

# Tiered Euro-Monies: Perpetrating Monetary Hierarchies from the ECU to the Euro

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## **Abstract**

This paper studies the presence of a monetary hierarchy in Europe by comparing the Euro in the Eurozone with its predecessor, the European Currency Unit (ECU) in the European Monetary System. To do so, the paper explores the creation and functioning of these types of money in their different forms, primarily divided between artificial balances limited to intra-central bank settlements, and the ‘market-based’ instruments used by the private sector. Three contributions are offered. First, the paper shows that monetary hierarchies are present not only in the ECU system (as one would expect), but also in the Eurosystem: the form has changed, but the substance has not. Second, it explores if and how the fragility of the ECU has been solved with the creation of the Euro. Third, it establishes the consequences of monetary hierarchies in the Eurozone both for the stability of the system and for its member states. This applied study shows the potential existence of a new axis (‘official–private’) of analysis for the study of monetary hierarchies in and beyond Europe.

**Keywords:** European Currency Unit, European Central Bank, European Monetary System, Economic and Monetary Union, Currency Hierarchy, TARGET2

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## 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 European Currency Unit 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, in practice, euros are used smoothly across jurisdictions stems from the Eurozone's payment system –TARGET2– and the accumulation of TARGET balances by each NCB.

The presence of multiple money-balances entails the presence of a tiering of monies (Lapavitsas, 2003, 1991; Mehrling, 2010). However, the evaluation of monetary hierarchies in the Eurozone is complicated by the single and common currency, for euro-balances

appear under the same ‘name’ in multiple jurisdictions due to the nature of the euro as a unit of account. 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 –then– national currencies.

For the Eurosystem, the ECB balance sheet was placed as the central counterparty of all other NCBs and thus technically at the apex of the hierarchy in secret by the ECB council through the decision of Novation in the early 2000s (Murau and Giordano, 2024),<sup>1</sup>. Conversely, the shape of the monetary hierarchy for the other liabilities accessible by private actors remains elusive, both theoretically and empirically. The aim of this paper is to show that NCBs are indeed tiered by market-based preferences, just as occurred within the EMS.

This paper makes three key arguments. First, it puts forward a detailed analysis of the ECU as a dichotomised system, characterised by the presence of Official and Private forms of ECUs. Second, it argues that these forms point to overlapping and contrasting evidence of *competition*, which lay at the heart of the failure of the ECU. Third, it uses the insights from the ECU as a lens to examine the presence of monetary hierarchy in the Eurozone as well, showing that hierarchies can indeed be found along similar lines to the ECU, though the single and common currency comes with a plumbing that abates the competition threatening the sustainability of the monetary arrangement.

Three consequences of the paper can be outlined. First, at the level of the Eurozone, the presence of a monetary hierarchy casts doubt on the process of monetary unification, the decentralised implementation of monetary policy, and the drivers of intra-Eurozone liquidity flows. Second, the interpretation of the mechanisms tying the hierarchy at the top is also called into question. These are the infamous TARGET balances, which remain a largely un-defined position for the NCBs. Third, on the theoretical side, this paper clearly opens the path to new theoretical innovations around the Official–Private axes of analysis for the concept of monetary hierarchy. Indeed the experiences of the ECU and of the Euro show the need to clarify the qualitatively different money-liabilities.

Such arguments contribute significantly to multiple literatures that have been concerned with the political economy of international finance and money. First, the paper contributes to the wide IPE scholarship on the international monetary hierarchy and the relationships between economic power and monetary power (Strange, 1971; Cohen, 1971; De Cecco, 1975; Kindleberger, 1981; Norrlof, 2014). Second, it evolves out of Critical Macro-Finance (Gabor and Vestergaard, 2016; Gabor and Ban, 2016; Gabor and Vester-

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<sup>1</sup>Only National Central Banks, European Organisations, and few selected institutions have access to the ECB balance sheet, entailing that its liabilities are primarily held by official institutions and the public sectors.

gaard, 2018; Gabor, 2020) and Money View approaches (Mehrling, 2010, 2013; Mehrling et al., 2013), and understands the crucial role of *payments* in the international (but also domestic) monetary system (Murau et al., 2021, 2023). Third, it brings together the aforementioned literature with the literature on International Financial Subordination and the contributions therein that focus on the effects of international monetary (or currency) hierarchies on peripheral economies and emerging markets (Bonizzi et al., 2019; Alves et al., 2022; Koddenbrock et al., 2022; Vielma and Dymski, 2022; Carneiro and Conti, 2022). Fourth, it contributes to the literature on European integration and specifically the evolution of the European monetary systems (ECU Institutie, 1995; Hall, 2014; Johnston and Regan, 2016; Schneider and Sandbeck, 2019; Tortola, 2020), offering a novel line of inquiry into the asymmetries within the Eurozone (Murau and Giordano, 2024).

The structure of the paper is as follows. Section 2 explores the dichotomous system of the ECU as the precursor of the Euro in order to establish the *lens* for the analysis of monetary hierarchy in Europe. This section outlines how the ECU was born as the solution to a well known and contemporary problem, the lack of finality in the international monetary system. At the same time, the section also defines the empirical distinction between Official and Private circuits of money as the analytical axis of analysis of the euro-monetary hierarchy, not by defining its causes but by looking at its appearance. Subsections 2.1 and 2.2 analyse each form of the ECU: the former delving into the Official form and the latter examining the rise of Private or market-based forms of ECUs. Section 3 reflects on the possibility of these different forms of monetary hierarchies competing with multiple money-instruments and appearing with multiple apices. Section 4 then establishes the presence of similar forms of monetary hierarchy in the Eurozone despite the evolution from monetary coordination to a monetary union. Lastly, Section 5 elaborates on the political economy consequences of monetary hierarchies in the Eurozone. Section 6 concludes.

## 2 The European Currency Unit and Monetary Hierarchies

In a national monetary system, credit-money balances of different public and private institutions do not possess the same ability to discharge outstanding relations of credit, thus leading to a hierarchical tiering of monies (see for example, Rossi, 2007). Such tiering is primarily of *private* forms of money-instruments<sup>2</sup> with the ‘public money’

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<sup>2</sup>The word ‘money-instrument’ is preferred to the simple ‘money’ to avoid confusion: money-instruments are IOUs that have some features of money (for example, means of exchange), but that are not money in

(central bank reserves) only acting separately at the apex of the pyramid (Lapavitsas, 2003), though it may not be the apex itself. Central bank money, in other words, is a point rather than a hierarchy –for it has no competition from other official balances within a country’s borders, and may ‘back’ or coincide with the instrument at the apex of the hierarchy of private ‘monies’.

Outside of a country’s borders, a defined feature of the international world market is the presence of a *currency* hierarchy.<sup>3</sup> The rise in cross-border finance since the 1980s has led to a focus on the asymmetric interactions in international financial markets, where money has been included by assessing the hierarchical positioning of national credit-monies outside their respective borders (see Alami et al., 2022).<sup>4</sup> This, in turn, revolves around the competition of national central bank-issued monies, in which one money (or very few) acquires the role of Foreign Exchange Reserve due to its higher acceptability outside of its original national borders. In this view, whilst the international monetary hierarchy encompasses both private and official forms of money, it is ultimately shaped by the tiering of the central bank-issued liabilities –i.e., *official* liabilities.

At a *regional* level, the question of what financial assets could play the role of Foreign Exchange Reserve (or ‘world money’ in Marxian terms) amongst European partners has been a constant throughout the post-war era, especially with the increasing regional integration of trade and financial flows. As an attempt to solve such issue, with the launch of the European Monetary System (EMS) in 1979, the European Currency Unit (ECU) took the place of the former European Unit of Account (EUA),<sup>5</sup> maintaining its nature: the 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

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itself. Given that the higher on the hierarchy, the closer to being money, if we refer to commercial bank (or even large corporations) IOUs we may simply refer to them as ‘private money’, for their high degree of acceptability hinges on a variety of money-roles being covered by the specific instruments.

<sup>3</sup>Monetary and Currency hierarchy are understood with equal meaning. The difference is that at the international level, different monies are recognised in terms of the different denomination (units of account), which are called currencies.

<sup>4</sup>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).

<sup>5</sup>Different 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).

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*.<sup>6</sup> The peculiarity of such money lies in its nature, 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,<sup>7</sup> then further innovated with the introduction of the Euro, which combines public and private issuance of money and removes its synthetic nature.

As the possibility of a regional dimension of monetary hierarchy for a monetary union has never been considered, the study of the ECU helps in forming a lens to analyse the Eurozone, for the ECU is a precursory form of the euro that maintains forms that were later on combined together.

## 2.1 The original Official ECU

*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 European Monetary System (EMS), and were 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;<sup>8</sup> 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

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<sup>6</sup>The term ‘quasi world money’ was coined by Makoto Itoh as explained in (Lapavitsas, 2013, note 6). The approach to monetary hierarchy in the Marxist analysis of money argues that the roles of money in the domestic economy are complemented by the international role of money as ‘World Money’ –money in its commodity form *par excellence*.

<sup>7</sup>The ECU as an answer to the problem of quasi world money implies that it was an answer to a vacuum at the apex of the monetary hierarchy, even though formal definitions of the hierarchy had not been provided in this specific context.

<sup>8</sup>For 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.

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 (finality) as gold or dollars in international transactions.

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 of 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 that is 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 Very Short-Term Financing Facility (VSTFF).

Failure by an EMS central bank of a strong currency country (Germany) to be ready to provide liquidity in its own currency would translate in the mechanism of matching liabilities and assets to break down, and in the weak currency country’s failure to intervene in the foreign exchange market and thus exit the band of the bilateral exchange rate. Eventually, this failure occurred with the ERM crisis of 1992, that saw Germany being unwilling to provide unrestrained short-term quantities of Deutsche Mark to Italy, which was driven off the peg. The unwillingness of a central bank to provide credit as happened with Germany is primarily driven by two consequences of the VSTFF mechanism: 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, and the effects of Mark-denominated credit to be injected in the foreign exchange market on the monetary base, which then would need to be sterilised in order to maintain control over domestic German monetary policy (Garber, 1998).

Though 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 their re-joining with the creation of the euro.

## **2.2 The rise of market-based 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,<sup>9</sup> 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

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<sup>9</sup>Private ECUs followed the specification of the currency composition of the official ECUs and thus both are interchangeable in the function of unit of account.

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; 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.

The incentives to use private ECU as a currency of denomination for money –and later capital– markets instruments were primarily found in the conditions of the domestic economy, which saw countries in a subordinate economic position vis-à-vis Germany, the holder of the strong currency in Europe and whose weight in 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 (for example, the French Saint-Gobain) operating in multiple European countries and thus needing a harmonised unit of account to avoid the different behaviours of national currencies.

On the one hand the location of the European institutions in Brussels and Luxembourg led to the banks therein to be the first accepting/creating non-bank deposits denominated 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). On the other hand, the interest rate differentials across the members of the EMS was the primary driver for the asymmetric adoption of ECU as a denomination for private financial and banking instruments. Indeed, ECU-denominated loans presented themselves as attractive to countries with high nominal interest rates on the domestic currency because the ECU offered lower interest rates and exchange rate stability relative to the domestic currency (which was a component of the ECU basket). 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).

Furthermore, 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. 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 and thus forbade its use in the Federal Republic of Germany until 1987. These different regulations entailed two

outcomes.<sup>10</sup> On the one hand, foreign exchange controls applied to private ECUs in the countries recognising it as a foreign currency, 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 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. Clearly, 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. Private ECUs were the product of the market in a financialising world, as they were born out of financial purposes and embodied various financial instruments such as hedging against exchange rates volatility in a money-instrument, and then acquired moneyness because of their growth in acceptability and because they were linked, though legally distinct, from the money that performed the role of quasi world money at the institutional level, the official ECU.

Crucially, 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 encompasses every sector of the domestic (and regional) economies with distinct paths between peripheral and core countries. Indeed, 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

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<sup>10</sup>A third outcome for Germany can also be found. 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.

Mediterranean periphery<sup>11</sup>– and in France, but the latter was caused by the coincidence of a weak currency with one of the financial centres in Europe (Paris).

In Italy, both private and public sector made use of ECU-denominated bonds since the early 1980s. The Italian Treasury, for example, issued ECU 12.95 billion in Treasury Certificates<sup>12</sup> between 1982 and 1988, and ECU 5.78 billion in short-term Buoni del Tesoro Ordinario (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,<sup>13</sup> 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, whilst relatively small to be relevant at the international level, 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 crucially to the creation of different areas within the EMS/Eurozone characterised not only by distinct economic performances, but also by a hierarchically lower position.

### 3 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,

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<sup>11</sup>Whilst 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.

<sup>12</sup>Maturity between 4 and 8 years.

<sup>13</sup>This issuance occurred through its financial branch in Luxembourg.

the evolution of ECU as a competing money was limited by the compartmentalisation of its forms and the distinction between official and private. This implied a 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 private (bank-credit) 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: on the one hand, the Official ECU competed against the other indexed money, the IMF’s SDR,<sup>14</sup> 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. On the other hand, the Private 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 in 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-EMS

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<sup>14</sup>The 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%).

liquidity, which in itself 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 whilst 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.

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 instrument 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 increased 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 1).

Figure 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 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,

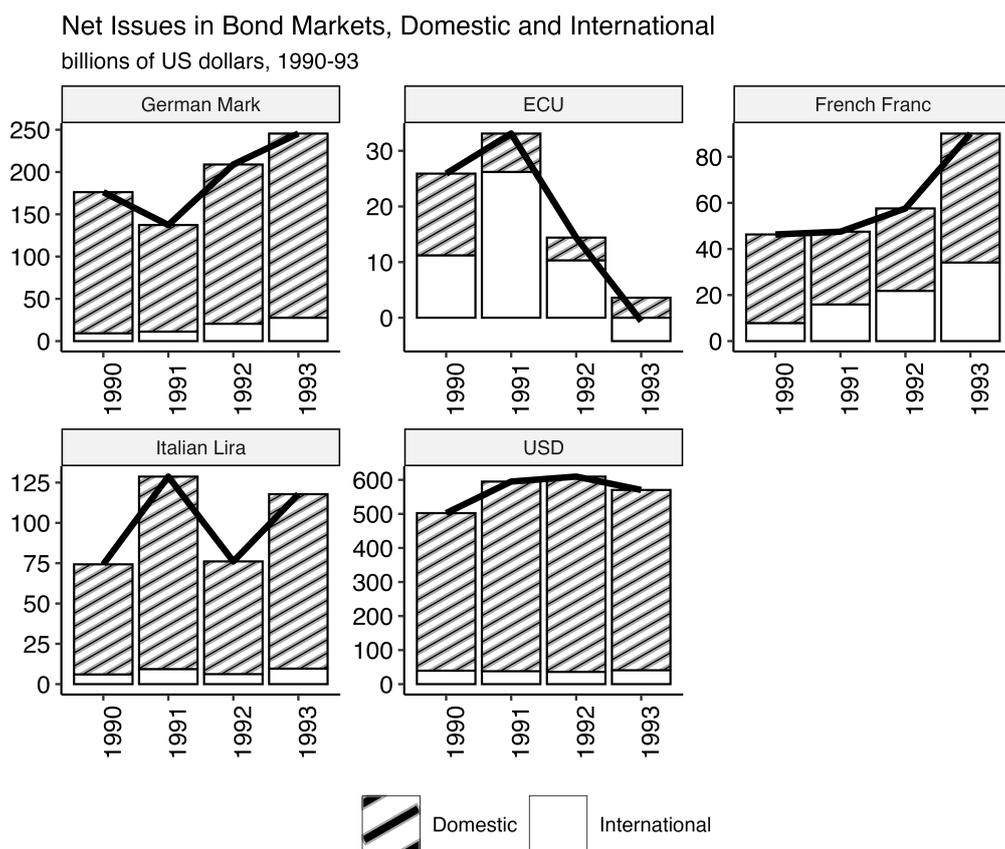


Figure 1. Net issues in domestic and international bond markets for US Dollars, Deutsche Mark, French Franc, Italian Lira, and ECU (bn USD), 1990–1993.

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 (1990, 1991, 1992, 1993, 1994) data.

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 the 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 investment abroad (BIS, 1995).

Ultimately, the post-ERM crisis years witnessed the demise of private ECU mar-

kets 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, financial development –both in terms of depth and in terms of the liberalisation of the 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 Replicating the Monetary Hierarchy in the EMU

The question, then, is whether the problems arisen with the inconsistencies of the multiple monetary hierarchies for the European Monetary System and the ECU was *solved* with the euro or simply hidden behind the single and common currency facade. One caveat is required: being able to find such monetary hierarchies within the EMU necessitates a decomposition of the Eurosystem and a focus on the specific monetary *jurisdictions* that together create the EMU, for a monetary hierarchy entails a tiering of the jurisdictions and of their ‘apex balance sheet’ –their respective National Central Bank (NCB) (see Giordano, 2024, for a formalisation of such decomposition).

The answer lies in using the experience of the ECU as a lens to test the hierarchical structure of the euro. In fact, the two hierarchies –one official and one private– remain and have different apices: the ECB for the ‘official’ liabilities (i.e. held and demanded by official sector), and the Bundesbank for the ‘private’ side of the hierarchy. The official side has already been shown in Murau and Giordano (2024), who show how the ECB balance sheet was centralised, repurposed, and operationalised by the decision of novation within the TARGET system. In fact, the part of the ECB balance sheet acting as a ‘CCP-department’ can *only* be accessed by other NCBs, implying that the ECB’s TARGET liabilities can *only* be held by the National Central Banks –just like the official ECUs.

However, the failures of the EMS led to the imposition of mechanisms that could prevent the competition between the two form of ECU-money from impeding the working of the euro. The solution to the shortcomings for the working of the official side of monetary systems (i.e., cooperation and adjustment amongst central banks) displayed by

the ECU can be found in the creation of the TARGET system, though balances arising in such system have not been defined legally as forms of money-like balances. The TARGET (and its updates into TARGET2 and T2) system and the Novation procedure allow for automatic and unconstrained backing by the official liabilities, which in turn supports the private demand for both private and official euros at par. The official side, in other words, provides a backstop for the private liabilities, unlike with the private ECUs.

Private monetary and other financial institutions consider the balance sheets of the NCBs as single entities rather than as faces of the unified Eurosystem. Such considerations arise primarily from two reasons: first, NCBs have different risk profiles in case of a breakup of the Eurozone; and second, NCB balance sheets cater *only* to the Monetary and Financial Institutions within their monetary jurisdiction. Consequently, higher deposits of non-Euro Area residents in specific NCBs entails lower perceived risk as well as lower transaction costs due to the presence of counterparts in the NCB's jurisdiction. The *liabilities* of such NCBs are valued more than liabilities of other NCBs, similar to the hierarchical tiering of currencies in the International Financial Subordination literature –especially its Post-Keynesian flavour (see de Paula et al., 2017; Prates and Pereira, 2020; Prates, 2020).

The tiering of official balance sheets can be empirically shown by looking at the demand for NCBs' liabilities. Figures 2 and 3 do so by looking respectively at non-Euro Area residents and overall cross-border (irrespective of residency, hence including both Euro Area and non residents) investments in NCBs' liabilities.

Figure 2, which depicts the liabilities of the NCBs to non-Euro Area residents denominated in euro. Since 2016, there has been a considerable increase in the liabilities of the Bundesbank to non-Euro Area residents. The figure shows that the liabilities of the National Central Banks to non-Euro Area residents denominated in euro are structurally uneven, with the Bundesbank reaching a peak of €400bn in December 2021 compared to €75bn for France as the second highest NCB, with the remaining NCBs displaying all below €10bn. This suggests that non-Euro Area residents have a preference for Bundesbank-liabilities over other NCBs-liabilities, despite all of them being denominated in euros.

Two components need be noticed: the appearance of cyclical components which shows non-Euro Area residents accumulating reserves at the Bundesbank in December followed by de-accumulation the following January –caused by banks' end-of-the-year window dressing; and a *structural* polarisation putting the Bundesbank at the apex of the market-based (i.e., defined by private agents' perceptions) hierarchy. The ECB also appears due to official Foreign Exchange Swap lines with other central banks and other temporary programmes in which it issues euro liabilities to foreign counterparts.

Such movements can be appreciated also by looking at a component of the German Balance of Payments that is often overlooked, namely the other investments in central

Eurosystem's Liabilities to Non-Euro Area Residents Denominated in Euro  
 millions of euro, 2016-22

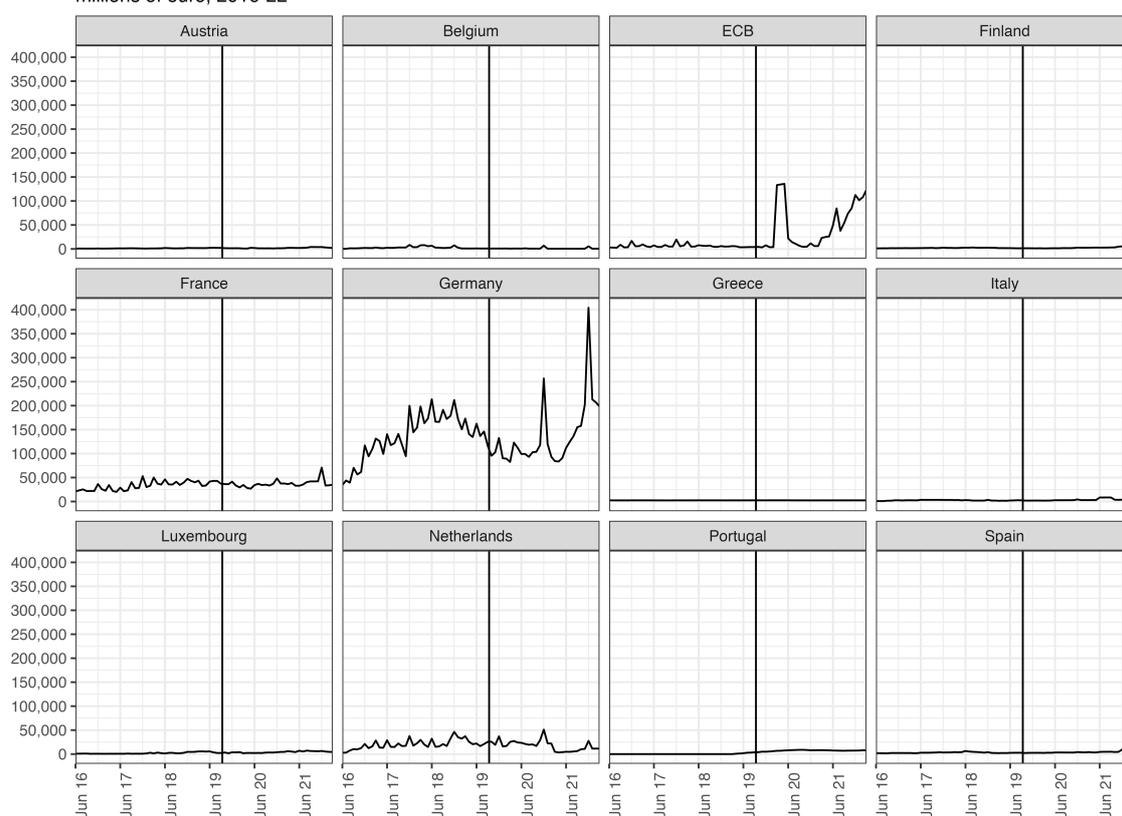


Figure 2. Liabilities to non-Euro Area Residents Denominated in Euro (mn euro), 2016–22.

Notes: Each panel represents the liabilities of the National Central Bank of the selected jurisdiction. The vertical line signals the ECB's 'Two-Tier' system press release occurred in December 2019.

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

bank liabilities, recorded as monthly flows in Figure 3, neglecting the *residence* of the counterparts and thus also including intra-EMU liquidity flows. Whilst there are no clear short-term impacts of the various programmes or Covid19 on the monthly flows, there are some components that show cyclicity. The Other Investments in the Bundesbank (triangles) shows that the Bundesbank acquires liabilities at year-end, allowing for liquidity to flow in. These are euro-liquidity flows as they affect monthly TARGET balances –which record the net (inflows-outflows) flows of euro-liquidity across EMU jurisdictions, and thus carried out within the onshore euro-banking system. Cyclicity started appearing 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 (circled datapoints). These are also followed by outflows of similar size in the following January.

This clearly is a pattern of window-dressing for year-end reporting, but the peculiarity lies in the fact that it occurs only with balances at the Bundesbank and in no other NCB. As can be seen from the comparison with France and Italy (Figure 3), these jurisdictional NCBs do not show large swings in the Central Bank positions (black triangles).

Net Foreign Other Investment into resident Central Bank liabilities and TARGET balances  
 millions of euro, monthly flows, 2008-21

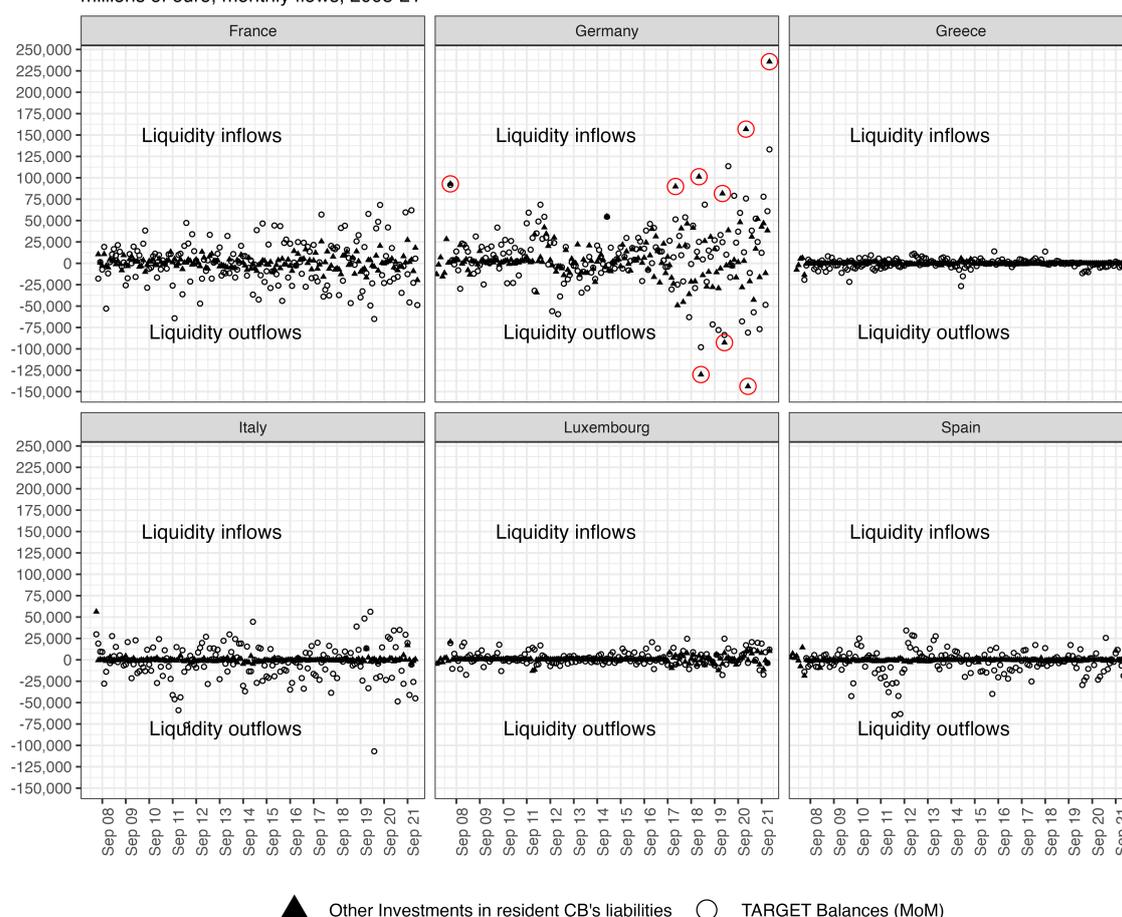


Figure 3. Net Foreign Other Investment into resident Central Bank liabilities and TARGET balances for selected countries (mn euro), monthly flows, 2008–21.

Notes: Circled observations show the Other Investments in Central Bank liabilities > 75,000 ∨ < -75,000.

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

Other major NCBs (Luxembourg, Belgium, Spain, and Greece) also do not show the same pattern as the German Bundesbank. Consequently, it can be argued that there is an overall market preference for official ‘Bundesbank-denominated’ euros across the Eurozone, which is in line with the idea that non-Euro Area investors closing their long positions on Eurozone financial assets prefer to ‘park’ the euro-liquidity received in exchange in German commercial banks with direct accounts to the Bundesbank (Baldo et al., 2017; Eisenschmidt et al., 2017).

There is a private market-based hierarchy, and the Bundesbank is undoubtedly its apex. 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. Together with the official apex –the ECB, the *bi-polar* EMU monetary hierarchy hinges on the connection provided by the TARGET system to allow for the two hierarchies not to collide.

## 5 Consequences of a intra-Euro Monetary Hierarchy

Whilst monetary systems are inherently hierarchical, the shape of the bipartite monetary hierarchy found in the Eurozone bears consequences for the project of monetary unification, both in technical and political economy terms. At least three consequences can be outlined: the effects on the working of the Eurosystem, the effects on the working of the Eurozone's financial markets, and the revaluation of the Eurozone via the lens of the USD-based international monetary hierarchy –à la Emerging Market Economies.

The effects on the working of the Eurosystem are twofold. On the one hand, the functioning of the Eurosystem crystallises the 'money confusion' (Labridinis, 2014, p.12) around euro-money:<sup>15</sup> liabilities of the German Bundesbank are not the same as the liabilities of the Banca d'Italia, but they are traded *at par* (see Mehrling, 2013, for a theoretical, non-EMU, explanation of the 'prices' of money). This commitment to parity *is* the monetary union, and allows for private and public actors to mistakenly perceive euros as equivalent around the eurozone.

If one looks, however, at the balance sheet one gains access to with euro-liabilities, it becomes clear that *only* the issuing NCB balance sheet can be accessed by law. Other NCB balance sheets *can* be accessed only if the ECB's 'CCP department' can expand limitlessly and if the TARGET system works unconstrained.

On the other hand, a problematic feature for the Eurosystem is the bi-polar form

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<sup>15</sup>The existence of money confusion has a long tradition. For example, in chapter 3 of Volume I, Marx (1965) argues that names and qualities of money are not coherently linked to one another 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 bears special validity in the context of a monetary union.

of the Eurozone’s monetary hierarchy, which is the environment within which monetary policy is carried out. The incoherence arises from the fact that the apex of the ‘official’ monetary hierarchy (i.e., the ECB) is not the same as the apex of the ‘private’ hierarchy (i.e., the Bundesbank), and neither one is the primary or only balance sheet carrying out monetary policy operations –which are legally and operationally *decentralised* to each NCB according to the capital key.

This implies an asymmetric working of the monetary system in the Eurozone, for though there is a backstop to commercial credit money, this backstop is placed at three different levels simultaneously: the National Central Bank, the ECB’s CCP-department, and the apex of the NCBs (currently the Bundesbank). Given that an asymmetric monetary system may hamper or skew the transmission mechanism of monetary policy, the two-tier system was introduced in October 2019 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 (ECB, 2019). 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).<sup>16</sup> The introduction of such excess reserves exemption allowances in the EMU were aimed at stimulating the reallocation of excess reserves across banks, both domestically and cross-border to try push euro-liquidity from Germany and France to the Southern European countries. In other words, the ECB aimed at rebalancing artificially the liquidity premium of reserves at the Bundesbank or Banque de France.

In terms of the Eurozone financial market, the monetary hierarchy inevitable shapes the context for liquidity flows. In fact, 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 the simultaneous destruction and creation of central bank reserves in respectively the jurisdiction making and the one receiving the flow of euro-liquidity. 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.<sup>17</sup>

Such similarity between these forms of *liquidity* is also shown by the fact that euro

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<sup>16</sup>Though 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.

<sup>17</sup>Central Bank liquidity can be defined as the liabilities issued by the central bank, also known as M0 or base money, and which include coins and notes in circulation as well as central bank reserves.

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.<sup>18</sup> 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).

Lastly, the existence of a monetary hierarchy prompts the observation that the asymmetric effects of the monetary union on its member states may resemble more structurally the working of the international monetary and financial system as understood in Alami et al. (2022). In fact, the monetary hierarchy established in the previous section highlights three features that allow to define the EMU as an asymmetric structure laden with *monetary subordination*. First, it highlights the coexistence of different monies or different euros (‘legacy-euros’ issued by the single NCBs) that bring forward the legacy monies of the pre-Euro countries and allows for the existence of ‘quasi-foreign exchange 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 NCBs). Third, the hierarchy shows the lack of homogenous and overarching unification of the official and market infrastructure, as *multiple* monetary hierarchies can be found with different apices –the ECB and the Bundesbank.

## 6 Conclusion

In conclusion, the purpose of this paper has been twofold. On the one hand, the paper explored the presence and form of monetary hierarchies in the European Monetary

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<sup>18</sup>In 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.

System with the European Currency Unit (ECU). In doing so, the paper shows the history and nature of ECUs, rising from Official balances to unrelated Private instruments, and it highlights the incomplete nature of artificial ‘quasi world monies’. The paper argues that the potential tensions between the two forms of monetary hierarchies lies 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 lens developed in the study of the ECU was applied to the Eurozone and the euro to evaluate whether the monetary hierarchy persisted also with the single and common money. This in turn was found to be a misnomer: the euro *is not* operationally one single and common money, but a single and common unit of account. In fact, the monetary jurisdictions and the NCB’s liabilities –i.e., legacy-euro balances– were found to be hierarchically tiered based on market preferences for German liabilities, completing previous studies on the hierarchy within the Eurosystem itself –topped by the ECB balance sheet. The significance of the existence of a monetary hierarchy in the European Monetary Union à la ECU was then outlined.

Three avenues for further research can be easily outlined stemming from this paper and the idea of Private-Official monetary hierarchy.

First, the *theorisation* of this new axis requires elaborations on the drivers of both the official and private side of the hierarchy. In this regard, the ECU may be informative as it was in perceiving their appearance, for it shows that a connection between official and private is required for the monetary system not to collapse, even if the ‘money’ is introduced in an institutionalised manner. The drivers of the private hierarchy, however, remain understood in unsatisfactory manner, often defined as a mere projection of central bank money. Yet, for instance, is clear than bank deposits are not all equal (based on the issuing balance sheet), pointing thus at hierarchical tiering of similar types of private IOUs. The causes required further analysis, for hierarchy is the nature of money, but not all forms of money are on the same hierarchy.

The second and third paths for further research are similar and connected. One is concerned with the replication of the Official-Private distinction in other monetary systems, involving the study of both the domestic and international levels. At the domestic level, the distinction may be less exciting, for there usually are not multiple official money-balances but only the (one) Central Bank liabilities. However, the connections between this point (rather than hierarchy) with the hierarchy of private monies should be explored as a potential weakness of a monetary system. At the international level, the distinction should prove to be remarkable outcomes, given the open competition of official monies (Foreign Exchange Reserves) as well as private monies (bank deposits in multiple denominations, corporations IOUs, . . .).

The other, ultimately, is concerned with the study of how the Official-Private

monetary hierarchies have evolved with the transformation from the ECU to the Euro –a single unit of account but with intrinsic *money confusion* characterising it. 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 money-instrument demand.

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