for around 29% and of floating Certificati di Credito del Tesoro (CCTs) for 48% of outstanding government debt, changes in money market rates directly affected the costs of borrowing for the Treasury, in addition to the rising rate on new issuances (International Monetary Fund, 1993). This meant that even though the Bank of Italy tried to defend the value of the Lira through interest rate hikes –both the discount and repo rates increased between July and September 1992, such defensive monetary policy clashed with the funding of fiscal policy.

If the FX crises point at a persistent inability to reconcile domestic and international realms for Italy due to the constraints imposed by the subordination of the Lira in the international monetary (non-)system, the 1990s points at the monetary subordination also in terms of the enhanced discipline imposed on economic policy, coupled with the progressive weakening of Italian productive structures due to the elimination of industrial policies since the 1980s. The liberalisations, privatisations, and deregulations occurred in Italy throughout the 1990s with the governments of Dini (first of the 'Governi tecnici'), Ciampi, and Amato align with the experiences of developing countries –especially Latin American, though the changes in Italy were spurred by the regional integration rather than the integration in the world-economy. Amongst the policies implemented to conform to the parameters necessary to consider a possible entrance in a monetary the EMU there were the 'abolishing [of] the automatic indexation of wages and centralized bargaining; the Treu reform, which brought in atypical contractual models that fostered workplace market flexibility; and pensions reform, regarding the gradual replacement of the final salary system with a contribution-based system' (Reichlin, 2019, p.406).

These were coupled with the finalisation of the process of separation between the Treasury and the Banca d'Italia, which had begun in 1981 but that saw the Banca d'Italia in charge of setting the discount rate formally only in 1992 together with the abolishment of the overdraft account for the Treasury at the Banca d'Italia. In 1993, the Italian Debt Management Office (DMO) –the Public Debt Direction within the Treasury– was also created to formally complete the legal separation between fiscal and monetary policy.

Constraints on policy making became more stringent with the deeper regional integration. The Italian elite largely supported the monetary project precisely because of the possibility to subordinate domestic political struggles and ‘policy failures’ to the ‘vincolo esterno’ à la Germany –i.e., sound money and public finances (Dyson, 1994; Dyson and Featherstone, 1996). The Monetary Union was thought of as a mechanism for unquestionable convergence, without the possibility of it implementing a hierarchical or asymmetric system. Such a position stemmed not only from the ideology of the experts, but also by the practicality of the EMU: the subordination would act as a significant tool for domestic policies restraining the power of workers through the domestic elite (Quaglia, 2004) –akin to the *lumpenbourgeoisie* (Frank, 1972). In this sense, the structural changes encompassed by the liberalisation and deregulation have adjusted the ‘balance between state and market’ (Vielma and Dymski, 2022, p.633) just like it has been argued for Latin American countries vis-à-vis International finance.

9.3.2 From USD- to euro-centric: insights from international capital markets in the 1990s

Although financialisation started already in the 1980s as mentioned above, the participation of Italian residents in international capital markets only took off in the mid 1990s. Issuance in domestic capital markets remained limited as well, except for the government sector, which has been the main issuer (consistently between 60% and 80% of total debt securities issued). The introduction of the euro, however, increased significantly the issuance of debt securities by private financial and to a lesser extent non-financial corporations, and caused an expansion in the issuance in international markets as well as changes in the currencies of denomination.

These changes are in line with the theorisation of financial subordination (as well as ‘subordinate financialisation’, see Powell, 2013), which highlights how specific domestic trends of financialisation are embedded in the ‘...the subordinate status of peripheral states in international capital markets and the subordinate status of the domestic currency’ (Powell, 2013, p.144). At the same time, the Italian experience shows features peculiar to the introduction of institutionalised monetary subordination via a common currency.

Figure 9.1 shows the increasing issuance of debt securities in international markets by Italian residents,⁶ though these remain considerably lower (around 25% of total bonds

⁶The BIS Debt Securities Statistics also offer issuance based on nationality instead of residence. The decision of looking at residence is found in the fact that residency affects the gross liquidity flows in and out of a monetary jurisdiction, as is shown in other chapters.

Ratio of Debt Securities issued by Italian Residents in International Markets to All Markets, 1990-2022

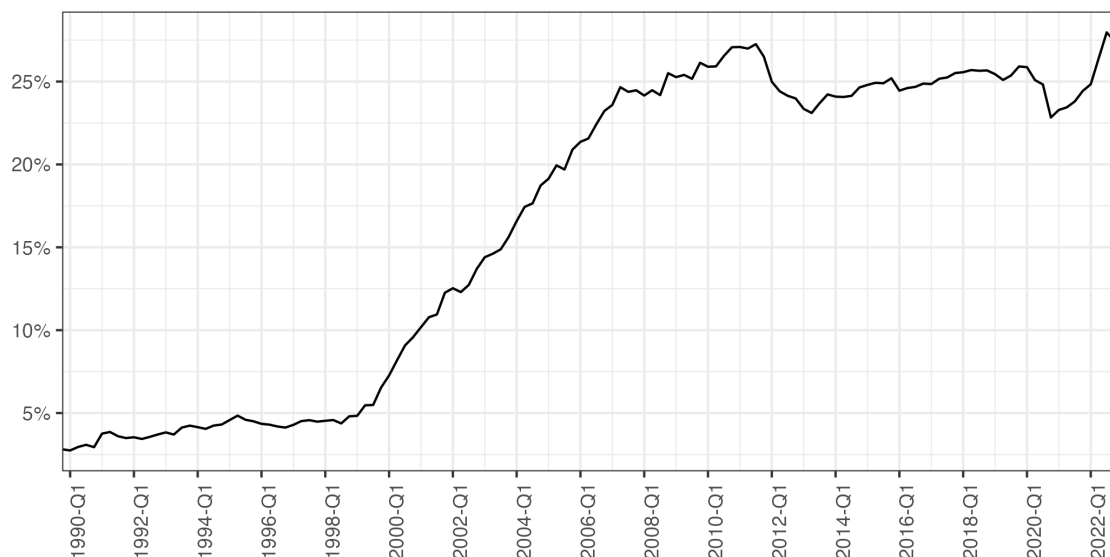


Figure 9.1. Ratio of Debt Securities issued by Italian Residents in International Markets to All Markets, 1990–2022.

Source: Author's own elaborations on BIS Data.

issued) than the domestic markets. The increase since the late 1990s is driven by strong uptakes in all sectors, especially in terms of commercial banks and Other Financial Institutions (OFIs), which is justified by the creation of the EMU and the facilitated access to international, but European, markets. In nominal values, Italian residents have increased issuance of debt securities in all markets from \$926.5bn in 1990Q1 to \$3.15tr in 2022Q4, and specifically in the international markets from \$25.4bn to \$864.2bn respectively.

Figure 9.2 shows the percentage breakdown of issuance in international markets per currency group of denomination and per sector (see Figure B25 for the nominal values). Domestic and foreign currency groups are considered, the former including Lira, ECUs, and legacy currencies now included in the euro, whilst the latter including all other foreign currencies, primarily US dollars. The currency of denomination for bonds in international markets has changed significantly during the last forty years: the eurozone has diverted new bonds issued in international markets to be denominated in euro as shown by the widening red areas for all sectors.

Such diversion has occurred at different speeds in the different sectors, with the Italian Treasury still issuing significant amounts of government bonds in foreign currency (more than 50% of government bonds in international markets were denominated in for-

eign currencies between 1984 and 2006). Other Financial Institutions (OFIs) and commercial banks show similar trends and nominal values, though commercial banks started diminishing the issuance in foreign currencies as early as 1992 and have begun to issue in foreign currency since the Eurozone crisis –trying to counter the increasing yields for Italian euro-issuers. Ultimately, Non-Financial Corporations (NFCs) started tapping the international bond markets significantly only in 2000 (Figure B25) and largely in domestic currency, though previous issuances were characterised by a steady fall in the share of foreign currency-denominated bonds since the mid-1980s.

For reference, the same data shows that German residents issued in foreign currency $\frac{2}{3}$ of total bonds on international markets until 1999, when domestic group currency became the major currency of denomination (BIS, 2023). At its peak in 2008Q2, $\frac{2}{3}$ of international bonds were issued in domestic currency and the remaining in foreign currency, a significantly more balanced position than Italy, which issued only $\frac{1}{10}$ in foreign currency. After 4 years of roughly equal issuances, since 2018 German residents have started relying on domestic currency more heavily. Interestingly, the German dynamics were driven only by banks and OFIs, with both the government sector and NFCs issuing largely in domestic currency. France shows trends similar to Germany, expect for the more gradual and steady increase in the share of foreign currency-denominated bonds issued in international markets, which account for more than $\frac{1}{3}$ as of 2022, whilst Spain follows closely the under-utilisation of foreign currency for denomination like Italy –around 15% as of 2022.

Three consequences can be evinced from these trends. First, the 1980s and 1990s show that Eurozone countries were subordinated to the role of the dollar in international debt markets. Second, such feature was subject of diverging trends for ‘peripheral’ and ‘core’ Eurozone countries as the common currency took shape: while the issuance in international markets has increased since the mid-90s, the change in the currency of denomination to primarily domestic entails that residents in countries like Italy and Spain issue debt securities aimed at other European (even Eurozone) residents.

In this sense, there has been a gradual shift in terms of monetary subordination for Italy (and Spain) that culminated with the late 1990s where rapid increases in international issuances were concentrated in the euro-segment. Monetary subordination was reshaped away from US dollars and towards other Eurozone’s member currencies *before* the EMU, but has consolidated with the common currency. Third, these changes are sector-specific, with the Italian government being unique in its reliance on substantial foreign currency bond issuances, and with NFCs across all Eurozone countries being reluctant to issue in foreign currencies and preferring euro-denominated bonds. Banks and OFIs drive the core access to USD-denominated markets, which does not happen for Italy (and Spain).

Ratios Currency Group of Issuance in International Bond Markets for Selected Sectors Resident in Italy, 1971-2022



Figure 9.2. Ratios Currency Group of Issuance in International Bond Markets for Selected Sectors Resident in Italy, 1971–2022.

Notes: *‘Domestic Currency Group’ includes the sum of ECUs, Euros, and legacy currencies now included in the Euro (BIS code: EU1). Data for OFIs presents gaps in 1996, hence the white space.
Source: Author’s own elaborations on BIS Data.

9.4 The formalisation of the subordinated with the euro and similarities with EMEs

Whilst Italy showed subordinated features for the entirety of the post-war era prior to the introduction of the euro in multiple areas in addition to the monetary one mentioned –for example in the domestic institutional setup and central bank-Treasury relations (Gaiotti and Secchi, 2012), these have all been mediated by the rising importance of financial intermediation. As was shown in the previous subsection, the *financial channel* at play in Europe in the 1980s and 1990s reframed the subordination from one on the global scale and USD-centric to one circumscribed in the Europe and ‘Euro’-centric. Such shift and the appearance of subordination predate the creation of the common and single currency, though its planning coexisted with the increasing connections across would-be Eurozone members.

Whether it was a matter of expectations or not, it is clear that monetary and financial subordination cannot be understood as a direct consequence of the Euro. Indeed, the creation of the Eurozone and of its regional architecture has *formalised* and entrenched in a monetary and financial system the subordination revolving around Europe rather than on the global scale. In other words, the common and single currency formalised a regime already taking form but without a clear ordering: only with the Euro, asymmetric monetary relations divided ‘periphery’ from ‘core’ in Europe and required a financial centre for the sustainability of the currency and monetary system.

The euro may have changed the appearance or mechanisms of subordination, though *subordinated* members like Italy moved from a position of subordination to another one of the same: the hierarchical relations were already implicitly present, though a European ‘centre’ was missing. With this historical lens, then, it becomes clear that within such architecture, the subordinate position of a country inevitably leads to a subordinate form of integration, suggesting that subordination is a persistent and path-dependent feature of an economy within a world-economy. subordination has a *dynamic* property of circular causation, through the centre of subordination may change or be imposed with different mechanism.

The formalisation of subordination occurred primarily through three channels: regional agreements and regulations, domestic changes to adapt to the common principles of reduce competitive gaps with other members, and the framing of the architecture of financial markets –required to uphold the monetary system– drawing the lines between the national legacies and the new regional structures required by the common and single money. These three channels do not explicitly create an asymmetric system, but they ‘hyper-’ liberalise, deregulate, and privatise the member states’ economic structures lead-

ing to the removal of barriers and rebalancing mechanisms. In this sense, the first two channels of this formalisation are a more powerful form of the one experienced by EMEs, whilst the third is proper of the monetary union. At the same time, the three channels together pose a significant conundrum for domestic policymaking, as the monetary union forces the integration of money flows, thus entailing that the national idiosyncrasies –causing potential for various forms of arbitrage– can be exploited more easily.

Whilst the first can be easily appreciated with the examples of the articles 119–144 of the TFEU –for example the access requirements of Article 140, the second implies domestic legal and economic changes that are brought about either by regional pressures or by policymakers aiming at converging on the other members’ institutional setups. In the case of Italy, the 1990s are the decade of rapid deregulation, privatisation, and conformation of financial markets to neoliberal standards through various regulations and reforms.

The most important examples include the *Testo Unico Bancario* (TUB) of 1994 and *Testo Unico della Finanza* (TUF) of 1998, the ‘*Provvedimento Unico*’ of 2008 and its updated version ‘*Provvedimento Unico sul post-trading*’ of 2018, all aimed at conforming to European regulations, but maintaining national characteristics. Similarly, major privatisations in 1995–96 included the Italian stock market (*Borsa Italiana*) and *Mercato Telematico dei titoli di Stato*, then *MTS S.p.A.* (MTS). At the same time, however, these regulations allowed for *Banca d’Italia* and the *Commissione Nazionale per le Società e la Borsa* (Consob) to maintain strict supervision over banks and financial intermediaries as well as market infrastructures –encompassing the entirety of the Italian ‘shadow banking’ sector, which led to a considerably delayed and limited growth of non-bank financial institutions (amounting to around 40% of GDP in 2015, Gola et al., 2017).

The third channel of formalisation has been the main concern of this work, as it highlights the *structural* features of subordination in the EMU. Such channel stems from the architecture of the Eurosystem, and was argued to hinge on three components: monetary hierarchies, a ‘hybrid’ form of money, and the selective fragmentation and integration of different markets (and architectures). Indeed, these three mechanisms *formalise* monetary subordination in that they lock the hierarchy in the working and plumbing of the euro itself: the ECB’s position is legal in nature whilst the Bundesbank’s is path-dependent like the Bank of England’s during the Gold Standard and the Federal Reserve (of New York) in the post-war era. The hybrid role of the euro as domestic money and quasi-world money is crystallised in the overlapping of monetary policy and cross-border finance –again legalised by the Eurosystem’s lawyers. The selective fragmentation and integration only occur in a system that formally aspires at becoming a monetary union –as monetarily-sovereign nations retain their national market infrastructure.

In the absence of the euro, the ECB would have not existed, the Bundesbank may have retained the leading position in the setting of monetary policy (for the position of the Bundesbank as a leader in the setting of monetary policy before the EMU, see Reade and Volz, 2011), but would have not provided any justification to investor to become an intermediary between privates and other ECB. The cross-border funding and domestic monetary policy would have been separate and would have followed traditional functions (as described in Murau and Giordano, 2024) –even in the case of a fixed exchange rate regime, which in turn would have implied the forced presence of constraining and rebalancing mechanisms –à la ‘Balance of Payment constraint’.

Ultimately, each country would have retained their national monetary architecture, which would have likely looked similar to the existing one except that liquidity flows would have been constrained by the BoP constraint: architectural and market fragmentations would have reflected the different risks, the separated capital accounts, and ultimately the sovereignty over *national* institutions. Nevertheless, monetary subordination could have ensued, but its forms would have been closer to the ones shown by the Emerging Markets’.

Subordinate integration, in turn, can be understood as the application of Frank’s ‘development of underdevelopment’ Frank (1966) to a monetary union in which the architecture of integration lead to the creation of subordinate dynamics in the periphery, first in financial spheres and then with repercussions on the wider socio-economic organisation of the national economy. Again, the idea of subordinate integration is not limited to the Eurozone and can be applied to Emerging Markets, though the monetary union carries out such integration in a formalised way,⁷ whilst developing countries remain subordinated due to market hierarchies and power relations. For example, Vielma and Dymski (2022) argue that the development of underdevelopment can arise from the ‘centre’s concentration of credit power and then its monopolisation of liquidity’ (p.632), and thus connect the Core-Periphery framework of international financial relations for Latin American countries with the development of underdevelopment.

The Italian experience in the Eurozone, though it was analysed beyond just the banking sector, is supported by the model theorised by Chick and Dow (1988), who argue that the relationship between banking and regional development polarises the periphery by leading to liquidity flows towards the ‘core’ banks for deposits due to higher liquidity preference for peripheral actors. As was shown in previous chapters, not only this is

⁷Encompassing legal, political, and economic regulations and agreements, as well as the architectural design.

true for a monetary union,⁸ but it is also reinforced by the liquidity preference of foreign investors and by the architecture described. In particular, the Eurozone combines two features that Chick and Dow argued being problematic for a peripheral region: the selective fragmentation leads to peripheral banking system being more exposed to ‘peripheral-risk’, whilst the integration of liquidity flows allows for the unstrained monetary outflows (which Chick and Dow saw as a feature of unified banking system).

The euro and its infrastructure *monopolised* subordination in Europe by reframing the monetary and financial system around a novel centre outside of the US. Indeed, the monetary and financial subordination discussed here does not define the centre of the Eurozone, but it imposes subordinate position of the periphery. The core is then defined by the interaction of financial and productive capital with the legal and technical structure of the region. The focus of this chapter –and of this work, however, is not the core but the forms of subordination and the consequences of being peripheral.

9.4.1 Similarities with EMEs

The focus on the periphery, then, prompts the comparison between the EMU periphery and the periphery in the USD-centric international (financial) subordination. Given the persistent but changing feature of Italian subordination and the peculiar role of the single and common currency in formalising the periphery, it is necessary to establish how similar or different the monetary and financial subordination at play in the EMU is to the ‘International Financial subordination’ affecting EMEs. Such an exercise is also instrumental for the study of the consequences of subordination for Italy.

Table 9.1 offers a stylised representation of the manifestations of subordination in the literature compared to the one put forward in this work applied to Italy in both monetary systems –i.e., before and after the common and single currency. More specifically, the third column of Table 9.1 outlines the stylised features of subordination with the single and common currency as compared to the previous form of subordination affecting Italy and the theorised subordination for EMEs following the overarching Agenda summarised in Alami et al. (2022).

Whilst the dimensions established from the study of EMEs can be found in the Italian position in both monetary systems, Italian monetary subordination has acquired peculiar manifestations especially with the euro. For example, the effects of subordination in imposing *austerity* and discipline on workers occur in both forms of subordination,

⁸Chick and Dow looked at regional development in the US, not at monetary unions per se.

and it may even be argued that the implementation of austerity policies by the early Fascist regime was particularly ‘successful’ precisely because the (pre-EMU) subordinate position of Italy required a particularly strenuous application of the ‘austerity rationality’ (Mattei, 2017a,b). Other manifestations, furthermore, can be found in reinforced forms in the Eurozone, such as the coerced integration and the institutionalisation of the interests of capital in the stake –now finding also institutionalisation in the regional institutions and the form of integration imposed. Ultimately, other dimensions such as exchange rate instability and the BoP constraints can only be observed in radically changed, almost opposite, forms.

A clear difference between Italy and EMEs lies in the *causes* or mechanisms imposing the monetary dimension of subordination, which inevitably is mediated and related to some aspects of financial subordination too. Whilst such difference does not arise from Table 9.1 and the manifestations of subordination, it stems from the need of finding the origins of subordination. In this respect, the peculiarity of the EMU is that subordination is monetary phenomenon, inevitably intertwined with specific segments of financial markets. In EMEs, on the contrary, subordination has been analysed as a financial phenomenon supported *also* by a monetary component. The Eurozone, conversely, formalises the subordination only because of the presence of the single and common currency and of the policies and infrastructures it requires.

For this reason, Table 9.2 further develops the three pillars of *monetary subordination* for the EMU and compares them with the corresponding dynamics for EMEs. Usually, these three pillars are not distinguished or analysed by the literature on EMEs and are broadly summarised as the monetary side of financial subordination or implied as the ‘currency hierarchy’. Nevertheless, in the context of the Eurozone and of formal monetary system (as compared to the monetary ‘non-systems’, see Ocampo, 2017) they need be distinguished as they individually replicate a particular dimension of the ‘monetary subordination’ affecting EMEs. There is no ‘simple’ currency hierarchy or general monetary subordination in the EMU, but specific mechanisms that together give rise to subordination through monetary relations and infrastructures.

Indeed, these pillars lie at the heart of *subordinate integration* as they solidify the subordinate position of the members prior to entering the union: Italy’s monetary subordination led to its inferior position of the Banca d’Italia balance sheet along the hierarchical tiering of NCBs, it supported and reinforced the disciplining roles of capital flows for Italy, and subjected Italian architecture to competition from deeper and more advanced financial centres. In this sense, Italy’s integration in the monetary (and financial) architecture that led to a subordinate position from an original position of subordination via the formalisation described above.

The consequences of monetary and financial subordination for Italy in the regional context and for EMEs in the global one are remarkably similar.⁹ Indeed, it is often the mechanisms that point at more complex transmissions in the EMU and at different behaviours, whilst the outcome is along the same lines as EMEs: monetary and financial subordination increases financial fragility both internally and to external shocks in the ‘core’, it manifests violent forms in the peripheries, it replicates itself, and it acquires structural forms intertwined with power relations. Indeed it also possesses critical effects for real economic activity, which however is beyond the scope of this work.

⁹This work has often used the construct of ‘monetary and financial subordination’ in the context of the Eurozone to point at the monetary nature coupled with the financial support of subordination in the Eurozone. The literature on EMEs has instead used the term ‘financial subordination’ to highlight the non-monetary but financial nature of subordination for Emerging markets.

Features of subordination for Emerging Markets	Features of subordination for <i>Italy</i> pre-EMU	Features of subordination for <i>Italy</i> with the Euro
Enhanced capitalist discipline	‘Vincolo esterno’ to curb labour movements	previous + facilitated capital movements disciplining national agents
Austerity passed on to workers	Labour market reforms and austerity driven by contraction in government budgets	previous + Maastricht Treaty + internal devaluation
Weakness of industrial capital / weak production structures in the periphery	Lack of industrial policy and loss in competitiveness	previous + fixed exchange rates + inflation differentials
Institutionalisation of interest of capital in the state	Shift to inflation targeting + ‘Divorzio’ to reaffirm sound money + absolute commitment to the structural changes for EMU	previous + removal of monetary sovereignty + single inflation targeting
Financial and exchange rates instability	Recurrent exchange rate crises + vulnerability to foreign denominated assets and liabilities + weakness of banking sector	Exchange rate stability + no BoP rebalancing mechanisms
Higher interest rates / higher cost of finance in the periphery	Higher rates required by devaluation pressures on the Lira	Faster and unrestrained movements of capital due to risk-adjusted rate changes
Coerced integration into the world market	Coerced integration into the world market	Coerced integration in in <i>regional</i> market + coerced integration of financial markets + uneven legacy monetary and financial institutional setups

Table 9.1. Monetary and Financial subordination: Italy (pre- and post-Euro) vs. Emerging Markets as summarised by the International Financial Subordination (IFS) Literature.

Notes: The ‘empirical manifestations’ of subordination of the first column are taken from Alami et al. (2022) p. 11, and summarise Dependency, Post-Keynesian, and Marxist approaches to the topic. Only the manifestations discussed in the paper are compared here.

Source: Author’s own elaborations.

Component of Monetary subordination	Monetary Jurisdictions in the EMU	Emerging Markets in the Dollar System
Monetary Hierarchy	Hierarchy of operational Balance Sheets – Institutional (ECB) vs. Market (Bundesbank) Hierarchies	Tiering of currencies based on issuer
Hybrid Money	Single money and operations for domestic and foreign dimensions – Removal of BoP (or KA) constraints	Multiple competing currencies – BoP constraint still present – Mismatches of denomination and foreign funding
Selective Fragmentation and Integration	Competition of national market architectures – Financial centres due to architectural design – Removal of risk and costs related to location – Automatic cross-border connections	No domestic competition in terms of architecture – use of foreign architecture – strong considerations based on location – Cross-border connections through contracts and programmes

Table 9.2. The Components of Monetary subordination for the EMU and the effects for Italy compared with corresponding forms of Monetary subordination for Emerging Market Economies.

Source: Author's own elaborations.

9.5 The consequences of monetary subordination for Italy: from crisis to instability

Whilst there are several consequences of the subordinate position for Italy –from socio-economic to political evolutions, this section focuses on the two principal and overarching consequences in line with the focus of this work: the interactions of subordinate financial development and the consequences on growth. These two areas help consolidate the various features examined in Table 9.1, and more importantly to formalise the relationship between *monetary* and *financial* subordination.

The monetary subordination brought by the single and common currency maintains –if not increases– the financial fragility for peripheral members. Importantly, two distinct dimensions of financial fragility should be recognised: on the one hand, as a structural feature of the Italian position in Europe, it best appears in times of market stress and crisis; on the other hand, financial fragility lurks and increases with the polarisation of intra-EMU imbalances also in times other than crisis. Such twofold nature is similar to the experience of developing countries facing financial subordination, though in the EMU it is mediated by the institutional setup of the monetary union.

Whilst Subsection 9.5.1 delves in the crisis period arguing that the Eurozone crisis is a crisis of subordination in the form of ‘subordinate deleveraging’, Subsections 9.5.2 shows that financial instability lurks as a structural consequences of the monetary union.

9.5.1 Financial fragility: the eurozone crisis as a crisis of subordinate deleveraging¹⁰

Understanding the Eurozone crisis as the appearance of subordination requires looking at such crisis in the context of the progressive monetary integration and of the aftermath of the Global Financial Crisis (GFC): the subordination appears as the Eurozone crisis is a local outburst of the strained international monetary and financial system of 2008, in which the local core mediated and propagated financial instability onto the local periphery. The subordinate nature of the crisis, in other words, stems not only from the markets affected but also –and especially– from the transmission mechanism that triggered the turmoil: the core banks and their behaviour –not the behaviour of the ‘peripheral’ agents (as originally argued by Becker et al., 2010; Becker and Jäger, 2012).

¹⁰Some of the material treated in this section has been used to contribute to Murau, Goghie, and Giordano (2024b).

The Eurozone crisis was not a BoP crisis or a crisis of capital flows and recycled surpluses (Hall, 2014; Copelovitch et al., 2016), but a crisis arising from the debris of the GFC combined with a precise monetary architecture of the EMU. Similarly, finding the roots in fiscal (unsustainable government debts) or monetary (credit expansion in the periphery due to the single interest rate) inconsistencies fails to explain the sequentiality of the crisis and the specific forms it took: the Eurozone crisis is one of subordination in that it was sparked by the core's position as intermediary between the periphery and the outside and it was catalysed by the financial plumbing developed in line with the Giovannini Group (The Giovannini Group, 1999, 2003). At its very heart, it was a crisis of *funding* for financial institutions in the core as well as the periphery, which eventually spilled over into the sovereign debt markets.

As of late 2009, German and French banks –notably heavily exposed to the speculations and bubbles of the US markets– were already undergoing structural *deleveraging*¹¹ (Roxburgh et al., 2010; Koo, 2011; Brunnermeier et al., 2016), whilst the banking sectors of peripheral European countries was not faced with the necessary shift to debt-minimisation.¹² The GFC led to contractions in core banks balance sheet primarily for three reasons: first, they held the largest holdings of USD-denominated instruments in the Eurozone –primarily Asset-Backed Securities (ABS) (McCauley, 2018); second, the decreasing supply of USD financing liquidity by US-Prime MMFs affected them the most (Feyen et al., 2012) –which had a large impact, considering that European banks held around \$30tn of foreign assets at the beginning of 2008 (Baba et al., 2009); and third, they could not secure USD financing through FX swaps because they were considered increasingly risky and thus with higher premia by their counterparts –US banks and Other Financial Institutions (OFIs).

Following the path of deleveraging, Eurozone core banks shifted to a ‘home bias’ (Milesi-Ferretti and Tille, 2014) in their interbank lending and reduced their cross-border exposure to banks in ‘peripheral’ countries –Greece, Italy, Ireland, Portugal and Spain– leading to the *segmentation* of interbank markets along the national borders as well as to the *fragmentation* discussed in Chapter 7. These culminated in price differentials for the different instruments. Such phenomena first arose in 2008 and solidified during 2009, remaining a key feature of the post-crisis Eurozone. First signs of this appeared as early as 2008 and intensified in 2009, and have remained a feature of the Eurozone markets ever since.

¹¹The shift to deleveraging gives rise to a unique kind of recession: a Balance Sheet Recession (BSR) (see Koo, 2011, 2012).

¹²Experiences of ‘economy-wide’ deleveraging have followed one of four archetypes: austerity, default, high inflation or economic growth.

Whilst the first markets to be affected were the unsecured interbank markets, the reliance on short-term debt markets Lane (2012) triggered a cascade effect for which peripheral banks shifted to *secured* interbank markets and to the issuance of short term papers, both of which still experienced contractionary forces. For example, the first interbank market to be strongly affected was the Greek one, where once interbank lending froze and domestic money markets dried up as counterparty risks skyrocketed, costs for interbank lending increased by 500 b.p. (IMF, 2009). The freezing of funding markets for Greek banks culminated with the inability to sell bonds as of October-November 2009, the shrinking of the use of European Commercial Paper (ECP) due to a lack of buyers, and the ultimate drying up of repo markets. Under those circumstances, coupled with the shift in the credit cycle shown by the increase in the direct loans (i.e., liquidity assistance) by the Eurosystem (via the Bank of Greece) from €6.3bn in March 2009 to €48.1bn one year later, the contraction spilled over to the Greek treasury which now also found it increasingly difficult to refinance itself. Indeed the credit cycle shifted in Greece in the first months of 2009 and quickly spilled over from banks to firms as reported in the Flash Eurobarometer survey on the access to finance for Small and Medium-Size Enterprises (SMEs).

Only *successively*, with the first downgrades of the Greek government bond rating by the main rating agencies between October and December 2009,¹³ did the Eurozone crisis hit the sovereign debt market. Greek banks' financing was just the peculiar transmission mechanism arising from the architecture of the EMU, whilst the crisis shocking sovereigns was ultimately due to the shift from leveraging to deleveraging of the *lenders* in the cross-border interbank market combined with the recourse to repo markets where the government bonds are used as collateral.

The prolonged effects on sovereign debts and the sequentiality of the countries affected were compounded by the role of repo markets in smoothing the contraction of interbank unsecured lending. Crucially, downgrading of sovereign bonds entailed the revaluation of the collateral posted for liquidity. These created a spiralling dynamic that led to increasing bond spreads primarily due to the role of the Eurozone infrastructure – namely the web of national Central Counterparty (CCP) and Central Securities Depository (CSD)– which increased the haircuts applied to the sovereign bonds already under stress. Given the high concentration of government bonds in the balance sheets of MFIs within the national borders, the lower value of collateral (or the higher relative price of liquidity) entailed that financial institutions in the ‘peripheral’ countries suffered further difficulties in securing funding, thus having to reduce their activities –hence, curtailing

¹³Fitch, Moody's, and Standard & Poor's.

further the credit cycle.

Such spiral eventually led to the contagion of repo markets and other peripheral countries (the main CCPs, such as LCH.clearent and Euronext, increased the individual haircuts of the various GIIPS countries throughout the early 2010s), eventually touching Italy (with the ECB announcing the purchases of Spanish and Italian bonds in August 2011 via the SMP), and hitting large non-peripheral MFIs in notable cases –for example, Dexia Bank. The contagion was eased by the Eurosystem’s collateral management through the General Collateral Framework, which has been market-based since 2005 and thus amplified the contractions in potentially available funding due to the lower valuation of (sovereign) collateral (Marcussen, 2009; Orphanides, 2017; van ’t Klooster, 2022; Murau et al., 2024a).

Leaving the Eurosystem’s reaction on the side, the Eurocrisis should be understood as a crisis of subordination because the financial instability that subordinate countries (i.e., GIIPS) experienced was a direct consequences of the combination of the banking dynamics of the ‘core’ and the architecture underpinning the hierarchical tiering of Eurozone jurisdictions, working as a transmission mechanism. The crisis shows the tendency of the ‘peripheral’ countries’ financial systems to draw from the cross-border interbank markets rather than core investors forcing onto the periphery a condition of dependency. This, in turn, is what defines it as a crisis of subordination, for the victims and forms of the Eurozone crisis are specific to an asymmetric system in which the core has a ‘first-mover’ advantage and thus can undergo deleveraging *before* the periphery.

In this sense, the process of deleveraging took a more violent form in the periphery even though the subordinate countries were *less* exposed to the original source of the crisis –the US financial system. Indeed, Germany and France began economy-wide deleveraging in 2011-12, with the banking sectors starting even earlier (Buttiglione et al., 2014). Notably, the violence that deleveraging took in the periphery was not only caused by the asymmetric development of financial markets but was underpinned by the policy response that ‘core’ countries could put in place due to their being hit early –and before other members in the EMU. Indeed, Germany offered significant rescue packages to its ailing banks and recapitalised its domestic banking system with direct equity injections of tax-payers’ money, spending roughly €250bn between 2007 and 2014. Not only as this the highest government support offered in the Eurozone, but Italy –the largest peripheral member– spent only around €4bn to help its banks (Brunnermeier et al., 2016; MEF, 2016), which at the time did not require the same levels of support.

Inevitably, the policies implemented by the Eurosystem and national Authorities to support initial deleveraging in ‘core’ countries not only created asymmetric consequences, but it shaped the recovery or lack thereof for Southern members: the monetary and financial subordination that ‘allowed’ core banks to be hit first and to reside in hier-

archically higher jurisdictions has shaped economic activity in the rest of the Union for the last ten years.¹⁴

The LTROs, for example, coupled with other Eurosystem's early liquidity provisions had three asymmetric consequences for Eurozone members. First, it kept 'zombie' banks alive in the southern European countries like Italy, where the bank issues began roughly after the deadline of the LTROs. Second, it allowed northern MFIs to offload to the Eurosystem assets that had become risky (i.e., Southern European debt) and thus incentivised the early repair of their balance sheets. Third, although 'core' (i.e., German and French) banks refrained from bidding for a significant portion of the LTROs, a part of the funds received by southern banks found its way back to these banks, effectively increasing their deposit and worsening the TARGET balances (Hall, 2012; Vause et al., 2012). Indirectly, then, the failure to start deleveraging in Italy was enhanced by these asymmetric consequences just as much as the early and swift deleveraging of the German financial sector relied on indirect funding through ECB policies to a greater extent than domestic policies

Ultimately, it is the combination of deleveraging and subordination (i.e., *subordinate deleveraging*) that lies at the heart of the post-Eurocrisis faltering recovery shown by Italy. Subordinate deleveraging domestically coupled with the possibility of carrying out 'de-risked' cross-border investments via TARGET2 and the NCBs balance sheet, explains the the divergence in economic growth and the sustained net liquidity outflows displayed by Italy in the 2010s. At the same time, it also shows that subordination is a continuous phenomenon: subordination leads to further or other forms of subordination, as is shown by the continuity from crisis to 'subordinate' recovery to further crisis at play in Europe (GFC – subordinate deleveraging – Eurocrisis).

9.5.2 Subordination and financial fragility as structural and persistent

If the Eurozone crisis was the episode that crystallised the polarisation fo the EMU, financial fragilities arising from subordination have continued to exist and have even polarised. The diverging accumulation of TARGET claims and liabilities was already discussed in Chapter 6, where it was shown to represent not only a mechanism for the creation of subordination (the 'hybrid money' argument), but also the building up of contingent debt relations that could be triggered on the spot in case of a country exiting the Euroarea, thus implicitly threatening the financial stability of the exiting country

¹⁴For a preliminary study of domestic policies and deleveraging after the GFC in Europe, see Giordano (2020).

who would require a recapitalisation of its banking sector (both private commercial banks and the Central Bank) in case it was a TARGET deficit member. Indeed, the changes occurred in the wake of the GFC and of the Eurozone crisis, from the monetary to the fiscal and financial ones, have served the purpose of maintaining the Eurozone alive and the Euro afloat, rather than improving the working of the monetary infrastructure and of the member states (Giordano and Lapavitsas, 2023).

Supporting this, two further dimensions show that whilst the crisis was its temporary and violent appearance, subordination has created structural and persistent fragility for Italy as member of the monetary union: the revised policies of sovereign debt management and the continuing polarisation of Italian interbank markets.¹⁵ Whilst these are only two examples, they show areas in which Italy has continuously felt the higher turbulence imposed by the condition of subordination.

The true cause of the high level of Italian government debt stem from the issuance of sovereign debt in a period of high interest rates and with poor debt management throughout the 1980s. More interesting, however, is the development in the management of Italian government debt since the Maastricht Treaty, as first, the government was required to lower the debt-to-GDP ratio to meet the accession criteria, and second, the Italian Treasury was required to lengthen the maturity of outstanding debt to converge towards the German one once in the Eurozone.

With respect to the accession criteria, the Italian Treasury proved to be one of the most significant innovators in the use of derivatives to shift the burden of sovereign debt into the future when membership to the Euro was granted (see Piga, 2001, for a review of the use of different kinds of derivatives by DMOs). Other countries carried out similar window-dressing of government finances to enter the Eurozone, such as the shift onto the French Treasury balance sheet of 37.5bn francs from the pension funds of France Telecom's pension funds (Friedman, 1996), but the case of the Italian use of derivatives proved to be the fundamental, though expensive, tool to adjust the 1997 government deficit to meet the membership requirements (Lagna, 2016).

Whilst several contracts had been stipulated, one exchange rate swap with yen-denominated bonds came to fruition in the early 2010s, gaining the name of 'LIBOR -16.77' (ZeroHedge, 2010) because of the interest rate charged in the four instalments of the contract between 1996 and 1998, which resulted in temporary money flows (i.e., de facto loans) to the Italian Treasury in the form of negative net interest payments, balanced

¹⁵'Italian interbank markets' encompasses the interbank transactions settled via the Italian Gross Settlement System BIREL and then TARGET2-BdI.

by a high exchange rate premium charged at the repayment of the swap at maturity date.¹⁶

The effect of EMU membership on a member state's fiscal policy was wider than normally acknowledged, as it affected not only the debt- and deficit-to-GDP ratios, but also the process of issuance of sovereign debt –what is called ‘Debt Management’– that was becoming legally and formally independent from central banking and to different extent the Treasury in the mid 1990s with the creation of independent national Debt Management Office (DMO) in most advanced countries (Giordano and Pulieri, forthcoming).¹⁷ DMOs in the Eurozone are not harmonised and work in radically different manners. For example, the German Finanzagentur *retains* portions of the government bonds at issuance, thus smoothing demand at the auctions, whilst the Italian DMO is prevented from doing so by its operational regulations.

Figure 9.3 shows the lengthening of the maturity of Italian General Government Gross debt, given that the use of short-term debt has been falling almost continuously since 2009 (21.6%) and compared to the levels in 1995 (25.3%) to below 12.7% as of 2023Q1. The radical shift in the composition of issuance is also supported by MEF data, that shows a shift from floating (62% of total in 1993, 10% in 2020) to fixed income (37% in 1993, 70% in 2020) securities MEF (2023). The average life has also extended significantly, from 3.5 years in 1993 to around 7 years since 2009 –though the Eurozone crisis forced the MEF to issue more short-term securities and thus the average life decreased temporarily to 6.5 in 2013, 2013, and 2014.

In fact, the purchases of Italian government securities under the PSPP have focused on longer maturities 2015 when the average life of the stock of Italian bonds on the Eurosystem balance sheet was around 9.27 years, converging then to 7.17 in 2019 and 7.19 in 2021 –after the re-implementation of the PSPP– combined with an average life of 6.8 for the securities bought under the PEPP MEF (2021). Such long average life points to the fact that Italy over-issued long-term securities relative to short-term ones and to core countries, thus leading to over-supply of long-term bonds, a lowering of their prices and an increase in their yields, which then explain the failing convergence (not the spikes) of BTP-Bund spread.

These evolutions in Italian sovereign debt are an example of the coercive nature of the transformations imposed on a national economy by EMU membership, which *financialised* the Italian government debt in a twofold form. On the one hand, it led to

¹⁶The principal amounted to ¥200bn, and the stipulated exchange rate charged was 1 YEN = 193.44 ITL instead of the market rate of 1 YEN = 134.1 ITL.

¹⁷Italy, for example, reorganised the Ministero dell'Economia e delle Finanze to create a DMO in 1992, whilst in Germany, Finanzagentur was formally established in its current form in 2000, though DMO legislation was passed in 1990.



Figure 9.3. Ratio of Italian General Government Short-Term Gross Debt to Total Gross Deb, 1995–2023.

Source: Author’s own elaborations on Banca d’Italia Data.

the increase in overall debt servicing costs by means of derivatives, a practice that the Italian *DMO* still uses considerably and covertly –primarily because the counterparts to the derivative transactions can not be shared due to privacy laws.

On the other hand, more and longer-maturity government bonds can be traded by Italian and Eurozone financial institutions, thus allowing for the expansion of markets involving secured lending/borrowing. Indeed, without Italian government debt –as shown in Chapter 7, European money markets would be deprived of the main source of collateral. In addition, the hierarchical market-based tiering of Eurozone governments’ debts entails benefits for the top securities (German Bunds), which are mostly the object of ‘buy-and-hold’ strategies, with MFIs prioritising transactions secured with lower-tier collateral keeping highly liquidity securities to secure transactions in case of market distress.

The kind of transactions of such interbank markets is also relevant to show the structural forms of subordination, as summarised in Figure 9.4, which shows a persistent and worsening trend for Italian interbank transactions: interbank markets cleared within the Italian boundaries in euros have become more and more Eurozone-ised (blue line in the left hand side panel) –especially with the change from BIREL to TARGET2 in 2015, and remain the major form of gross transactions cleared (purple line in the right hand

side panel).

Ratios of Selected Transactions of Gross Settlement
(BIREL/TARGET2-Bank of Italy)

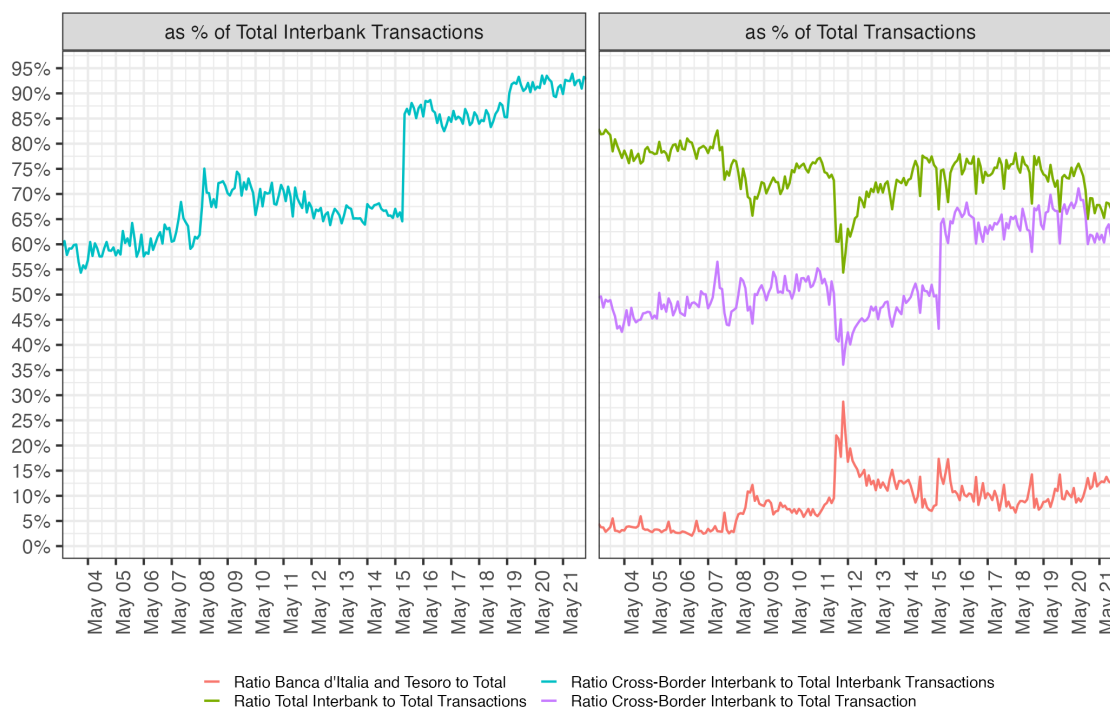


Figure 9.4. Ratios of Selected Transactions of Gross Settlement through BIREL/TARGET2-Bank of Italy, 2001–2022.

Notes: Payments settled through the BIREL system until the 16 May 2008, then settled through TARGET2-Bank of Italy. As from 31 August 2015 the statistical aggregates do not include the cash side of the securities transactions, settled through the Target2-Banca d'Italia Dedicated Cash Account (DCA) following the migration of the Italian central securities depository Monte Titoli to the Eurosystem's platform for securities settlement TARGET Securities (Banca d'Italia Statistical Database, 2023). Source: Author's own elaborations on Banca d'Italia Data.

Figure 9.4 shows selected ratios of total transactions or interbank transactions settled through Banca d'Italia-Regolamento Lordo (BIREL) until May 2008, and through its replacement TARGET2-BdI since then. The transactions involved are all euro payments between parties with access to the TARGET/TARGET2 system, thus within the Eurozone. The data does not allow to assess the net flows, but provides an idea of the kind of transactions settled. Whilst in 2003, cross-border and domestic interbank transactions very roughly equivalent (55% and 45% of total interbank transactions respectively), cross-border interbank transactions (purple line) have crowded out domestic ones, leading to more than 85% of interbank transaction being cross-border since 2015 –as an indirect consequence of implementation of QE and the rebalancing of the reserves generated.

Interbank transactions make up the majority of the gross settlements through BIREL/TARGET2-BdI (green line), though these have suffered significant falls with the global financial crisis and the Eurozone crisis. Crucially, the fall in 2011-2012 in the interbank market was caused *only* by interbank transactions, as the ratio of the two does not show steep changes. The red line, ultimately, shows the increasing importance of both the Tesoro and Banca d'Italia in carrying out transactions with private counterparts, through QE has not increased significantly the proportion of the Tesoro/BdI settlements to total; importantly, the spike in 2011-2012 shows that the interventions of the BdI/Tesoro were caused by the shrinkage of cross-border banking transactions.

If the Eurozone crisis is understood as a crisis of subordination carried over by precisely the interactions of short-term funding markets across borders, the fact that above 90% of all interbank transactions occur cross-border suggest the potential of rapid instability and a clear contagion channel supported by the *form* of the integration (along the Giovannini Group's recommendations) and the desired transactions of Italian banks with foreign banks.

9.6 Conclusion

The purpose of this chapter was to apply the lens of monetary and financial subordination to the empirical case of Italy and with an historical width, taking into consideration the evolution of subordination with the shift to the common and single currency. Such an enquiry is justified, as shown in Section 9.2, by the fact that there is not 'subordination approach' to the study of the Italian trajectory in the last fifty years. In particular, whilst the stagnation in the real economy has been analysed, monetary and financial developments remained understudied. The chapter then followed by looking at the trajectory of monetary and financial subordination for Italy, showing that the introduction of the euro did *not* impose subordination, but shifted it from being a global dollar-based one to a euro-centric form of subordination with a core in the EMU.

Consequently, two questions are explored: first, whether it is possible to draw a parallel between the Financial subordination affecting Emerging Market Economies; and second, what the consequences of monetary subordination have been for Italy. In answering the first question, it is argued that whilst the mechanisms are different and more complex in a monetary union, the outcomes of subordination are similar those of EMEs with due

exceptions. Crucially, a monetary union *formalises* the subordinated members and the mechanisms of the monetary relations. Importantly, the Italian–EMU experience points at the role of money and not finance in general as the root cause of subordination.

As for the second question, it is shown that a key consequence of Monetary subordination for Italy is the increased financial fragility, embodied both in the occurrence of crises and in the rising of long-term dynamics increasing financial fragility structurally: subordination is not a crisis–phenomenon, but a constant feature of economic development and policies. Such approach also allows for the explanation of the different recovery from the Global Financial Crisis and Eurozone crisis for the subordinated and non members, primarily with what is defined as ‘subordinate deleveraging’ affecting Italy in the 2010s.

Chapter 10

Conclusion: Research, Contributions, and Implications

10.1 Research summary, key findings, and contributions

The purpose of this work was to study *monetary subordination* within the Eurozone in the tradition of Core-Periphery analysis. Such research question stemmed from the preliminary analysis that confirmed the puzzling reality that Italy underperformed since the inception of the euro especially in a *financial* connotation. It is only logical, then, to wonder whether there is a monetary-financial mechanism at the heart of such underperformance, rather than the usual real (exchange rate) explanation, given that the Southern Periphery's appalling economic performance of the 2010s is clearly shaped by the post-Global Financial Crisis *deleveraging* and its asymmetric implementation.

These questions, however, presumed an understanding of *subordination* in the EMU –which is absent from any analysis available. Hence the purpose of this work became twofold, on the one hand providing a conceptualisation of *monetary subordination* in the EMU, and on the other one to provide a first answer to whether there is a monetary-financial mechanism at the heart of such underperformance, rather than the usual real (exchange rate) explanation, given that the Southern Periphery's appalling economic performance of the 2010s is clearly shaped by the post-Global Financial Crisis *deleveraging* and its asymmetric implementation.

Though it is recognised that the Eurozone is embedded in a dollar-based monetary system, this project was concerned with the architecture within the Eurozone, and its effects on the intra-EMU dynamics. In other words, the Eurozone offered a 'closed' system perfect for analysis of monetary and financial mechanism given its *formalised* nature and

artificial setup. At the same time, however, the deliberate opaqueness of legal and technical fibre of the Eurozone complicates the study of its internal dynamics, and required more thorough conceptualisation of concepts and forces that are used in the international financial system, for example the concept of *monetary hierarchy*.

Subordination was studied along two lines: on the one hand, as a structural feature for the Eurozone; and on the other hand, as a specific form of integration affected by such structural features. This latter part focuses inherently on the changing behaviours of key actors/sectors at the domestic level and in relation to the regional partners. Together, the two lines of enquiry understand how subordination *reproduces* itself.

Part I focused on reviewing the literature and elaborating on the theoretical conceptualisation of Subordination and of the methods employed in this work. Chapter 2 went over the scholarly contributions needed to establish a *tradition* of Subordination in line with Imperialism and Dependency Theory, and to provide the foundations for a work on the European monetary project. The former involved the analysis of asymmetric relations and especially the working of capital across borders. It was argued that money needs to be the central focus as the prism and catalyst for a modern theory of imperialism or subordination, though it is largely missing from previous works.

Chapter 3, then, elaborated on the conceptualisation of monetary Subordination and of *subordinate integration* in a monetary union. Its main objective is to focus on theorising about the rationales behind the pillars of subordination as a structural feature of the European Monetary Union, which include monetary hierarchies, fragmentation, and the hybrid working of euro-money.

Part II offered four chapters on the structural features of monetary subordination in the EMU. The first two chapters (Chapters 4 and 5) focused on the analysis of monetary hierarchies in Europe, first in the European Monetary System with the European Currency Unit, and then with the euro in the European Monetary Union. The former was structured as to develop a lens for the analysis of monetary hierarchies in a monetary union, pointing at the intrinsic similarities between the two systems and how the euro proved to be resilient unlike the ECU. It was shown that a hierarchical structure is present in the EMU, and that the hierarchies are multiple and with different apices, most importantly the ECB for the *official* one, and the Bundesbank (and the German banking system) for the *private* one.

Chapter 6, then, looked at the second pillar of monetary subordination, namely the flows of *liquidity* across the member states and their monetary jurisdictions. The main forms and sectors of these flows were established for the key members of the Eurozone, showing the common features of core-like and periphery-like countries, namely the out-

flows from the periphery in the form of private portfolio investments, and the inflows in the core of liquidity via money (and especially interbank) markets. Consequently, the composition of the portfolio investments was examined to show the sectors leading to the key outflows, which showed the importance of non-financial corporations and households portfolio investment as a source of liquidity outflows from specifically the periphery-like countries.

The final dimension of the structural features of subordination, then, was specified in Chapter 7, which remarked on the fragmentation of the union in a structural form. In fact, the monetary hierarchy and the cross-jurisdictional flows of liquidity examined in the previous chapters *requires* the presence of distinct unitary jurisdictions that are connected rather than unified in the EMU. Such jurisdiction, then, can be hierarchically tiered and subordinated. The chapter also shows the process of selective integration that aims at integrating (or even unifying) *some* axes (markets, instruments, infrastructures, ...), whilst leaving others fragmented. This crucial feature of the EMU is what allows for the euro to exist as a single and common currency, but at the same time for it not to work as quasi world money in Europe and show weaknesses. Also, it allows for the Union to acquire a hierarchy and to keep the peripheries subordinated.

Part III, lastly, elaborated on the consequences of monetary subordination by carrying out a comparative study of financialisation in key Eurozone countries to establish a parallel with the financialisation of Emerging Market Economies (EMEs), before turning to the historical trajectory of Italy as a case of *subordinate* form of integration explored in this chapter. On the former, Chapter 8 looked first at Flow of Funds data to map the changes in the balance sheet composition of Non-Financial Corporations, Households, and Monetary and Financial Institutions for six key Eurozone members –three core-like and three periphery-like. Successively it delved on finding subordination in the financialisation of the EMU, finding some evidence for it, though different from the Emerging Market Economies paradigm. Lastly, the channel for European subordination was then hypothesised and tested to be the banking sector.

10.2 Implications for the Eurozone, its members, and the ECB

The implications of this thesis follow from its key result: monetary subordination is a structural feature of the Eurozone, and is reinforced by a process of cumulative and

circular causation mediated by financial actors and financial flows by non-financial entities.

For the Euro and the Eurozone as a single entity, this thesis poses the question of how subordination should be countered and offset. The presence of a hierarchy is natural and required by the working of money, but a system of counterbalancing mechanisms is necessary to prevent the *polarisation* of economic and financial imbalances amongst member states. Indeed asymmetric and hierarchical relations should be taking *national* features, but should transcend the national and involve agents regardless of the location or nationality for the Union to be indeed a *union* rather than a regionally integrated system.

Similarly, this thesis launches a series of political economic questions on the legitimacy of the apex of the hierarchy –or in other words the position of non-subordination enjoyed by one or few members. The thoroughly neoliberal ethos of the European project inevitably allows for the economic and financial power to be perpetrated, leading to a structure that is rigid and persistent, and especially selected not based on the comparative efficiency or needs of the Euro but on the preference of private –financial– actors. The hierarchy of the Eurozone monetary system should be functional to the working of the Euro *for* all its member states, otherwise it should be dismissed as a project for a union in favour of simpler economic –but not monetary– integration. As it stands, the Euro fails to function and requires the buildup of imbalances for its survival, polarising net liquidity and capital flows amongst its members, which are integrated rather than unified.

For the member states individually, the policy implications of this work pertain to the realm of what can be done from a position of subordination. It is clear that from the core-like position, the objective is to maintain the hierarchical tiering. From the periphery-like position, however, the possibility to escape the monetary subordination can be divided into two paths: either leaving the EMU, or to find a way to modify both the architecture and the agents' behaviours. The former is politically complex, the latter is economically impossible unless it is the core itself to collapse internally –as one may argue is happening with the economic side of the military tensions in Central and Eastern Europe, where the decision to seize Russian assets would result in large gains for the Bundesbank as the former point-of-access in the Eurozone for foreign liquidity, and thus holding either foreign deposits or foreign-owned assets as collateral.

Thus, considerations on the membership in the Eurozone –like in any monetary union– should be based on the recognition of the existence of hierarchies and asymmetries embedded in the architecture of the union itself, and how these affect the behaviours of domestic agents during the process of integration–unification. For these domestic behaviours will not be affected by domestic 'national' policies given the extent of liberalisation required for a monetary union. In other words, accepting a monetary architecture prone to structural subordination unequivocally leads to subordinate integration, which can only

be tamed, not eliminated.

10.2.1 Passive integration: the example of TARGET2 Securities

The story of Monetary Subordination in the EMU has been one of liquidity flows across fragmented jurisdictions sustained by a peculiar working of money. It was argued that the lack of unification proper and the adoption of slow and crisis-driven mode of monetary and financial *integration* have played a key role in establishing the architecture for subordination. This cannot be solved via passive integration, as shown by the example of TARGET2 Securities.

In technical terms, the integration of national securities settlement infrastructures with the introduction of the euro followed the same principle as it was argued for the integration of NCBs and the Real Time Gross Settlement System (RTGS), namely that of minimum standards and requirements –in the same spirit as the *Minimum Common Features for Domestic Payment Systems* report of November 1993 (Giovanoli, 1997; ECB, 1999).

The spirit of infrastructural integration with the euro was that of creating ‘bridges’ across national systems with their own infrastructures, using as point of connection the NCBs with the newly established Correspondent Central Bank Model (CCBM), which aims at making ‘all marketable and non-marketable assets eligible for use in Eurosystem credit operations (i.e. monetary policy operations and the provision of intraday credit) [...] available to all its counterparties, regardless of where the assets or the counterparty are situated’ (ECB, 2018, p.1) by allowing NCBs to behave as correspondents for the collateral posted to acquire central bank liquidity from a NCB. NCBs continued to have accounts with their national Central Securities Depository (CSD) to carry out the delivery of local securities in their monetary policy operations, whilst for foreign securities used as collateral, NCBs relied on the CCBM that removed the requirement of needing horizontal integration across CSDs to carry out monetary policy.

In terms of CSDs integration, two main views have been established in the sporadic discussions on the topic: horizontal and vertical integration at the European level derived from the trends of the late 1990s and early 2000s in terms of settlement services consolidation. Such consolidation was distinguished in horizontal for ‘mergers of institutions providing similar services’ and vertical for mergers of institutions providing different but integrated services (The Giovannini Group, 2003, p.24).¹ The two views differed in

¹See The Giovannini Group (2003) for examples of such consolidations occurred in the early 2000s.

that the former saw as beneficial the merging, harmonisation, and ‘bridging’ of the national CSDs, whilst the latter preferred consolidation and centralisation of settlement exchanges at ‘national or restricted regional level as a first step before such integrated structures interact with each other in a pan-European framework’ (Galati and Tsatsaronis, 2003, p.194), to minimise the cross-border interactions.

As a comparison to the Euroarea system in which there are at least one CSD per NCB jurisdiction, both the United States and Japan have each only 2 CSDs, respectively Fedwire Securities Service and the Depository Trust Company (DTC) and the Japan Securities Depository Center and the Bank of Japan Financial Network System, despite having total values of securities held at them similar to the European ones (for Japan) or much higher –Fedwire having almost five times the value of securities held than Euroclear Bank Belgium and the DTC around three times (Bech et al., 2020).

Horizontal integration was ultimately the mode opted for by markets and by the unwillingness of member countries to part ways with their national settlement systems, and not by the ECB, which ‘[left] it to market forces to decide the lines along which the restructuring [of the Securities Settlement Systems] should take place’ (Padoa-Schioppa, 1999). Such take on the mode of integration was made explicit in the 2010s with the development of the TARGET2 Securities (T2S) system –in which CSDs are invited but not compelled to partake.

The big step in terms of harmonising and integrating Eurozone legacy markets was the introduction of T2S, as an addendum to the TARGET2 System. With T2S, 21 CSDs from 20 European became connected to a single platform for securities settling in which securities are moved from one account to the other in exchange for central bank money in the respective TARGET Dedicated Cash Account (DCA) regardless of the location of the buyer and seller. Like the transferring of excess reserves, T2S grants the automatic and guaranteed cross-border transaction without either a concern for the fragmentation of securities settlements through different CSDs or a mechanism to rebalance liquidity-securities flows in and out of a jurisdiction. In other words, T2S ‘*hyper-liberalises*’ the transactions of securities for central bank money by making inter-CSDs transactions equally costly and easy as intra-CSDs transactions. It neglects, however, that liquidity flows are generated too: net imbalances in the value of inflows and outflows of securities affects the TARGET balance of a country.

One feature of the T2S system sheds light on the role of T2S as liquidity-enabling mechanism that helps polarising the eurosystem is the mechanism of ‘auto-collateralisation’. Through auto-collateralisation (AC), a holder of a Dedicated Cash Account (DCA) can acquire intra-day liquidity from the NCB in the case there were not enough funds in the DCA to settle the transaction (ECB, 2022c). AC represents the third form of credit-provision

by the ECB in addition to proper monetary policy operations and the TARGET2 intraday credit provision (and not only intra-day): T2S auto-collateralisation underlines the hybrid working of the euro as means to settle national and cross-border payments and consequently the hybrid nature of the NCBs' credit operations.

As shown in Table 10.1, AC appears in balance sheet terms in a similar way to a repo operation, though it occurs automatically through the T2S system. The Table shows the extreme instance in which Commercial Bank A has an empty DCA and thus requires funding to settle the purchase of the government bond worth €100. Whilst the settlement occurs through T2S, the financing is mediated through T2S but is generated by the NCB of the jurisdiction of commercial bank A. The collateral posted for auto-collateralisation is picked by the T2S system in line with the same criteria for the Eurosystem collateral framework and other forms of refinancing operations.

Crucially, there are two forms of auto-collateralisation: 'on-flow' auto-collateralisation uses securities that are being purchased as collateral for the liquidity provision by the NCB, whilst 'on-stock' auto-collateralisation uses as collateral securities that are already owned by the buyer. The data shows that in the latest period available (2021), more than 80% of the auto-collateralisation used has been 'on-flow', entailing that liquidity provided served to settled the transactions aimed at securing the very same collateral (ECB, 2022b,c).

AC shows the nature of T2S and more broadly of the payment infrastructure in the EMU: it seeks to connect and support transactions across still fragmented infrastructures and markets reducing the importance of funding constraints. In this way, fragmentation has not been fought but it has been masked and even perpetrated by the provision of automatic intraday liquidity and by supporting financing for securities settlements. Auto-collateralisation further removes the potential constraints to cross-border investments by adding to the guarantee of payments (through TARGET2) the guarantee of securities settlement.

Auto-collateralisation underlines that far from being a tool to counter fragmentation, T2S was a late effort to push financial market integration. The integration that can be seen is, rather, contingent on the fact that T2S supports cross border securities settlements should they occur. The outcome has been the liberalisation and deregulation of liquidity flows, without any improvement of the infrastructural fragmentation, primarily because T2S ties together the existing infrastructures rather than creating a new ecosystem with rebalancing mechanisms.

Unconventional policies by the ECB, if anything, show the efforts to counter the appearance of fragmentation rather than its root (Giordano and Lapavitsas, 2023). The passive role by the ECB in terms of the unification of infrastructures lies at the heart

of the structural fragmentation of the Eurozone and can be explained by the unwillingness of member states to part ways with their infrastructures. TARGET (with the move to TARGET2 and the Single Platform) and the T2S are efforts to blur the differences between national and regional infrastructures, but fail to reorganise the market makers, clearing houses and settlement systems. The attempt by the ECB to de-politicise monetary decision-making away from democratic process has achieved the movement of the oversight of T2S, which has been placed in the hands of the ECB, despite T2S not being and Financial Market Infrastructure (FMI) and thus not following under Principles for Financial Market Infrastructure (PFMI). By taking over the control of the T2S system, though operationally it remains in the hand of the NCBs of Germany, Italy, France and Spain, the ECB's role as oversight agent for T2S redraws the boundaries of securities settlement supervision, formerly placed at the national level.

Table 10.1. Example of Auto-collateralisation through the T2S System.

(a) Before the Purchase of the Government Bond.

NCB A		NCB B	
Monetary Policy Instruments	Reserve Account Commercial Bank A	Monetary Policy Instruments	Reserve Account Commercial Bank B
Autonomous Assets	DCA of Bank A	Autonomous Assets	DCA of Bank B
Other Assets	Other Liabilities	Other Assets	Other Liabilities
Commercial Bank A (Buyer)		Commercial Bank B (Seller)	
Reserves at NCB A	Deposits	Reserves at NCB B	Deposits
DCA at NCB A (€100)	Other Liabilities	Government Bond (€100)	Other Liabilities
Other Assets		Other Assets	

(b) After the Purchase of the Government Bond with Auto-collateralisation.

NCB A		NCB B	
Monetary Policy Instruments	Reserve Account Commercial Bank A	Monetary Policy Instruments	Reserve Account Commercial Bank B
+ Auto-collateralisation (€100)	- DCA of Bank A (€100)	Autonomous Assets	+ DCA of Bank B (€100)
Autonomous Assets	+ DCA of Bank A (€100)	Other Assets	Other Liabilities
Other Assets	Other Liabilities		
Commercial Bank A (Buyer)		Commercial Bank B (Seller)	
Reserves at NCB A	Deposits	+ Reserves at NCB B	Deposits
+ DCA at NCB A (€100)	+ Auto-collateralisation (€100)	+ DCA at NCB B (€100)	Other Liabilities
- DCA at NCB A (€100)	Other Liabilities	- Govt Bond (€100)	
+ Govt Bond (€100)		Other Assets	
- Govt Bond (€100)			
+ Govt Bond (€100) Encumbered			

Notes: transactions are colour-coded: blue ones encompass the steps in the purchase transactions, whilst red ones refer to the Auto-collateralisation process. Green transactions refer to the encumbrance of securities used for collateralisation purposes; these appear in the off-balance sheet accounting of NCB A, not depicted. Both blue and red transactions occur through T2S. The rate for the Auto-collateralisation is omitted. This is a one-transaction example; if at the end of the day the net flows are different from 0, then we would see a change in the TARGET account of the two NCBs.

Source: Author's own elaborations.

10.3 Further issues and future research

This work lays the foundations for significant further research given the conceptualisation of monetary subordination and its application to a closed-system monetary union. At least three main avenues of further research can be outlined here, all of which show promising results.

First, the established presence and forms of monetary subordination in the Eurozone may be expanded to include further pillars or shapes. Crucially, Chapters 8 and 9 offer only two of the ways in which the consequences of monetary subordination can be analysed in the Eurozone. Historical case studies following the Italian example should be carried out for the other subordinated members to highlight the similarities and differences in the evolution of subordination. Research also on the alternatives and institutional changes to be implemented in the Eurozone for the mitigation of the effects of subordination should also be carried out, without the objective of eliminating hierarchies per se –which are structural features of social organisations. Ultimately, the role of monetary subordination for general subordination of EMU member states should be explored, bringing forth insights from the International Financial Subordination literature on subordination-generic and establishing the presence of the other ‘axes’ of subordination in the Eurozone.

Second, the framework used in this work –the conceptualisation of monetary subordination and its empirical applications– should be used to assess the internal asymmetries in other monetary unions. Other monetary unions (for example the CFA Franc) should be assessed through the subordination lens to establish the presence of structural mechanisms and features of monetary subordination, or the lack thereof. Indeed it is not argued in this work that *all* monetary unions must display subordination within themselves, but that the specific –institutional and technical– architecture may lead to tendencies and counter tendencies à la subordination. It would be interesting to establish the degree of monetary subordination in different monetary unions and carry out comparative studies to establish the causality between specific components of the entry architecture and the degree of subordination present. Such effort would also complete the research agenda looking at monetary unions as agents of *dependencia* from external power. The two dimensions –internal and external– should be combined to provide a full picture of the effects of the architecture of monetary unions as a transmission mechanisms.

Third, the framework of monetary subordination and of its *structural* features should be adopted for the study of the monetary dimension of international subordination outside of monetary unions. As mentioned in Chapter 2, the literature developed for the relations of subordination and dependency of Emerging Market Economies in the world market have looked at money only in a narrow way, often focusing more on finance rather

than money per se. The theorisation of monetary subordination devised in this work offers some foundations to the analysis of *monetary and financial subordination* as co-existing and reinforcing facets of subordination. Importantly, the idea that monetary structures protract, replicate, and polarise subordination relies on financial actors and behaviours as ephors of *subordinate integration*, and can be applied to monetary systems other than currency unions.

Appendix

Appendix A

Methodology & Methods

A.I A Peculiar Abstraction: a Note on the concept of Macro-Structure

The concept of ‘Macro-Structure’ is introduced in Chapter 7 to explain the origins and relevance of *Structural Fragmentation* of the EMU by analysing the essence of modern money, the money markets. The theorisation of a ‘Macro-Structure’ seeks to explain the holistic and entangled nature of financial and monetary structures, which have multiple actors relating through multiple layers of infrastructure and within parameters that are ultimately managed by the monetary authority, namely the ‘monetary regime’. In other words, Macro-Structures are a lens through which any financial system can be analysed not only to understand the links and entanglements –which in its simple bilateral form comes Braun (2020)– but also to assess where the power to shape the other actors lies, and how such power is exercised (Giordano and Goghie, forthcoming).

The ‘Macro-Structure’ explains the relations between the monetary infrastructure, the entanglements amongst the private (Banks and Shadow Banks) and public market participants (Treasuries and Central Banks), and the monetary regime (the Central Bank policy), showing that such an environment relies on specific securities and that the roles and relationships change depending precisely on the construction of the Macro-Structure. Figure A1 provides a schematic representation of the three pillars of the Euro Macro-Structure (the NCBs, the CCPs, and the commercial banks) together with a fourth component (the DMO issuing government debt) that is part of the Macro-Structure only in an extended sense, as well as the main links amongst these four (with the additional contingent links represented by dashed lines). Crucially, such relations between entanglement and the monetary infrastructure are shaped by the liquidity regime of the Central Bank, which is able to strengthen or relax the ‘transmission mechanism’ between entanglements and infrastructures.

Infrastructural fragmentation needs be embedded in the wider conceptualisation of the Macro-Structure because it is precisely through the latter that fragmentation becomes significant and affects financial markets, public institutions, and the asymmetries amongst the monetary jurisdictions of there EMU. Whilst monetary and financial infrastructures per se may not be more than a passive architecture of payments and clearing, when they are embedded within the Macro-Structure and given agency, these become crucial in defining the relationships and transmission mechanisms between central banks and private financial institutions, as well as in defining the tools of the macro-structure, which in the Eurozone are government bonds. Even more important, in the Eurozone the Macro-Structure is characterised by regional and national dimensions, constantly torn by the tendency of infrastructures to concentrate nationally and only connect with cross-border counterparts based on minimum requirements and homogenisation. The Euro Macro-Structure is simultaneously integrated and fragmented along jurisdictional borders,¹ but it is not *unified*. This chapter analyses the contradictions and issues arising from such features of the infrastructures embedded in the Macro-Structure.

Indeed, as will be shown, the market-based architecture of the EMU's monetary policy is underpinned by the infrastructure of money markets, which is encapsulated in the CCPs and in the use of repo operations by the European universal banks, now dependent on repo markets for their operations (Wansleben, 2020). A segmented money market structure, with different CCPs specialising in different market segments around specific origins of collaterals and imposing different collateral frameworks shapes the entanglements between the national Treasuries, the Eurosystem, and the markets; crucially, such macro-structure will impose different constraints on the distinct segments through the fragmentation of the CCPs in the Eurozone.

Within such macro-structure, indeed, the ECB has been able to mobilise its tools to de-politicise and re-politicise its role, thus consolidating its operational independence in a position of power over the financial sector, which in turn exercises its own constraining power over the government/treasuries. Such “fiscal transmission mechanism”, through which the operations of the Eurosystem acquire a political and redistributive connotation, lies at the heart of the EMU entanglements and is supported by the architecture pushed by the ECB's (and previously the European Monetary Institute in the BIS) vision.

The case of the Eurozone is peculiar in that the Central Bank shaped the development of the monetary architecture to a greater extent, especially with regard to the architecture of official balance sheets (the National Central Banks and the ECB) as shown

¹Monetary jurisdictions in the EMU are along national borders, expect for the ECB that has its own jurisdiction within Germany (Frankfurt).

in Chapter 5 and Murau and Giordano (2022). The market-based monetary and especially financial architecture, on the other hand, remains largely neglected by academic research, but is shown here to be indirectly affected by the ECB's decisions with regard to the collateral framework, the refinancing operations and the Asset Purchase Programmes, all of which revolve around the 'fabric' of the EMU (and also in almost all) macro-structure: the sovereign bonds and the secured money market transactions (repos).

The Macro-Structure is a new and original concept that not only serves a theoretical purpose but also a methodological one, as it breaks down the empirical dimension of financial systems and allows a level of abstraction embedded in the real processes observable, in this case, in the Eurozone. The lens of the Macro-Structure can be used for further analyses with different objectives, a reason for which it is considered here as a major original contribution of this work and broadly speaking of the lens taken by this research, namely that of looking at structures and at the architecture of structures by focusing on agency and infrastructures. The Macro-Structures are indeed a combination of infrastructures and the behaviour of their components retaining agency, though to different extents. Ultimately, the concept of 'Macro-Structure' is a synthesis of a political economic approach to financial infra-structures, as it embeds them into the relationships amongst actors at different levels (private, architectures, government, and central banking) and seeks to explain the distribution of power emerging from such relations. Not only this is crucial to offer a detailed account of the reality of integration in a monetary union—required by the empiricist nature of research, but it also is necessary as the overlapping of these different factors resides at the core of the essence of the EMU and of European integration.

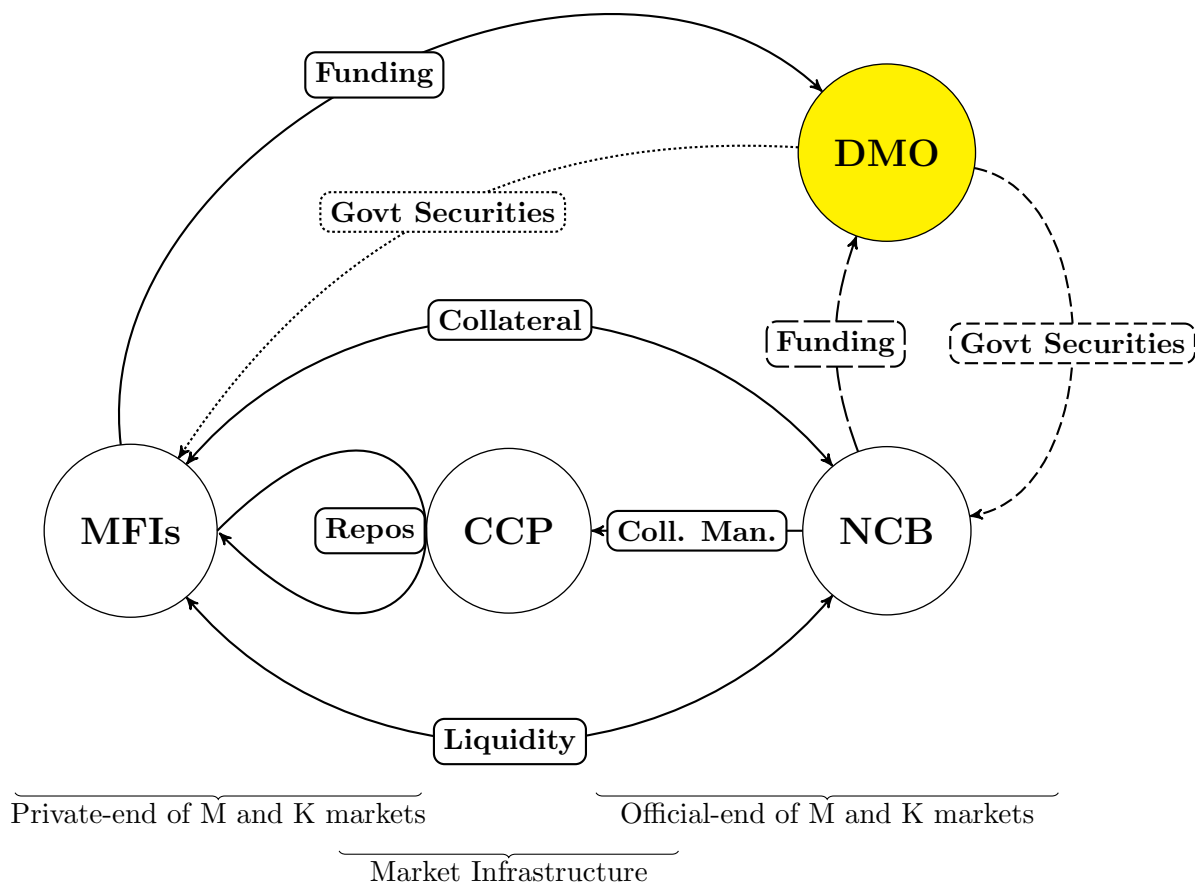


Figure A1. Stylised representation of the EMU Macro-Structure.

Notes: Repo operations can be both liquidity and collateral providing and do not have to be always mediated through CCPs, but these are the most common in the Euro money markets. More advance formulations can be found in Giordano and Goghie (2023) and Giordano and Pulieri(forthcoming).

A.II BoP Estimations for TARGET Balances

A.II.1 Portfolio Investments Methodology

All of The items used to study the Portfolio Investments in foreign securities by Italian residents are assets, thus meaning a gross liquidity outflow when positive. The sector of counterparty is the total economy, and the counterparty country is rest of the

world for all items. The data was taken from the ECB (2022a) Statistical Data Warehouse, and encompasses both monthly and quarterly time frames depending on availability. If the country presents a majority of quarterly data, then the figure is constructed with quarterly data. If the majority is monthly data, then the monthly data for the missing categories is estimated from quarterly data by computing three equivalent months for the duration of the quarter: $Monthly = \frac{Quarterly}{3}$. Estimation of the Shadow Banking sector dubbed as “Other financial corporations” is carried out by adding Money Markets Funds to Financial Corporation other than MFIs.

Only Italy has a slightly different aggregation for other financial corporations, which however yields the same result. Italian Financial Corporations other than MFIs are computed by finding Other financial corporations, which already include Money Market Funds (see Table A1 for codes).

Reference Sector	Item	Database Key
Financial Corporations other than MFIs	Debt Securities, all maturities	$BP6.Q.N. * .W1.S12R.S1.T.A.FA.P.F3.L.EUR..T.M.N + BP6.Q.N. * .W1.S12R.S1.T.A.FA.P.F3.S.EUR..T.M.N$
of which, MMF	Debt Securities, all maturities	$BP6.M.N. * .W1.S123.S1.T.A.FA.P.F3.L.EUR..T.M.N + BP6.M.N. * .W1.S123.S1.T.A.FA.P.F3.S.EUR..T.M.N$
Financial Corporations other than MFIs	Equity and investment fund shares/units	$BP6.Q.N. * .W1.S12R.S1.T.A.FA.P.F5..Z.EUR..T.M.N$
of which, MMF	Equity and investment fund shares/units	$BP6.M.N. * .W1.S123.S1.T.A.FA.P.F5..Z.EUR..T.M.N$

Table A1. Items, sectors, and data keys of Italian Financial Corporations other than MFIs

Reference Sector	Item	Database Key
Central Bank	Debt Securities, all maturities	<i>BP6.M.N. * .W1.S121.S1.T.A.FA.P.F3.L.EUR..T.M.N + BP6.M.N. + .W1.S121.S1.T.A.FA.P.F3.S.EUR..T.M.N</i>
Central Bank	Equity and investment fund shares/units	<i>BP6.M.N. * .W1.S121.S1.T.A.FA.P.F5..Z.EUR..T.M.N</i>
Commercial Banks	Debt Securities, all maturities	<i>BP6.M.N. * .W1.S122.S1.T.A.FA.P.F3.L.EUR..T.M.N + BP6.M.N. * .W1.S122.S1.T.A.FA.P.F3.S.EUR..T.M.N</i>
Commercial Banks	Equity and investment fund shares/units	<i>BP6.M.N. * .W1.S122.S1.T.A.FA.P.F5..Z.EUR..T.M.N</i>
Non-Financial Corporations and Households	Debt Securities, all maturities	<i>BP6.Q.N. * .W1.S1V.S1.T.A.FA.P.F3.L.EUR..T.M.N + BP6.Q.N. * .W1.S1V.S1.T.A.FA.P.F3.S.EUR..T.M.N</i>
Non-Financial Corporations and Households	Equity	<i>BP6.Q.N. * .W1.S1V.S1.T.A.FA.P.F51..Z.EUR..T.M.N</i>
Non-Financial Corporations and Households	Investment fund shares/units	<i>BP6.Q.N. * .W1.S1V.S1.T.A.FA.P.F52..Z.EUR..T.M.N</i>
General Government	Debt Securities, all maturities	<i>BP6.M.N. * .W1.S13.S1.T.A.FA.P.F3.L.EUR..T.M.N + BP6.M.N. * .W1.S13.S1.T.A.FA.P.F3.S.EUR..T.M.N</i>
General Government	Equity and investment fund shares/units	<i>BP6.M.N. * .W1.S13.S1.T.A.FA.P.F5..Z.EUR..T.M.N</i>
Financial Corporations other than MFIs	Debt Securities, all maturities	<i>BP6.M.N. * .W1.S123.S1.T.A.FA.P.F3.L.EUR..T.M.N + BP6.M.N. * .W1.S123.S1.T.A.FA.P.F3.S.EUR..T.M.N + BP6.M.N. * .W1.S123.S1.T.A.FA.P.F5..Z.EUR..T.M.N + BP6.Q.N. * .W1.S12M.S1.T.A.FA.P.F3.L.EUR..T.M.N + BP6.Q.N. * .W1.S12M.S1.T.A.FA.P.F3.S.EUR..T.M.N + BP6.Q.N. * .W1.S12M.S1.T.A.FA.P.F51..Z.EUR..T.M.N</i>
Financial Corporations other than MFIs	Equity and investment fund shares/units	<i>BP6.M.N. * .W1.S123.S1.T.A.FA.P.F5..Z.EUR..T.M.N + BP6.Q.N. * .W1.S12M.S1.T.A.FA.P.F3.L.EUR..T.M.N + BP6.Q.N. * .W1.S12M.S1.T.A.FA.P.F3.S.EUR..T.M.N + BP6.Q.N. * .W1.S12M.S1.T.A.FA.P.F51..Z.EUR..T.M.N + BP6.Q.N. * .W1.S12M.S1.T.A.FA.P.F52..Z.EUR..T.M.N</i>

Table A2. Items, sectors, and data keys of the Portfolio Investments Decomposition

Notes: Financial Corporations other than MFIs are computed by adding Money Market Funds to the item “Financial Corporations other than MFIs” of the SDW, which otherwise does not include MMFs.

A.II.2 Balance of Payment Decomposition Methodology

Item	Statistical Items	Reference Sector	Counterpart Sector	Database Key	Meaning
$(CA + KA)_t^{Tot}$	Current Account Balance + Capital Account Balance	Total Economy	Total Economy	$BP6.M.N.*$ $.W1.S1.S1.T.B.CA.Z.Z.Z.EUR.T.X.N +$ $BP6.M.N.*$ $.W1.S1.S1.T.B.KA.Z.Z.Z.EUR.T.X.N$	Current Account and Capital Account Balance
$FPI_{Govt,t}^*$	Long-term (over 1 year or no stated maturity) + Short-term maturity (up to 1 year) debt securities	Government	Total Economy	$BP6.M.N.*$ $.W1.S13.S1.T.L.FA.P.F3.L.EUR.T.M.N +$ $BP6.M.N.*$ $.W1.S13.S1.T.L.FA.P.F3.S.EUR.T.M.N$	Foreign Investments in domestic government debt securities

$FPI_{Private,t}^*$	Long-term (over 1 year or no stated maturity) + Short-term maturity (up to 1 year) debt securities + Equity	Private Sector	Total Economy	$BP6.Q.N. * \\ .W1.S12M.S1.T.L.FA.P.F3.L.EUR..T.M.N + \\ BP6.Q.N. * \\ .W1.S12M.S1.T.L.FA.P.F3.S.EUR..T.M.N + \\ BP6.Q.N. * \\ .W1.S12M.S1.T.L.FA.P.F5..Z.EUR..T.M.N + \\ BP6.Q.N. * \\ .W1.S12T.S1.T.L.FA.P.F3.L.EUR..T.M.N + \\ BP6.Q.N. * \\ .W1.S12T.S1.T.L.FA.P.F3.S.EUR..T.M.N + \\ BP6.Q.N. * \\ .W1.S12T.S1.T.L.FA.P.F5..Z.EUR..T.M.N + \\ BP6.Q.N. * \\ .W1.S1V.S1.T.L.FA.P.F3.L.EUR..T.M.N + \\ BP6.Q.N. * \\ .W1.S1V.S1.T.L.FA.P.F3.S.EUR..T.M.N + \\ BP6.Q.N. * \\ .W1.S1V.S1.T.L.FA.P.F5..Z.EUR..T.M.N$	Foreign Portfolio investment in Italian private sector securities
OI_t^{MFIs}	Liabilities - Assets	Monetary and Financial Institutions other than Central Bank	Total Economy	$BP6.M.N. * \\ .W1.S12T.S1.T.A.FA.O.F.Z.EUR..T.X.N + \\ BP6.M.N. * \\ .W1.S12T.S1.T.L.FA.O.F..Z.EUR..T.X.N$	Resident MFIs other than central bank' net foreign funding
DI_t^{Tot}	Liabilities - Assets	Total Economy	Total Economy	$BP6.M.N. * \\ .W1.S1.S1.T.L.FA.D.F..Z.EUR..T.X.N - \\ BP6.M.N. * \\ .W1.S1.S1.T.A.FA.D.F..Z.EUR..T.X.N$	Net Foreign Direct Investment into the resident sectors

$PI_{CB,t}^*$	Liabilities	Central Bank	Total Economy	$BP6.M.N.*$ $.W1.S121.S1.T.L.FA.P.F3.L.EUR..T.M.N +$ $BP6.M.N.*$ $.W1.S121.S1.T.L.FA.P.F3.S.EUR..T.M.N +$ $BP6.M.N.*$ $.W1.S121.S1.T.L.FA.P.F5..Z.EUR..T.M.N$	Net Foreign Portfolio Investment into the resident Central Bank liabilities
$PI_{Govt,t}^*$	Liabilities	Government	Total Economy	$BP6.M.N.*$ $.W1.S13.S1.T.L.FA.P.F5..Z.EUR..T.M.N$	Net Foreign Portfolio Investment into the resident Government liabilities
OI_t^{CB}	Liabilities - Assets (- T2 balance)	Central Bank	Total Economy	$BP6.M.N.*$ $.W1.S121.S1.T.L.FA.O.F..Z.EUR..T..X.N -$ $BP6.M.N.*$ $.W1.S121.S1.T.A.FA.O.F..Z.EUR..T..X.N$	Net Foreign Other Investment into the resident Central Bank liabilities
OI_t^{Govt}	Liabilities - Assets	Government	Total Economy	$BP6.M.N.*$ $.W1.S13.S1.T.L.FA.O.F..Z.EUR..T..X.N -$ $BP6.M.N.*$ $.W1.S13.S1.T.A.FA.O.F..Z.EUR..T..X.N$	Net Foreign Other Investment into the resident Government liabilities
OI_t^{OS}	Liabilities - Assets	Other Sectors	Total Economy	$BP6.M.N.*$ $.W1.S1P.S1.T.L.FA.O.F..Z.EUR..T..X.N -$ $BP6.M.N.*$ $.W1.S1P.S1.T.A.FA.O.F..Z.EUR..T..X.N$	Net Foreign Other Investment into the resident Other Sectors liabilities
$PI_t^{Residents}$	Assets	Total Economy	Total Economy	$BP6.M.N.*$ $.W1.S1.S1.T.A.FA.P.F..Z.EUR..T.M.N$	Italian portfolio investment in foreign securities

$Derivatives_t$	Assets - Liabilities	Total Economy	Total Economy	<i>BP6.M.N.*</i> <i>.W1.S1.S1.T.N.FA.F.F7.T.EUR..T.T.N</i>	Residents' net Purchases of Derivatives
ΔOR_t	CB Reserve Assets	Central Bank	Total Economy	<i>BP6.M.N.*</i> <i>.W1.S121.S1.T.A.FA.R.F..Z.EUR.X1..X.N</i>	Change in Official Reserves
EO_t	Errors and Omissions	Total Economy	Total Economy	<i>BP6.M.N.*</i> <i>.W1.S1.S1.T.N.EO..Z..Z..Z.EUR..T..X.N</i>	Error and Omissions
$\hat{T}2_t$	TARGET2 flows estimated according to Eq.6.2	NCB	ECB	<i>TGB.M.*.N.A094T.U2.EUR.E</i>	TARGET2 monthly balance

Table A3. Extension of Items of the BoP Decomposition and the Data Keys.

Appendix B

Additional Figures and Material

B.I Appendix to Ch 1

Whilst it is true that the Southern Periphery average without Italy is considerably below the core, these averages (though weighted) do not reflect the higher variance of shares in the core countries. The Mean Core is supported primarily by the high level and weight of the Germany economy.

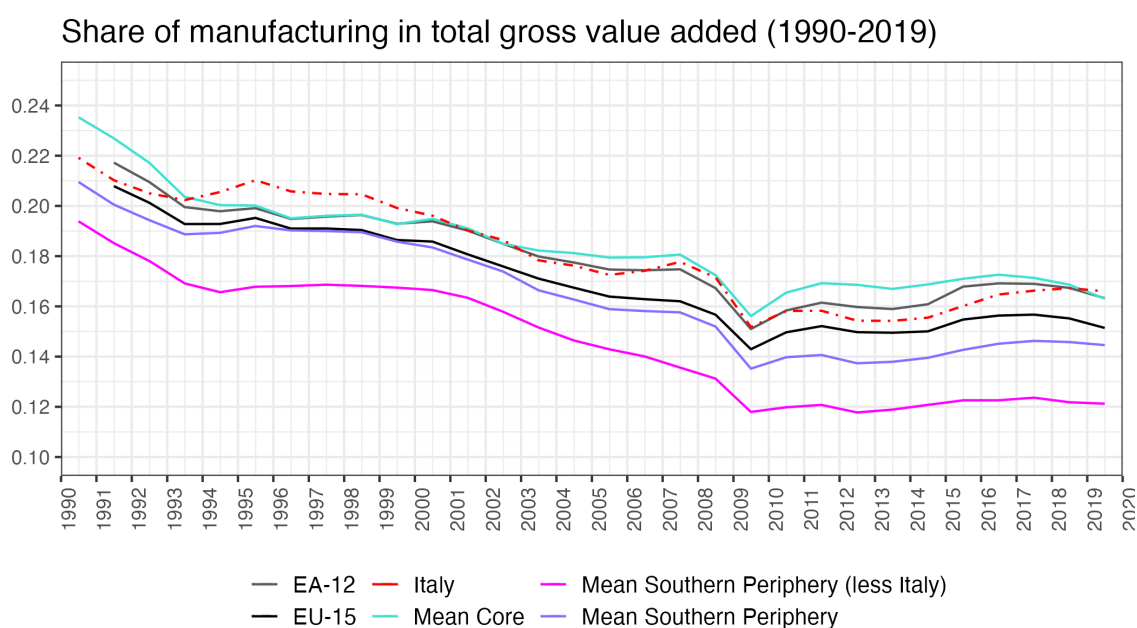


Figure B1. Share of manufacturing in total gross value added for selected groups of countries (% of total), 1990–2020.

Notes: Data from figure 3 divided in ‘Mean Core’ (weighted mean of the 6 core countries), ‘Mean Southern Periphery’ (weighted mean of the 4 peripheral countries), and ‘Mean Southern Periphery (less Italy)’ (weighted mean of Spain, Greece, and Portugal) with the addition of the evolution of Italy, of the EA-12 and of EU-15.

Source: Authors’ own elaborations on AMECO (European Commission, 2023).

B.II Appendix to Ch 6

Figure B2 shows the BoP decomposition for Spain from 2008 despite the lack of complete data. It can be noted that the estimate TARGET balance differs considerably from the recorded one due to the incomplete data. The components available, however, represent a correct evolution of the items in the Spanish BoP as they are independent from the availability of one another. Crucially, the trajectories of the Domestic Portfolio Investments in foreign securities and of the Resident MFIs other than the Central Bank net foreign funding support and reinforce the picture depicted by Figure 6.4: these are the components that have turned from net inflows to net outflows in the early 2010s, and they have cumulatively become the main drivers of liquidity outflows from the Spanish Economy.

Spain BoP and TARGET balances, cumulative flows, 2008-21

G, F4, and F8 have sign reversed; millions of euros; complete data available only from 2013 onward

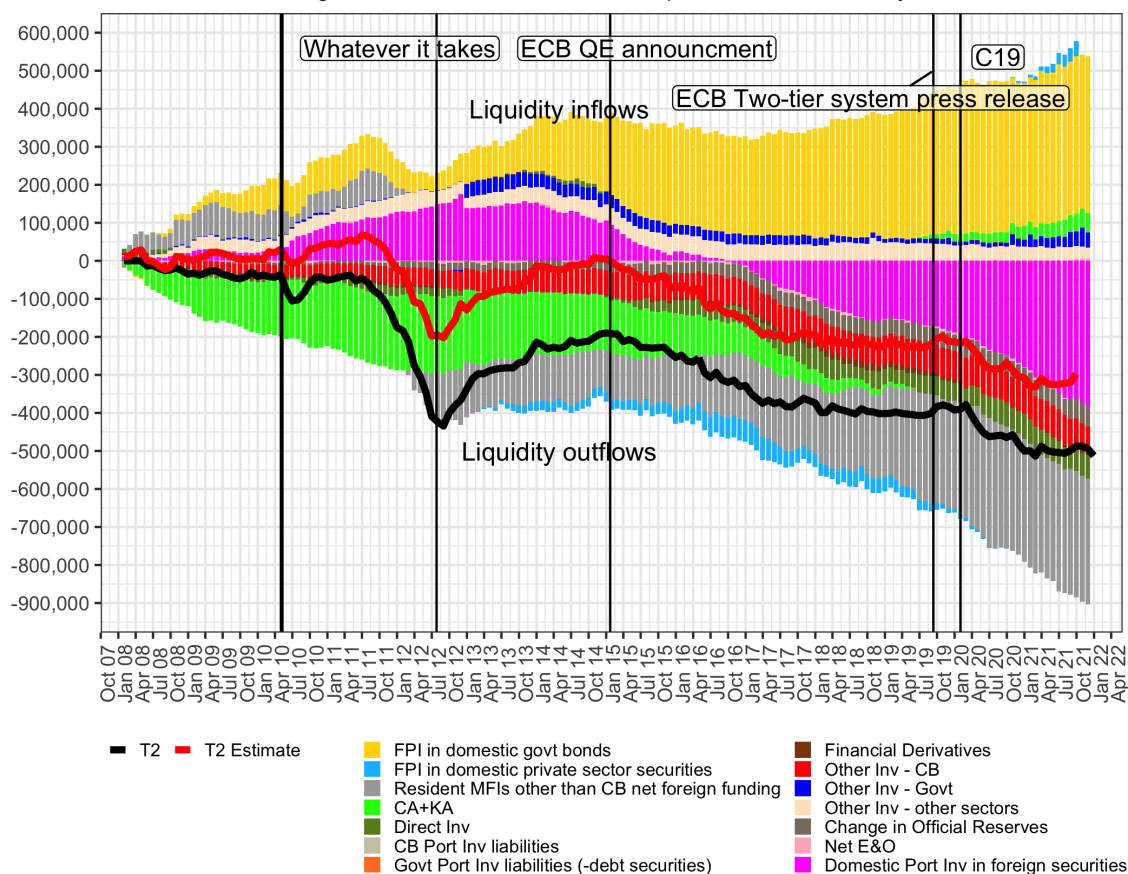


Figure B2. Spain BoP Decomposition and TARGET Balances, cumulative flows (bn euro), 2008–21.

Notes: The data is incomplete for FPI in Domestic private sector securities, Government and Central Bank Other Investment liabilities; FPI in domestic Government Bonds could only be retrieved in quarterly format.

Figure B3 offers a similar incomplete BoP decomposition for France from 2008 onward. Just as in the previous case, the T2 Estimate is wrong as it encompasses the data missing (primarily FPI in French private sector securities), but the evolution of the other components is independent and correct. Figure B3 may be graphically less intuitive, but the shrinking of the grey bars (Resident MFIs net foreign funding) is perfectly in line with the positive values recorded in Figure 6.9.

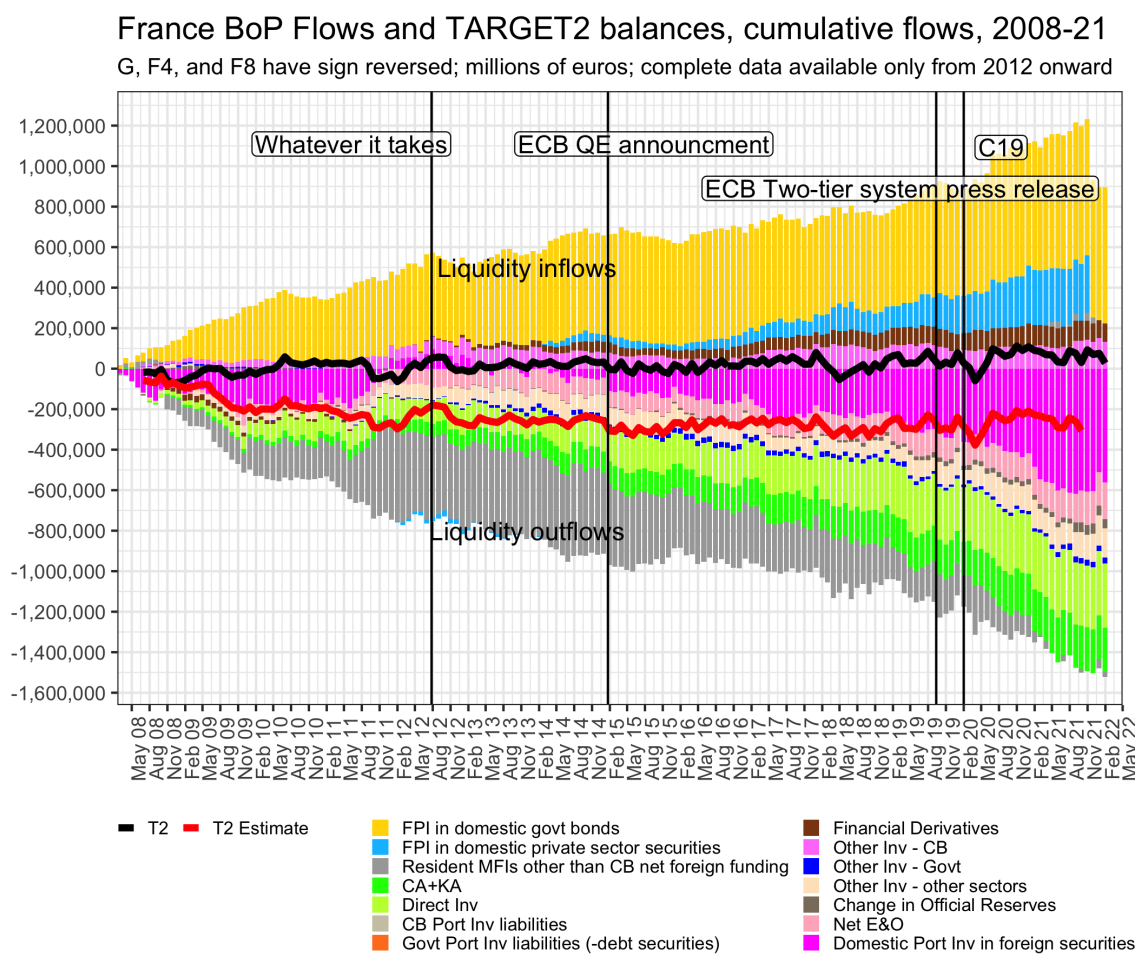


Figure B3. France BoP Decomposition and TARGET Balances, cumulative flows (bn euro), 2008–21.

Notes: The data is incomplete for FPI in Domestic private sector securities, and loses accuracy in the period between 2008 and 2012 in other minor components.

B.III Appendix to Ch 7

B.III.1 Excess Reserves and their Distribution

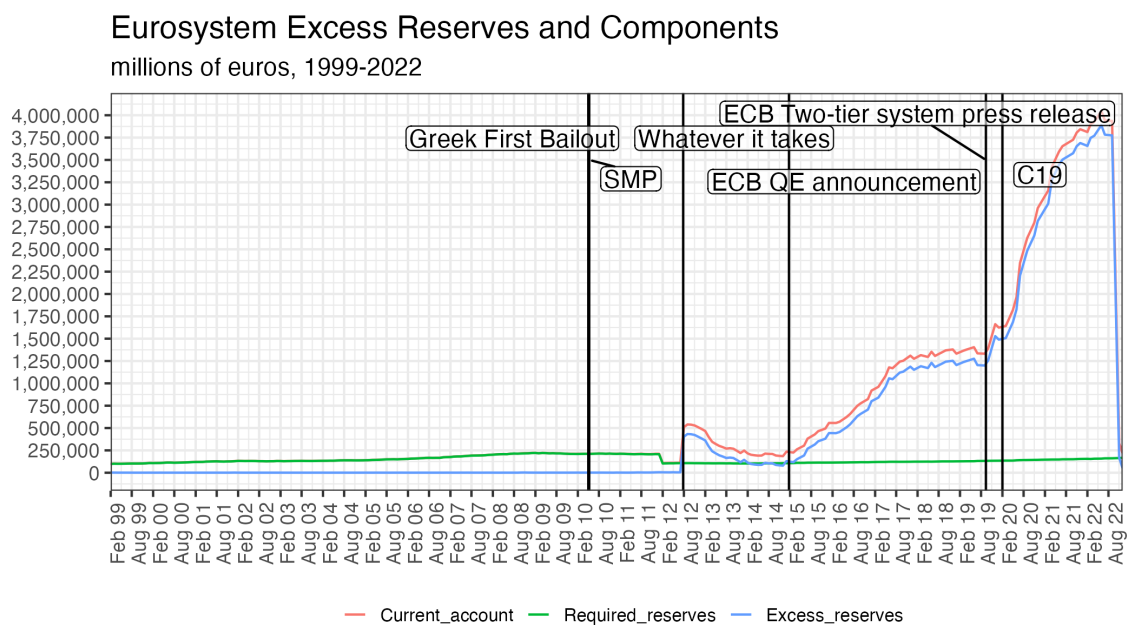


Figure B4. Eurosysteem Excess Reserves and Components (mn euros), 1999–2022.

Notes: Excess Reserves = Reserves held in *Current Accounts* at the ECB – *Minimum Reserve Requirement*.

Source: Author's elaborations on ECB, SDW and the MMSR.

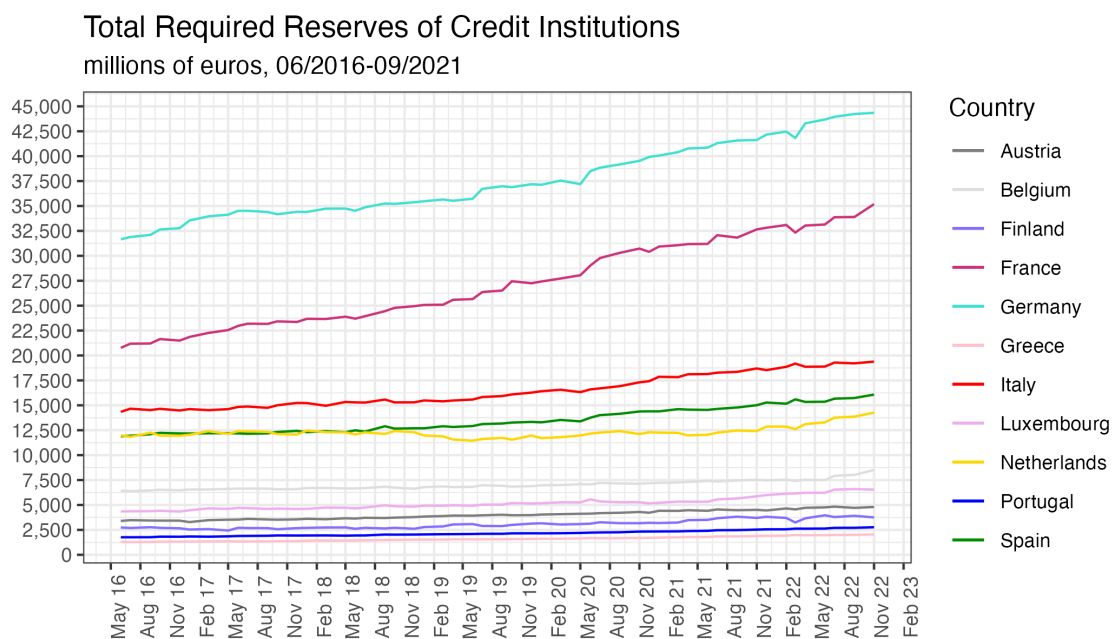


Figure B5. Total Required Reserves of Credit Institutions by NCB (mn euros), June2016–July2022.

Notes: Credit Institutions are MFIs excluding Eurosystem not subject to minimum reserve requirements and Non-MFIs

Source: Author’s elaborations on SDW, ECB and MMSR.

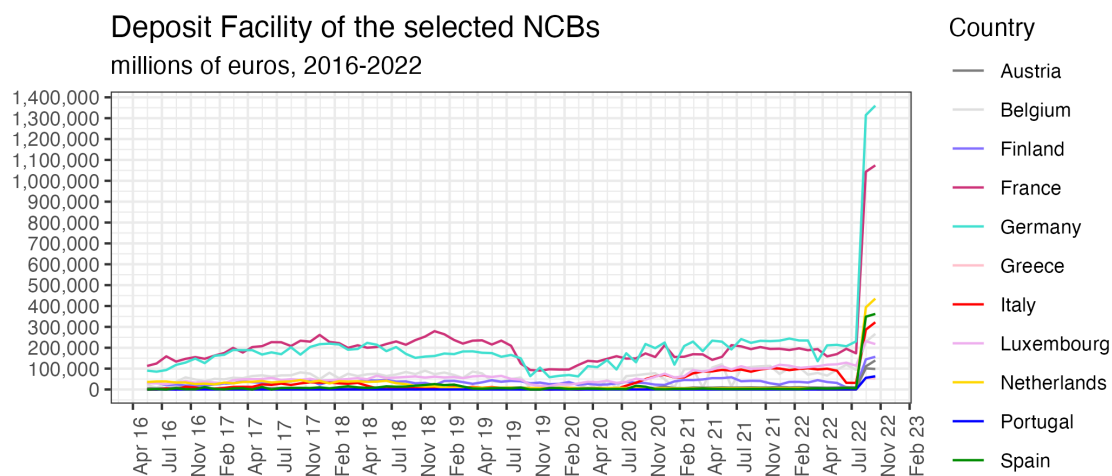


Figure B6. Deposits at the Deposit Facility of the Selected NCBs (mn euros), June2016–July2022.

Notes: The Deposit Facility, together with the Marginal Lending Facility, are the Standing Facilities that absorb or provide overnight liquidity to banks in the Eurozone. The Deposit Facility can be used by counterparties to place overnight deposits with the national central banks.

Source: Author’s elaborations on SDW, ECB and ILM.

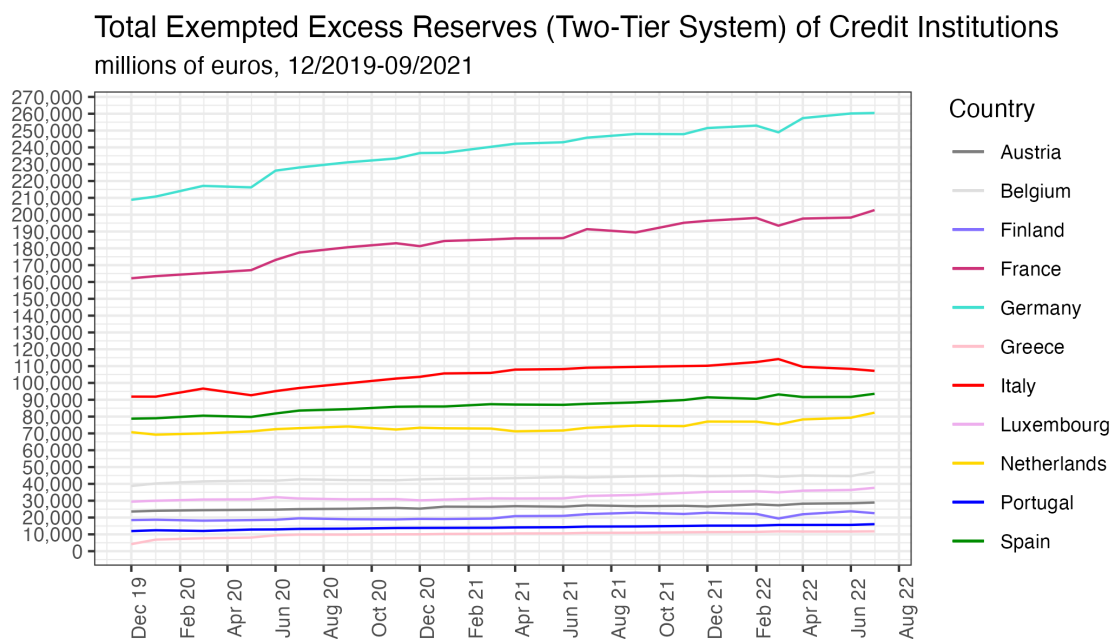


Figure B7. Total Exempted Excess Reserves of Credit Institutions by NCB (mn euros), December2019–July2022.

Notes: Credit Institutions are MFIs excluding Eurosystem not subject to minimum reserve requirements and Non-MFIs

Source: Author's elaborations on SDW, ECB and MMSR.

B.III.2 Repo Terms

Term	Trade Date	Settlement Date	Repurchase Date
Overnight	T	T	T+1
Tomorrow	T	T+1	T+2
Spot	T	T+2	T+3

Table B1. Repo Terms Scheme.

B.III.3 Fragmentation or Dis-Integration? Or the Infrastructure for Subordination?

Fragmentation as defined by the ECB is a fleeting phenomenon that should arise and disappear without affecting banks' operational models and the infrastructure of the EMU. If, conversely, the fragmentation arises from a more structural source, it would be more appropriate to discuss of 'dis-integration', given that it means that the progressive development of the EMU also brings forth the development of these asymmetries and apparent fragmentations and segmentations. Furthermore, the coexisting presence of fragmentation and integration of distinct markets or segments is a crucial feature of sub-

ordination, as the fragmentation maintain the differences, whilst the integration exploits them, as occurs with intra-EMU liquidity flows.

Crucially, the simple price-fragmentation shown by the spreads between the 10-year bond yields of Euro area members –the one emerging during the Eurozone crisis and recently in 2022– actually masks a higher degree of complexity: price-fragmentation is not always the same, or driven by the same factors. Indeed, the movements in the Italian bond yield in 2022 do not reflect the redenomination-risk averse decisions of investors that defined the spikes in 2011 and 2012 (or a high default risk premium), but are primarily caused by the expectations of a steeper yield curve in the near future due to the contractionary monetary policy required by the high levels of inflation (Figure B8).

Therefore, if the causes change but even the basic price-fragmentation remains, it can be argued that there is a deeper root to fragmentation than risk premia or the temporary malfunctioning of money markets: the monetary and financial *infrastructures* underpinning the plumbing of the Euro need to support fragmentation and the progressive dis-integration of certain market segments and the integration of others. In other words, the integration of payment systems coupled with the structural fragmentation of financial markets (as is shown below) or of liquidity allocation facilitates the further polarisation of the fragmentation: there is no builtin rebalancing mechanism nor any rigid constraint to liquidity and capital flows.

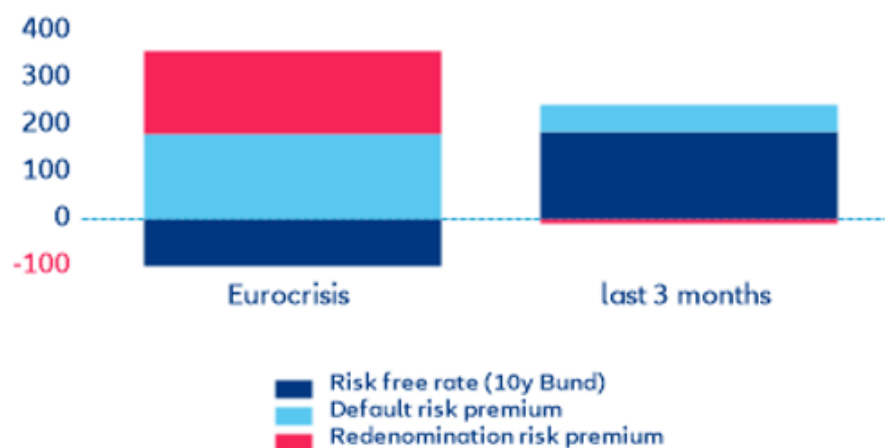


Figure B8. Decomposition of Yield Change for 10y Italian Government Bond (bps), 2011 and 2022.

Notes:

Source: Refinitiv Eikon and Allianz Research in Jobst et al. (2022).

B.III.4 Money Market Rates

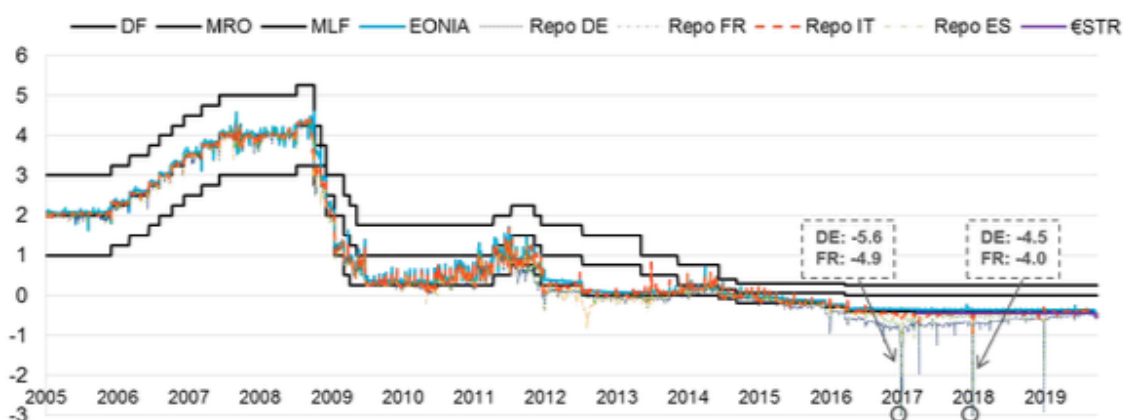


Figure B9. EMU Money Market rates for the selected collateral and ECB policy rates, 2005-2019.

Notes: Money market rates (unsecured rates, EONIA and €STR, and country-specific repo rates); ECB policy rates (DF, MRO, MLF), in percent, 2005-2019. Repo data include both general collateral and suitable specific collateral repo trades (the composite repo rate is volume-weighted).

Source: Corradin et al. (2020) on SDW, BrokerTec and MTS.

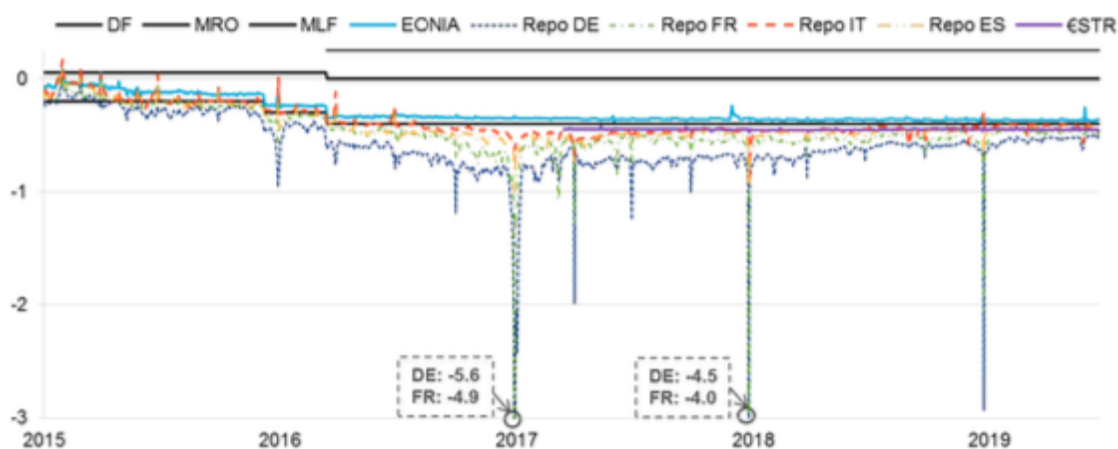


Figure B10. EMU Money Market rates for the selected collateral and ECB policy rates, 2015-2019

Notes: Money market rates (unsecured rates, EONIA and €STR, and country-specific repo rates); ECB policy rates (DF, MRO, MLF), in percent, 2005-2019. Repo data include both general collateral and suitable specific collateral repo trades (the composite repo rate is volume-weighted).

Source: Corradin et al. (2020) on SDW, BrokerTec and MTS.

B.III.5 Volume of Repo Markets per Tenor

Volume of Repo Markets per Collateral Issuer - Borrowing

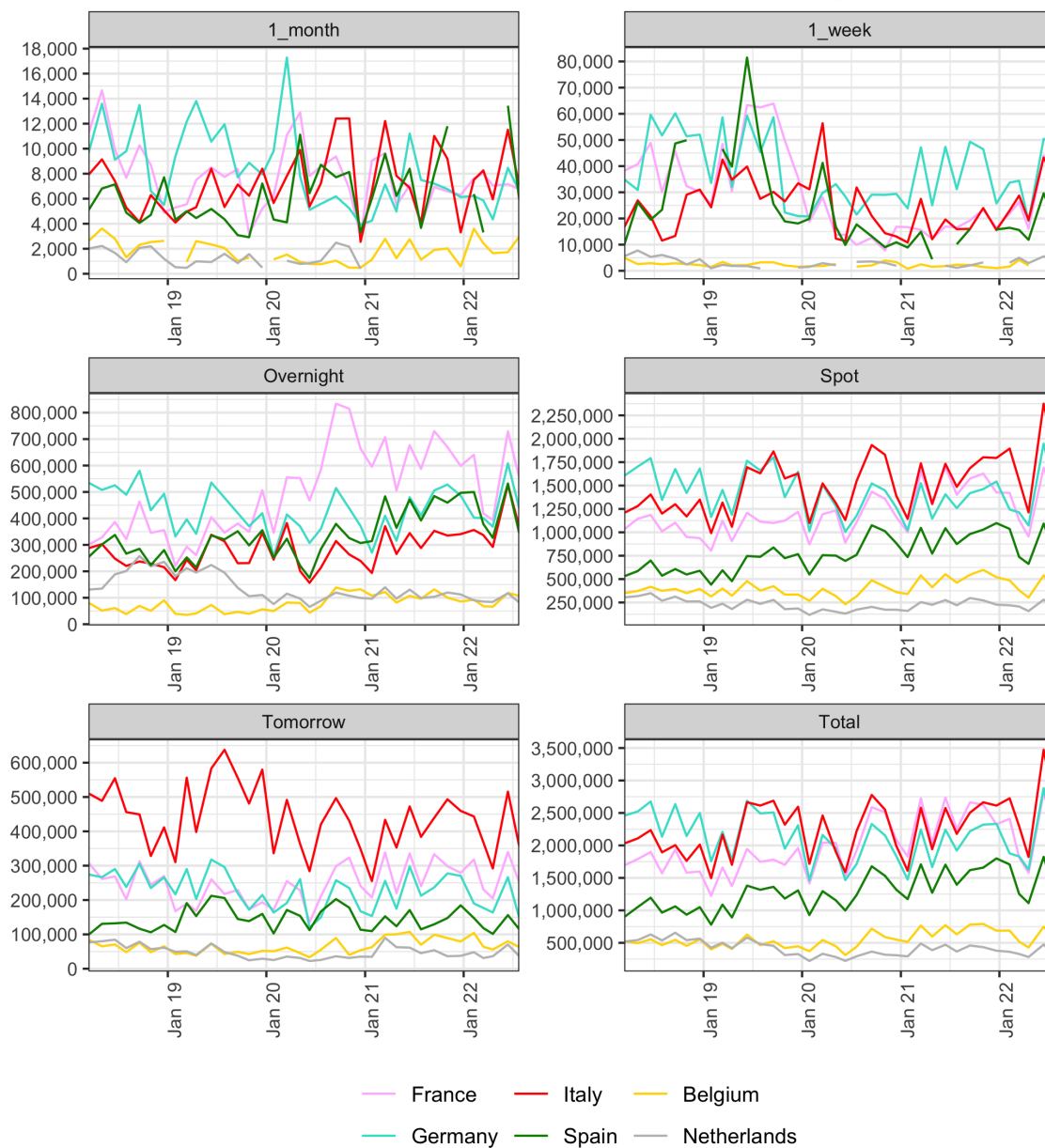


Figure B11. Volume of Repo Market Segments per Collateral Issuer - Borrowing (mn euros), 2018–2022.

Source: Elaborations on ECB, SDW and the MMSR.



Figure B12. Volume of Repo Market Segments per Collateral Issuer - Lending (mn euros), 2018–2022.

Source: Elaborations on ECB, SDW and the MMSR.

B.III.6 CCPs and CSDs: further figures

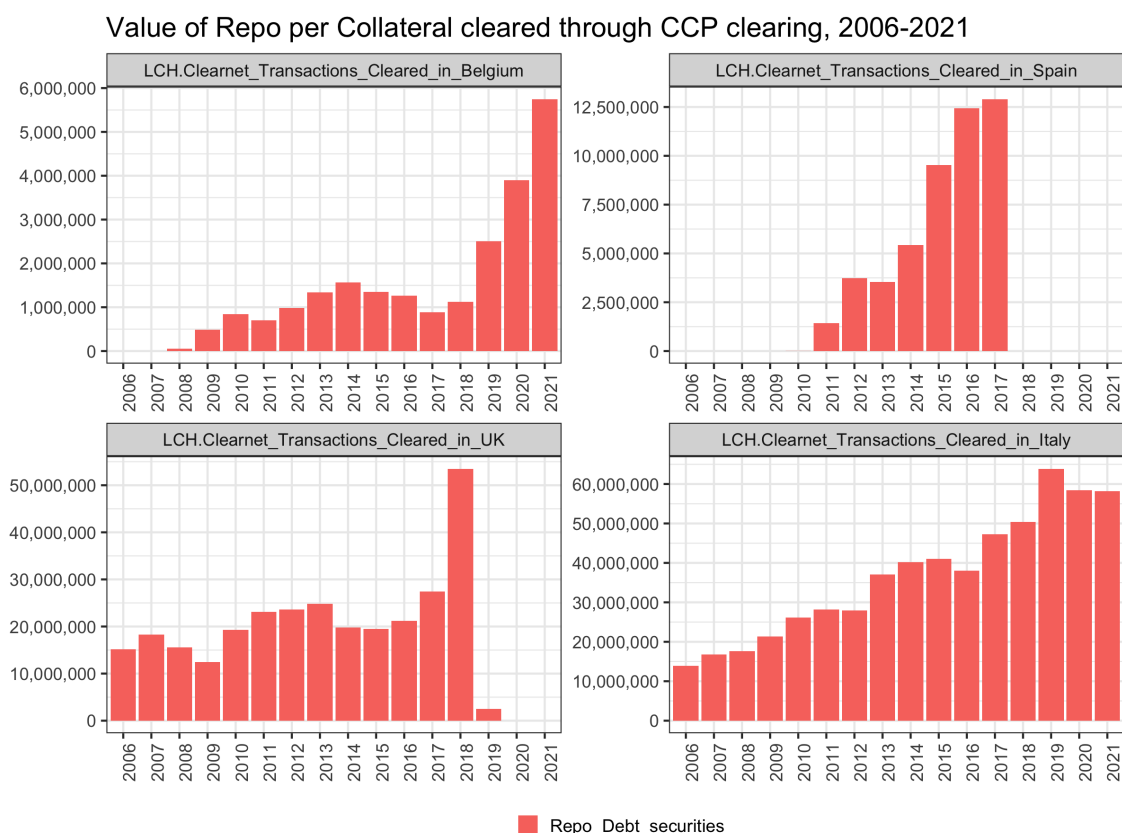


Figure B13. Value of Repo cleared through LCH.Cleernet S.A. (France) per Location of counterparty (mn euros), 2006–2021.

Notes: The Location of counterparty entails that these repos are cleared in such Country. For example, repos cleared through LCH.Cleernet Italy are cleared in Italy. The other Eurozone countries not displayed here either do not have available data, or the value is equal to zero.

Source: Elaborations on SDW and ECB Central Counterparty Clearing Statistics.

CSDs and Delivery Instructions Processed

These two features support the thesis of a infrastructural fragmentation in which Delivery Instructions Processeds show two tendencies. First, Belgium and Luxembourg behave as ‘core’ of the securities settlements in so far as they experienced a steady increase in the last 20 years of total DIPs in all currencies –respectively from around €150bn in 2005 to €600bn in 2021 and from around €25bn to around €200bn. Second, CSDs’ DIPs remain highly internal to the CSDs (meaning from one account to the other), failing to have the cross-border intra-Euroarea dimension that integration and unification would entail. Indeed only a small part of the Italian MTS has seen a noteworthy increase in placing securities at another CSD since 2016. This fragmentation of the CSD infrastructure is corroborated by the settlements recorded on TARGET2 Securities (T2S), which recorded

for 2021 daily average volume of intra-CSD¹ transactions of 98.42% of the total T2S settlement volume, and daily average value of intra-CSD settlement of 96.90% of the total T2S settlement value (ECB, 2022c).²

The size of the securities settled through the CSDs should put the liquidity flows analysed in the previous chapter in perspective. Small changes in the proportion of Delivery Instructions Processed by a CSD to another Euroarea CSD could drastically reshape the gross TARGET inflows and outflows. In addition, CSDs play a crucial role for the ability of commercial banks to provide collateral for private markets repo operations as well as for standard and unconventional monetary policy with the NCBS.

¹Intra-CSDs traffic refers to securities transfers where the delivering and receiving parties belong to the same CSD.' (ECB, 2022c, p.27).

²The Report also finds that '[I]n 2021 the daily average volume of cross-CSD settlement transactions represented 1.05% of the total T2S settlement volume (compared with 0.99% in 2020), while the daily average value of cross-CSD settlement transactions represented 3.10% of the total T2S settlement value (2.74% in 2020).' (ECB, 2022c, p.29).

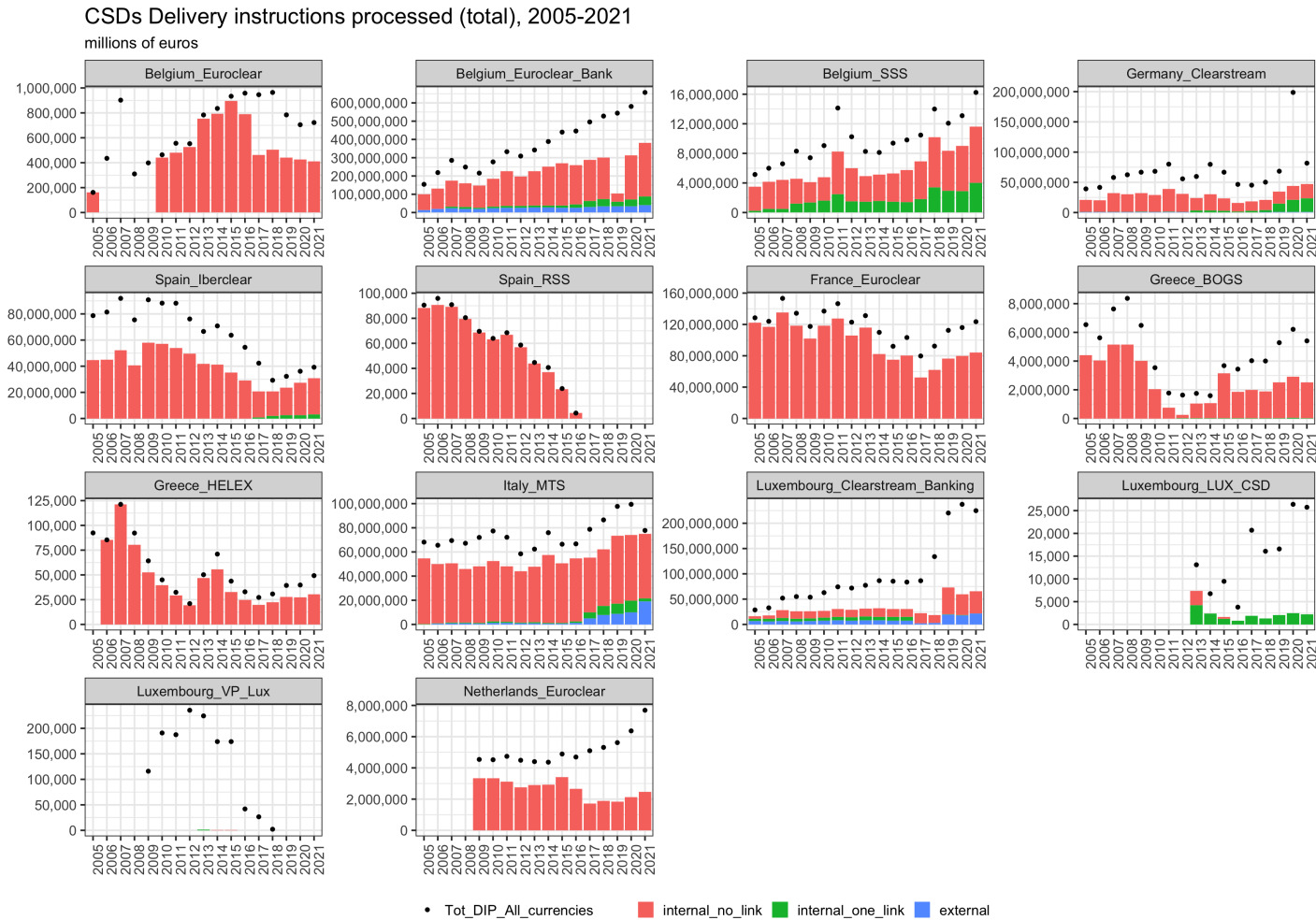


Figure B14. CSDs Delivery Instructions Processed for all securities (mn euros), 2005–2021.

Notes: ‘Tot_DIP_All_Currencies’ = Total Delivery instructions processed for all currencies, whilst ‘internal_no_link’, ‘internal_one_link’, and ‘external’ only consider transactions in Euros. ‘External’ entails the placing of securities into another CSD. The difference between the dots and the bars represents the DIP for all currencies excluding the euro; whilst these can still be intra-Euroarea, they would not be settled through TARGET2Securities.

Source: Elaborations on SDW and ECB Securities Settlement Statistics.

Figure B15 focuses only on the delivery instructions processed by the main Euroarea CSDs for bonds. It depicts three features of the CSDs: first, most of the securities transacted in the Euroarea are bonds –which is in line with the focus on repo markets of the previous section. Second, bonds have been exchanged both in euro and in non-euro transactions, suggesting that non-euro currencies (the dollar primarily) have been used for settling in Euroarea CSDs. Third, countries have experienced different trends, again with slow downs of the DIPs for bonds settlements in Spain compared to increases in Italy and France (towards the end of 2010s).

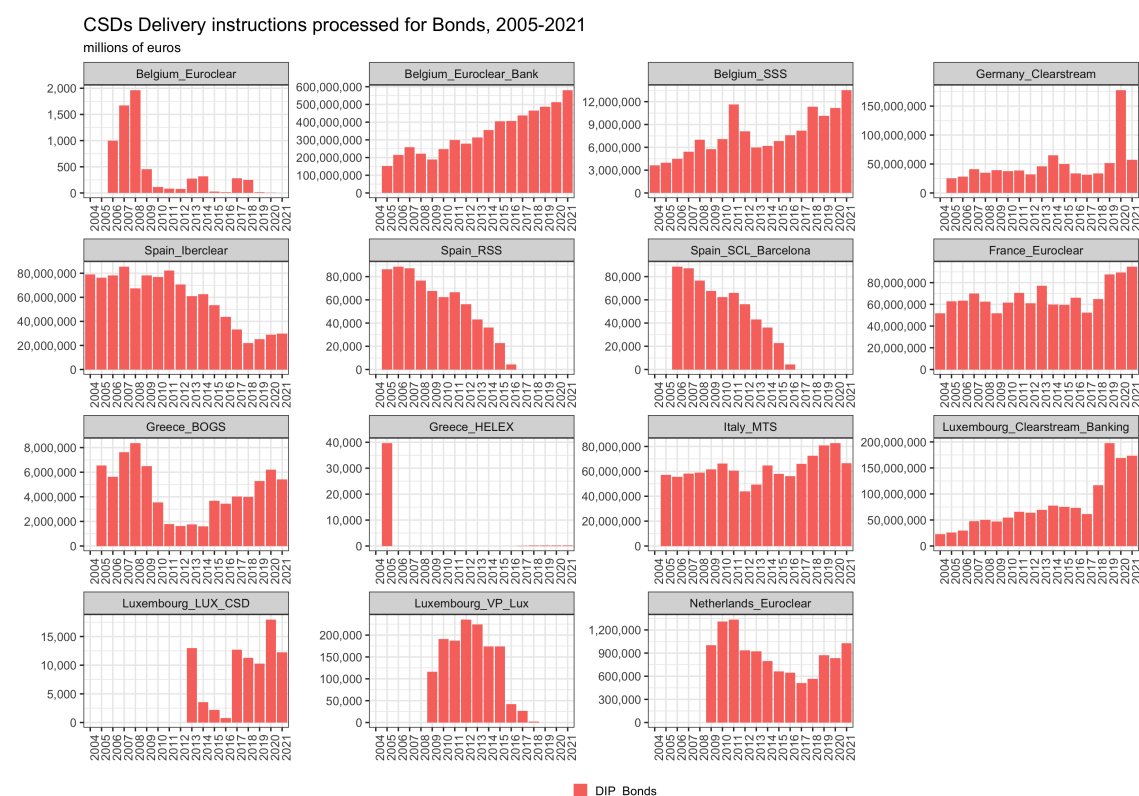


Figure B15. Delivery instructions processed for Bonds, All currencies combined (mn euros), 2005–2021.

Notes:

Source: Elaborations on SDW and ECB Securities Settlement Statistics.

B.III.7 Other Money Markets and Derivatives

Ultimately, the Short-Term (Debt) Securities (STS) segment need be mentioned, as it encompasses primarily the issuance of certificates of deposit and commercial paper by banks in order to secure liquidity funding. Similarly to the unsecured money markets, far from providing a picture of infrastructural fragmentation, the STS segment points at hierarchical tiering at play in a context of fragmentation in terms of both the location of

the issuers and of the investors: the fragmentation arises because of the behaviour of the financial institutions.

Outstanding amount of euro area banks' Short-Term Securities by issuer location

Jan2017-Dec2020; percentage of total amount outstanding

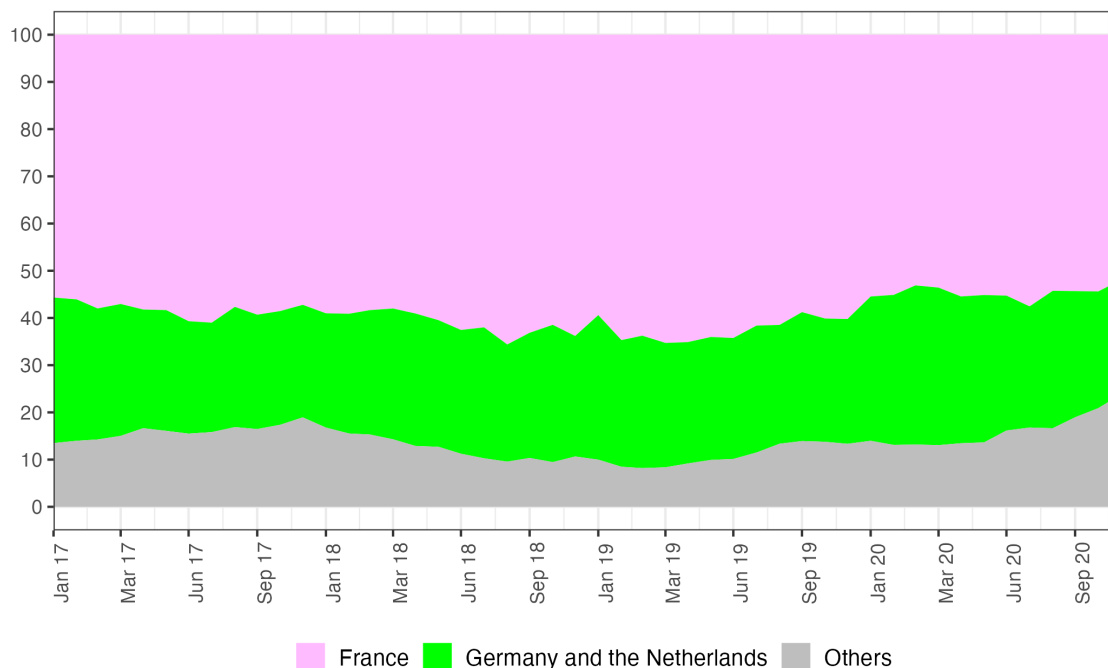


Figure B16. Outstanding amount of euro area banks' Short-Term Securities by issuer location (share of total), January2017–December2020.

Source: Author's own elaborations on ECB, SDW and the MMSR.

Figure B16 shows the ratio to total of the outstanding amount of Short-Term (Debt) Securities by location of the issuers, whilst Figure B17 shows it for the location of the investors. To quantify the volume of this segment, the total outstanding amount of STS hovered around €150bn from 2017 to 2019, with a decline to around €120bn after the Covid shock in March 2020.

Outstanding amount of euro area banks' Short-Term Securities by investor location

Jan2017-Dec2020; percentage of total amount outstanding

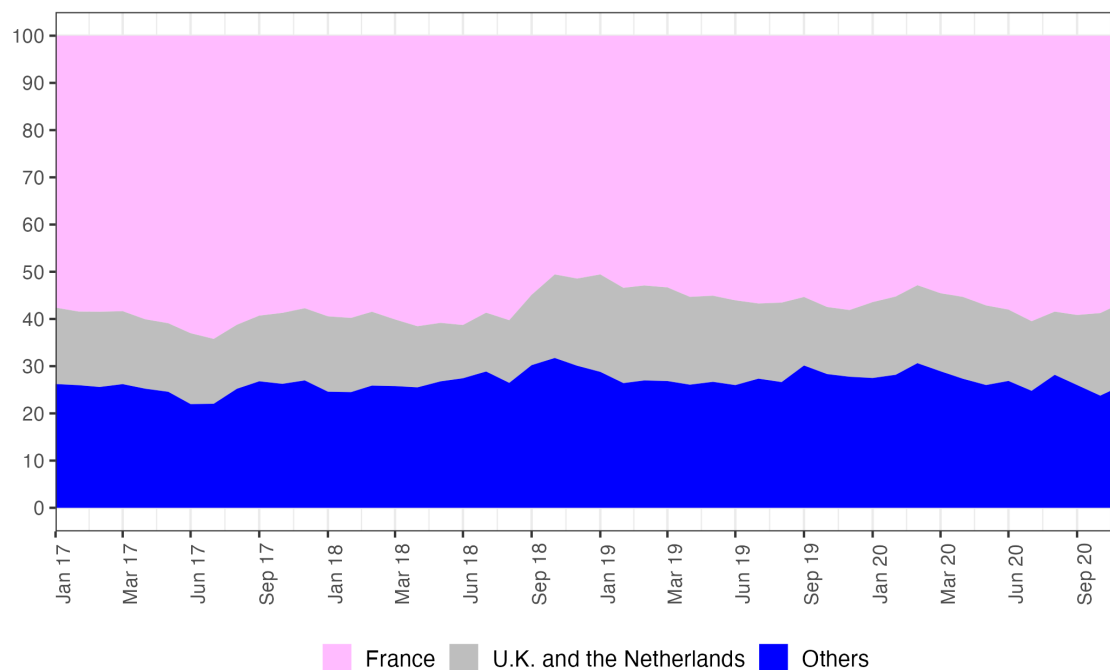


Figure B17. Outstanding amount of euro area banks' Short-Term Securities by investor location (share of total), January 2017–December 2020.

Source: Author's own elaborations on ECB, SDW and the MMSR.

STs are mostly (more than 50% throughout 2017-2020) issued by French institutions, which highlights the degree of financialisation of French financial institutions and the development of money markets. Similarly, France is also the jurisdiction of the the main investors in STs; German institutions seem to be important issuers but not investors in this segment. In terms of the sector, most of the issuing of STs in the Eurozone is carried out by the universal banks, followed by NFCs; as for the investors, on the other hand, the main institutions purchasing STs are MMFs, pension funds and insurance corporations (ECB, 2021).

In terms of Derivatives the significant part of Figure B18 is the first panel, in which the percentage of total derivatives transactions of the euro money market with other Euroarea counterparts is depicted. The figure shows a steady decline across all five segments from around 55% in 2003 to less than 20% on average. This shows that cross-border intra-Euroarea derivatives markets have declined, being replaced by a small increase in national transactions and to a much larger extent by other non-Euroarea counterparts. This latter evolution is to be traced back to only certain countries (the less-subordinated

ones and the financial centres) increasing derivative markets participation with foreign counterparts.

Percentage of the Derivative segments of euro Money Market business (in nominal value) done with selected counterparties

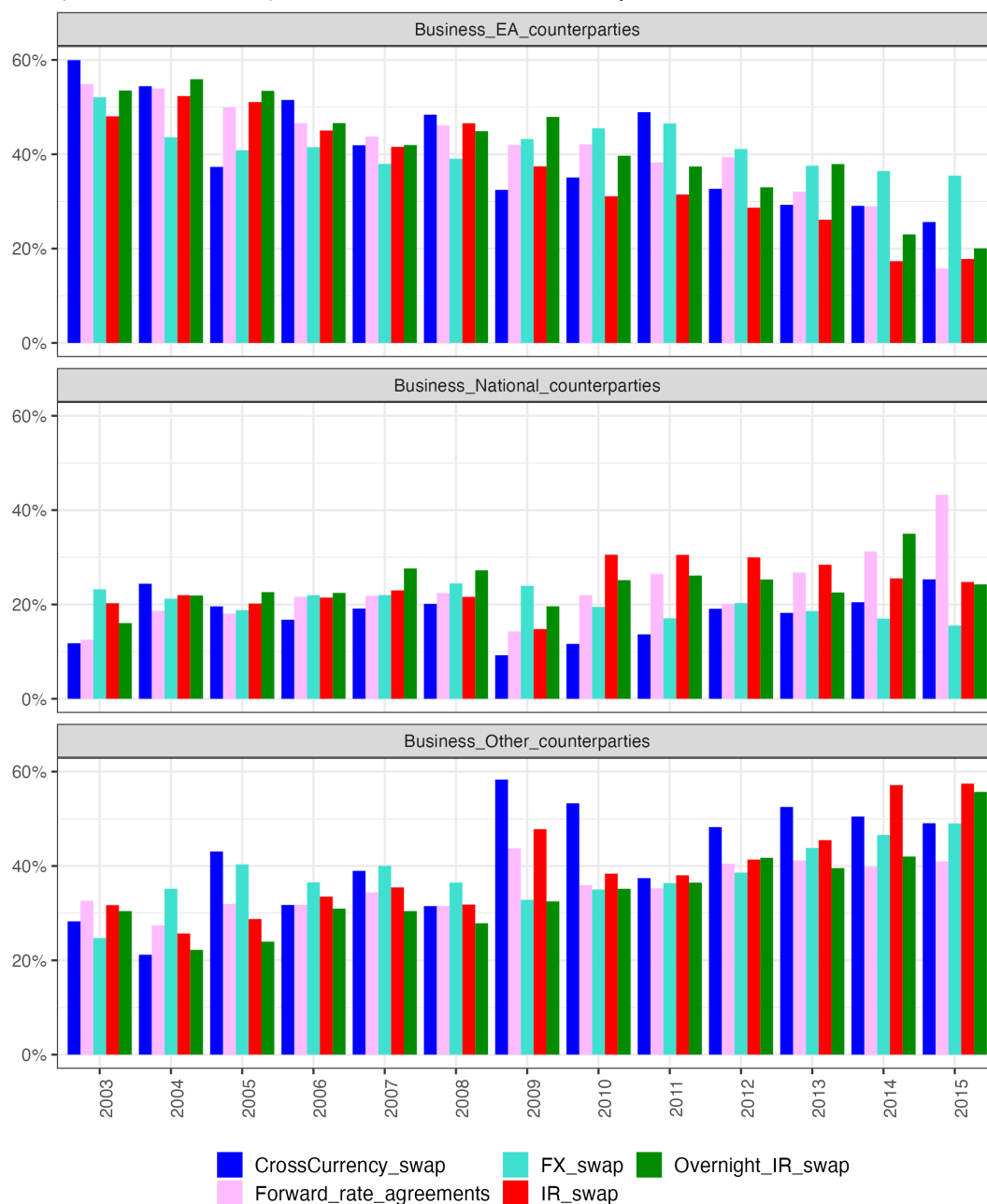


Figure B18. Percentage of the Derivative segments of euro Money Market business (in nominal value) done with selected counterparties (share of total), 2003–2015.

Source: Author's own elaborations on ECB, SDW and the Money Market Survey.

B.IV Appendix to Ch 8

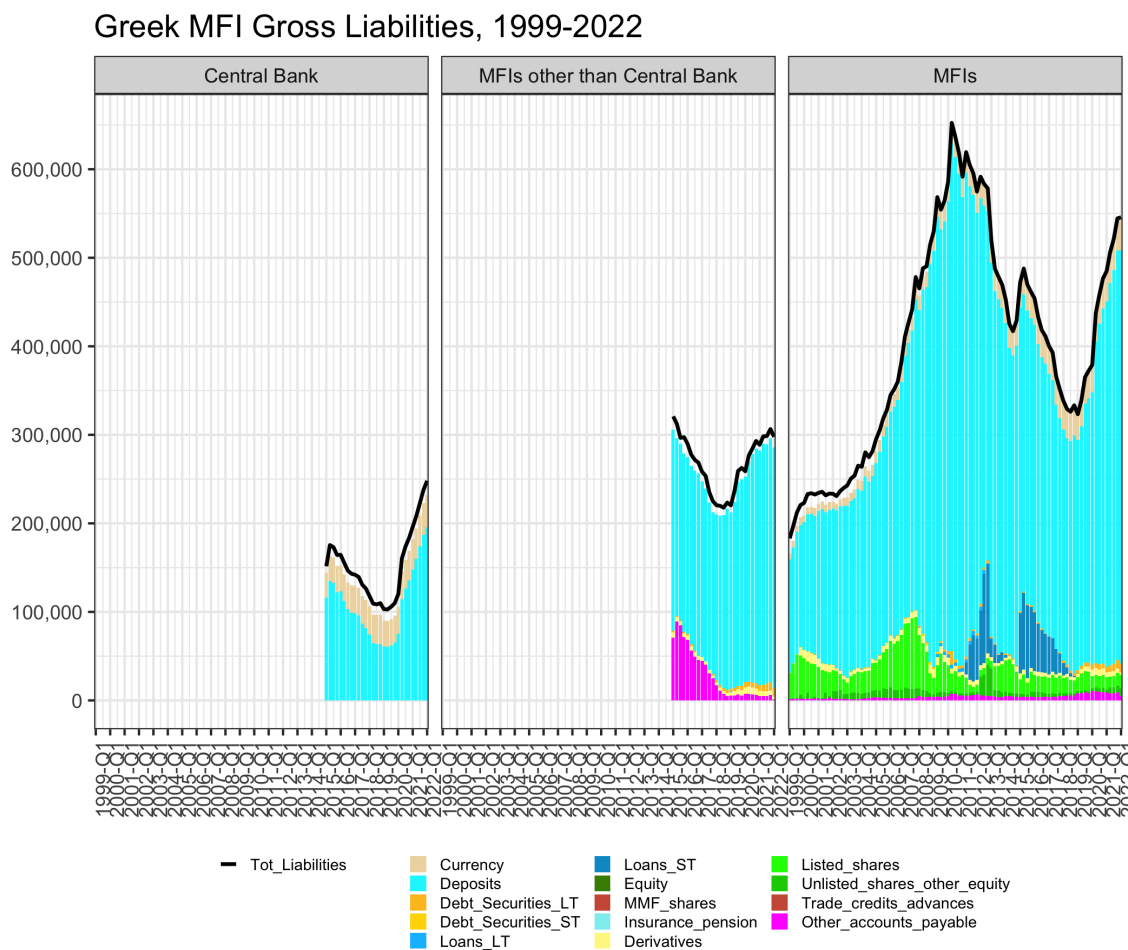


Figure B19. Greek MFIs Gross Liabilities (mn euro), 1999–2022.

Notes:

Source: Author's own elaborations on ECB, SDW, and National Central Banks Data.

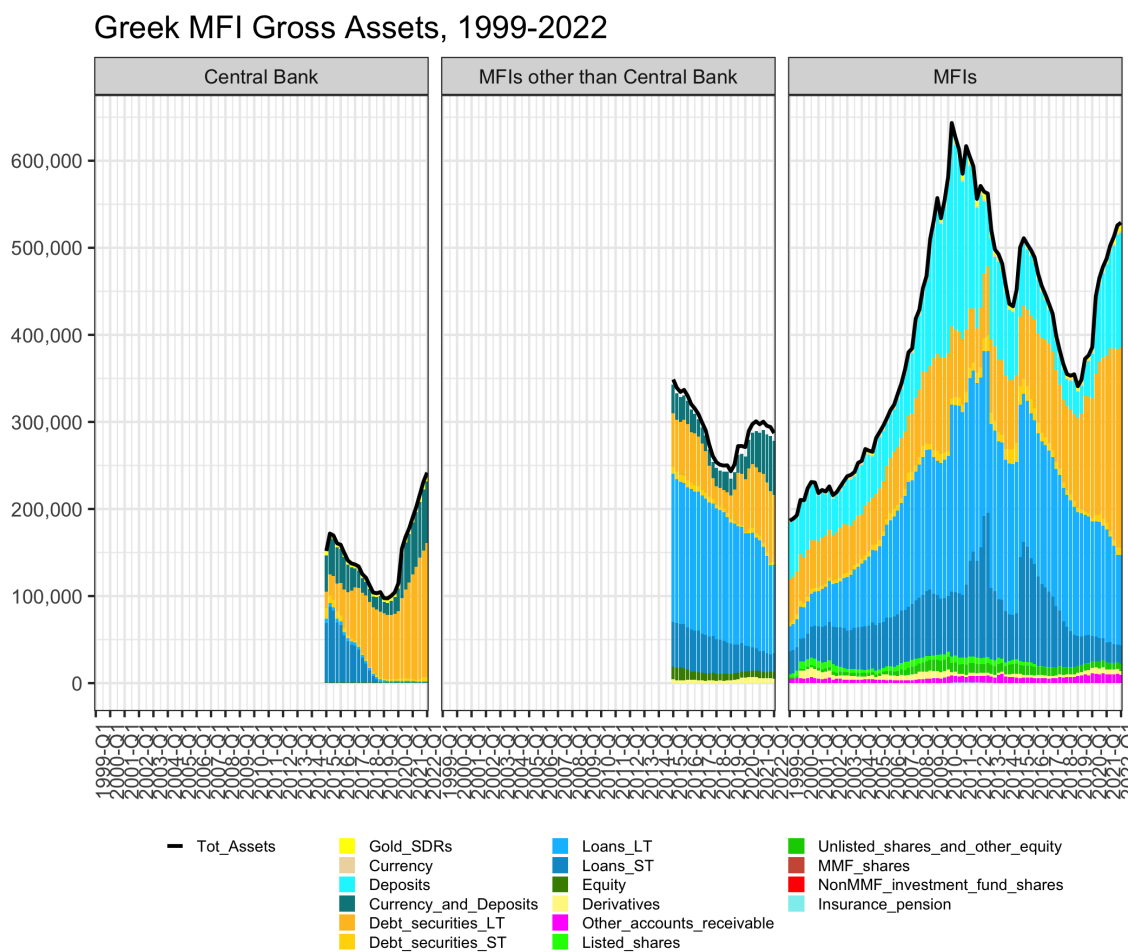


Figure B20. Greek MFIs Gross Assets (mn euro), 1999–2022.

Notes:

Source: Author's own elaborations on ECB, SDW, and National Central Banks Data.

Dutch MFI Gross Liabilities, 1999-2022

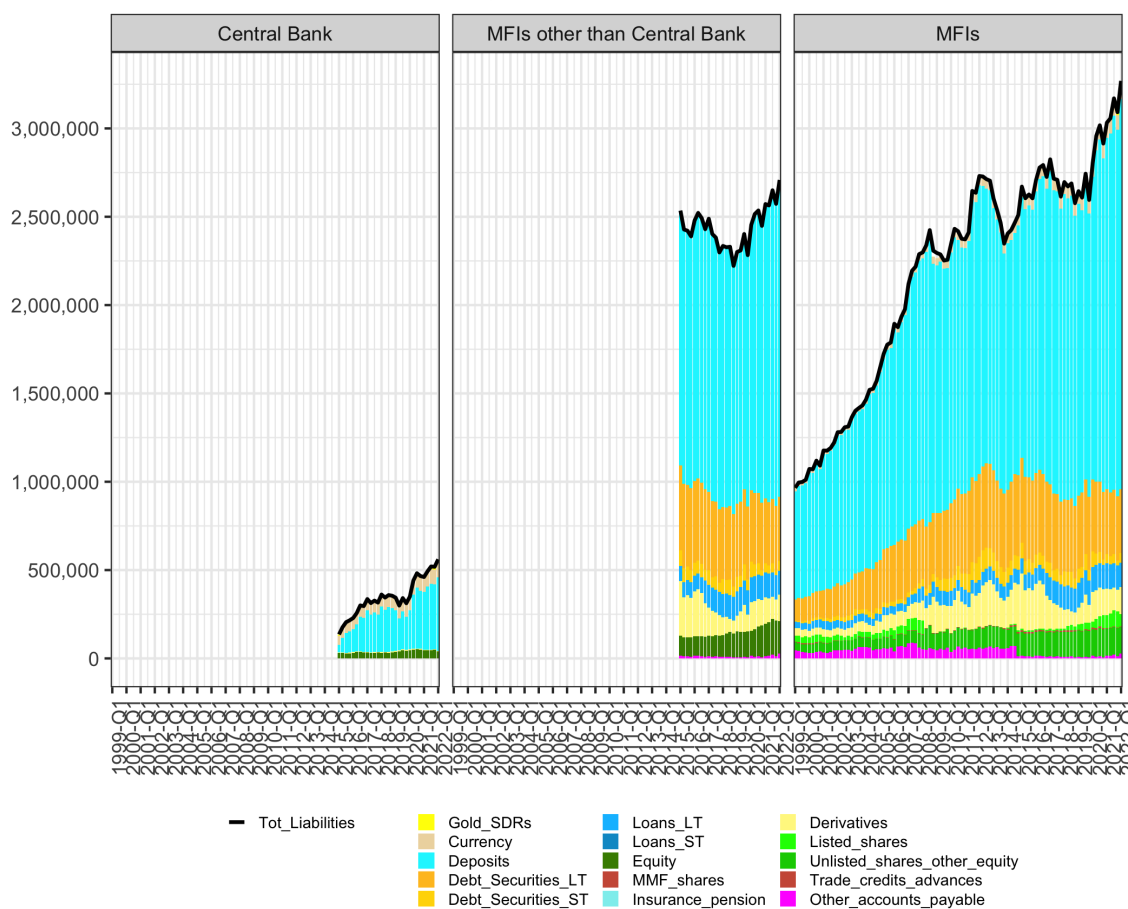


Figure B21. Dutch MFIs Gross Liabilities (mn euro), 1999–2022.

Notes:

Source: Author's own elaborations on ECB, SDW, and National Central Banks Data.

Dutch MFI Gross Assets, 1999-2022

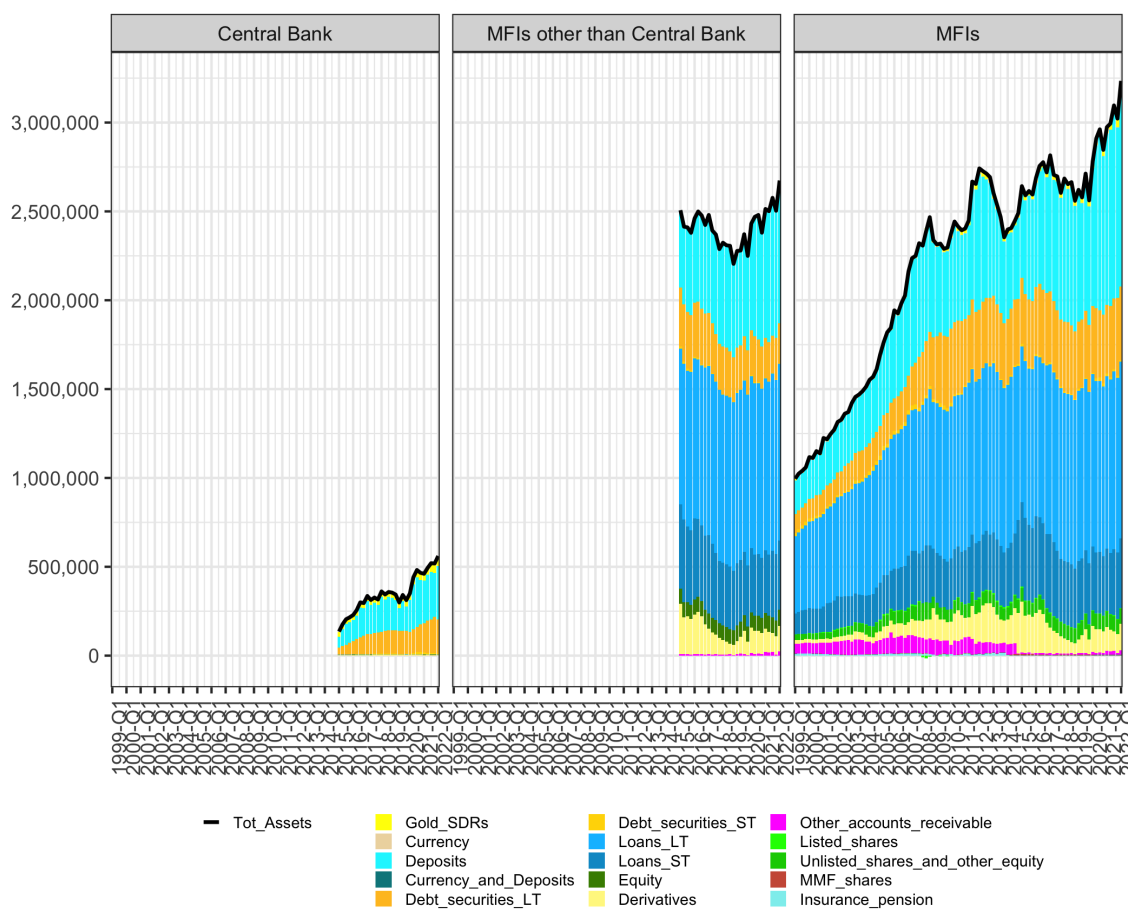


Figure B22. Dutch MFIs Gross Assets (mn euro), 1999–2022.

Notes:

Source: Author's own elaborations on ECB, SDW, and National Central Banks Data.

Country	2000	2010	2020
Italy	4,387	5,193	5,354
Spain	868	1,790	2,298
Germany	3,487	5,536	7,952
France	4,339	5,853	7,699

(a) Large Companies, number of Observations.

Country	2000	2010	2020
Italy	344,746	534,420	516,092
Spain	156,908	503,054	586,445
Germany	32,983	44,092	51,864
France	153,255	210,096	265,999

(b) Small and Medium Enterprises, number of Observations.

Table B2. BACH Non-Financial Corporations Number of Observations.

Notes:

Source: Author's own elaborations on BACH Data.

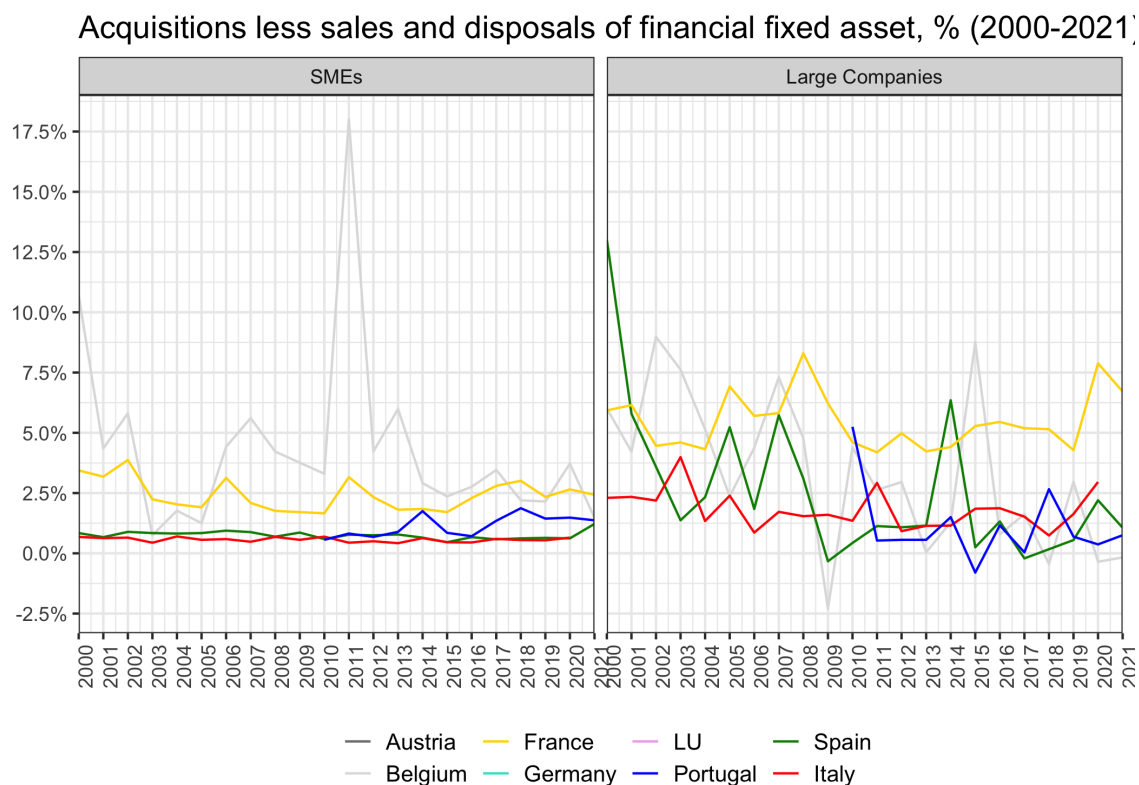


Figure B23. Acquisitions less sales and disposals of financial fixed asset (share of turnover), 2000–2021.

Notes: Includes acquisitions less sales and disposals in the period of assets included in Financial Fixed Assets.

Source: Author's own elaborations on BACH Data.

Total Cross-Border Positions of banks located in main reporting countries on all sectors in UK (2001Q1-2021Q4)

millions of USD, all currencies, all instruments

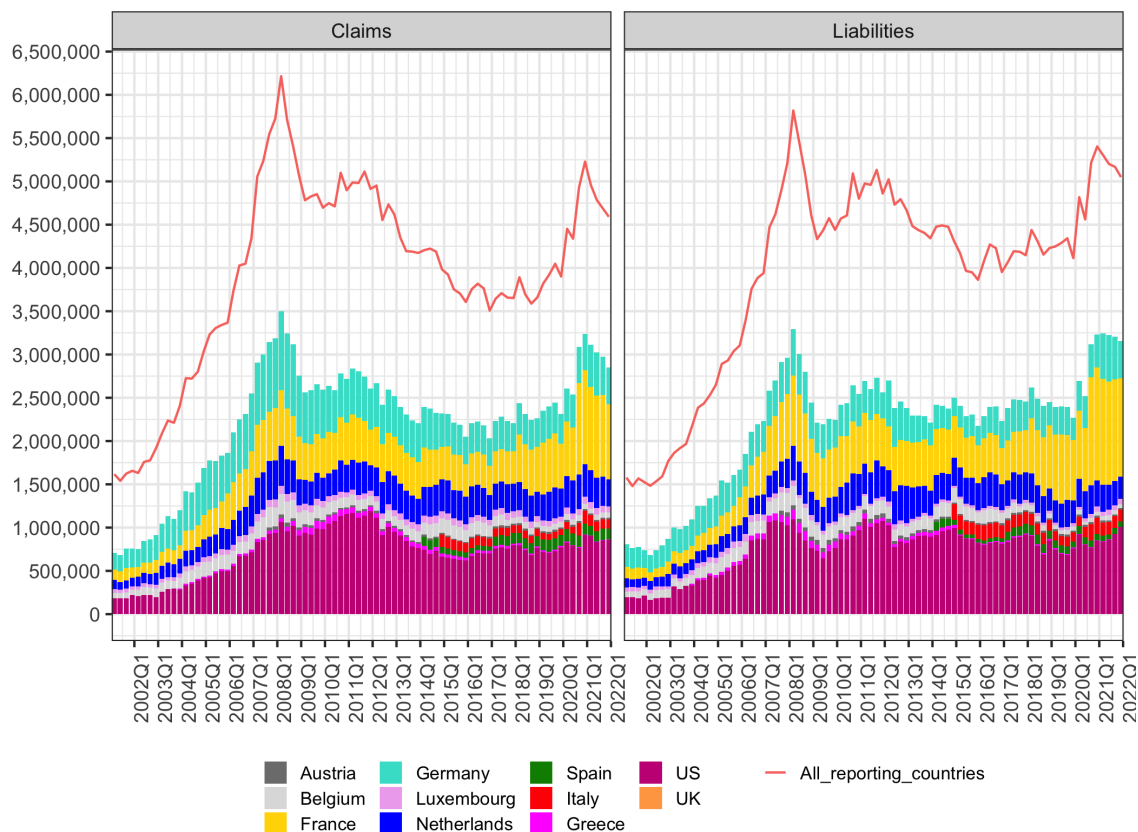


Figure B24. Total Cross-Border Positions of banks located in main reporting countries on all sectors in UK (mn USD), 2001Q1–2021Q4.

Notes: All currencies, All instruments included.
Source: Author's own elaborations on LBS Data.

B.V Appendix to Ch 9

Currency Group of Issuance in International Bond Markets for Selected Sectors Resident in Italy, 1971-2022

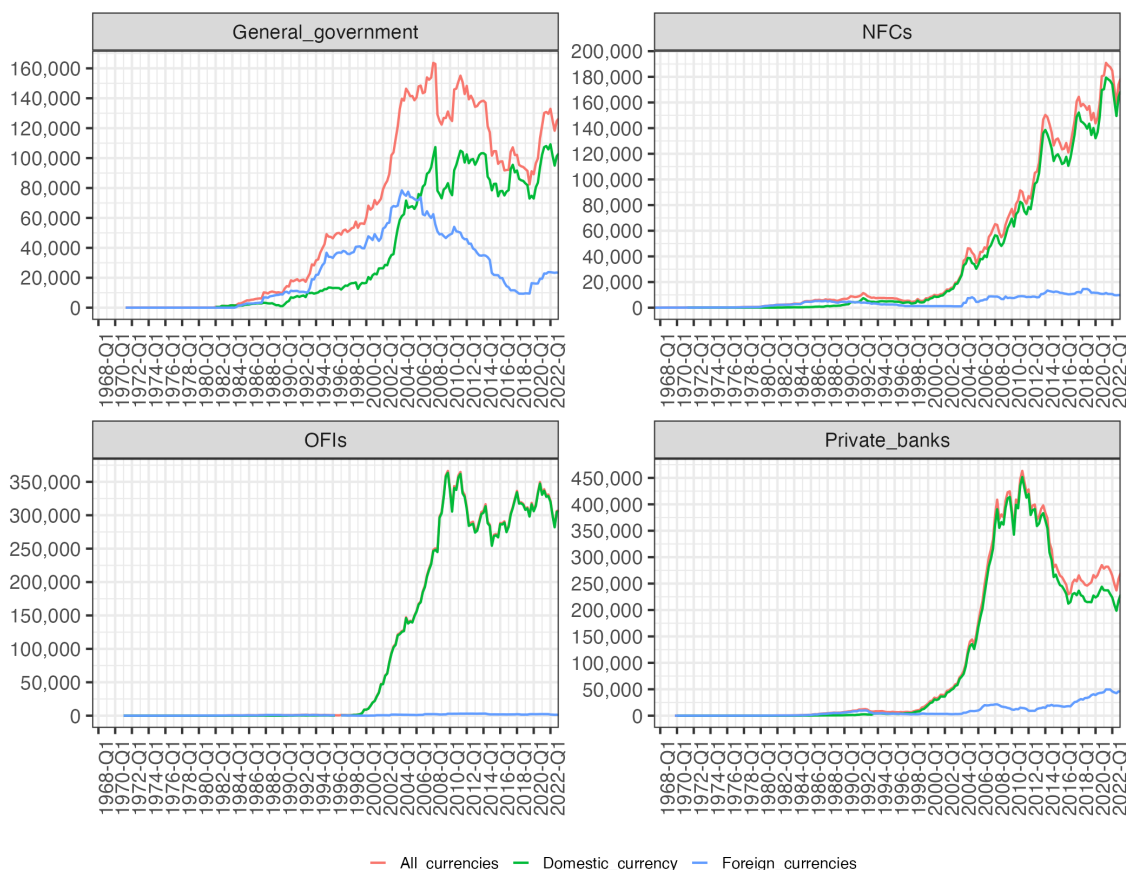


Figure B25. Currency Group of Issuance in International Bond Markets for Selected Sectors Resident in Italy (mn USD), 1971–2022.

Notes: ‘Domestic Currency Group’ includes ECUs, Euros, and legacy currencies now included in the Euro (BIS code: EU1).

Source: Author’s own elaborations on BIS Data.

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