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A GLOBAL DIGITAL CURRENCY TO RULE THEM ALL? A MONETARY-FINANCIAL VIEW OF THE FACEBOOK'S LIBRA FOR THE EURO AREA

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Abstract

In this paper, the monetary-financial implications of two versions of Libra are analysed, i.e. Libra 1.0 and Libra 2.0. First, I briefly discuss how technological developments in monetary history have reshaped the payments landscape and how Libra is going to challenge the current bank-based ecosystem. Second, I identify some risks stemming from the current monetary-financial system and I review the Euro Area's regulatory framework to control these risks. Third, I assess how a wide acceptability of Libra`s 1.0 and 2.0 could challenge the current monetary-financial structure and therefore the risks associated. Finally, I propose a Synthetic CBDC issuance, i.e., a narrow banking approach, to limit the new risk associated with the introduction of Libra 2.0.

Keywords: Digital currency, Libra, currency substitution, bank disintermediation, stablecoin.
JEL Classification E42 E50 F31

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1. INTRODUCTION

The evolution of both money and means of payment has been, and will always be, closely linked to technological developments. Money is defined as an asset that fulfils the three functions defined by Jevons (1875)—being a medium of exchange, being a unit of account and being a store of value—while a means of payment, due to its reduced money demand, only fulfils the first two functions.

Since humankind began to exchange goods as a result of their excess productions, different highly valued goods, e.g. agricultural commodities, cattle and metals, were seen as a valid means of payment. This primitive monetary system is known as barter and it was widely introduced by the tribes of Mesopotamia (6000 B.C.). However, barter relies on the double coincidence of wants. Both of the parties of the exchange have to agree to each sell and buy a commodity. Since this has proved to be unfeasible, metals were market-borne as the most effective asset to fulfil the functions of medium of exchange and unit of account.

In the seventh century B.C., with technological advances in metallurgy, minting was invented and metals in the form of coins became a widely and accepted means of payment. With the demand for coin increasing, this means of payment also fulfilled the store-value function, which finally saw them able to be categorized as money. The following innovation was paper money, the first financial asset—it was a claim on bank metal assets—became widely used as a means of payment. Although it was not introduced in Europe until the colonialism era, Kublai Khan, grandson of Genghis Khan and first emperor of the Yuan dynasty, implemented paper money in China in 1260. In the wake of the passing of the 1844 Peel's Bank Act, in which loan-driven cash creation by commercial banks was banned in UK, bank deposits settled through bills of exchange became the most demanded form of money. These bank deposits were both an account-based and a financial-asset means of payment since the bank has the obligation to redeem the cash or coins upon demand and at face value. The widespread use of bank deposits as money and as a means of payment occurred alongside the advent of the digital methods of register and settlement in mid-sixties (Hernández de Cos, 2020), which marked the beginning of digital account-based means of payment.

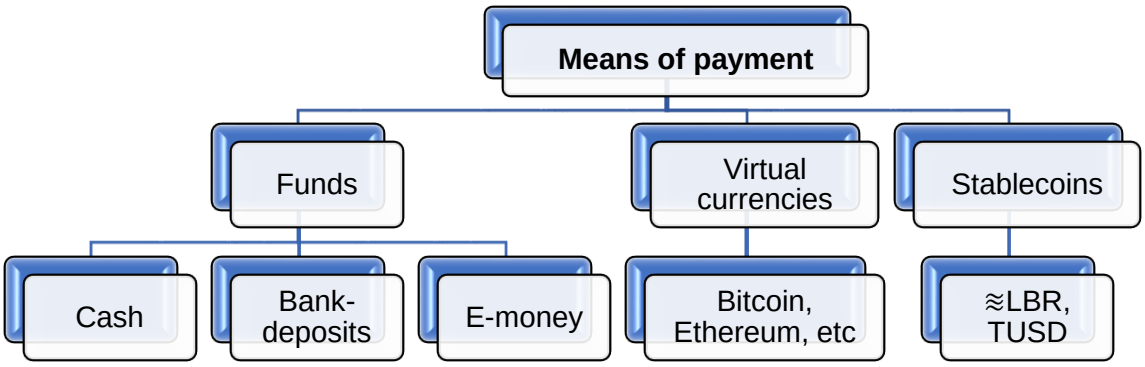
Nowadays, digital technologies are much more refined than those of the past, changing not only societies but also the global economy (Schwab, 2017). Since the advent of the digital currencies era, non-bank private institutions have entered the payments landscape. E-money issuances, e.g. PayPal, Trasnferwise, Alibaba and WeChat, first took place in 1990 and aimed to offer faster, more cost-effective and more user-friendly payment systems than the bank-based ecosystems could. E-money issuances are an account-based means of payment. They represent a claim for the user, since the issuer has the obligation to exchange, upon demand and at a face value, the e-money issuances for bank deposits. In 2008, with the creation of Bitcoin, a new DLT-based and anonymous means of payment was established (Bech and Garratt, 2017). Since then, more than 5,000 virtual currencies have been launched with cash-anonymity as their main design feature. The original idea of digital cash was introduced three decades ago by D. Chaum. He proposed a new kind of cryptography that would allow an automated payment system and the execution of untraceable payments (Chaum, 1983). The last financial innovation is Facebook's digital currency. In 2019, the Libra Association, led by Facebook, put forward a particular digital currency issuance with the same design features as stablecoins and with the potential of becoming a widely accepted means of payments due to Facebook's large customer base. Unlike virtual-currencies, stablecoins are backed with a pool of assets and could be a claim for the user.

As a result of this monetary evolution in modern economies, people may demand five different means of payment including central bank money, bank deposits, e-money, virtual currencies and stablecoins. Central bank money can be classified as cash or central bank digital currencies (CBDC). Bank deposits, named *b-money* by Adrian and Mancini-Griffoli (2019), feature a redemption guarantee that is backed by the Estate. On the other hand, e-money is a claim that can be exchanged for currency at face value (Adrian and Mancini-Griffoli, 2019).

The EU's regulatory framework summarises these means of payment into three main categories (see Figure 1). The first category are funds, which comprises cash, bank deposits and e-money (European Union, 2000). These means of payment are either issued or guaranteed by a public authority and, therefore, have a sovereign fiat value, i.e. they are denominated in sovereign units of account (USD, EUR, JPY, CHY…). The second category are virtual currencies, which are neither issued nor guaranteed by public authorities and, therefore, have their own fiat-value, i.e. they are denominated in their own-private unit of account (BTC, ETH, etc.) and are not attached to a legally established currency. Finally, the last means of payment are stablecoins (Bullmann, et. al., 2019), which are also neither issued nor guaranteed by public authorities and, therefore, have their own fiat-value, i.e. they are denominated in their own-private unit of account (≋LBR, TUSD, etc.), but are attached to a legally established currency. Means of payment denominated in sovereign units of account—cash, bank deposits and e-money—generally have a stronger demand and, hence, could be considered to be money. Virtual currencies and stablecoins, however, due to their weaker money demand, fail to fulfil, so far, the store-of-value function.

In many nations, cash usage for payments has decreased over the last decade. The adoption of retail payment innovations and the use of digital currencies suggest an evolution toward a cashless society. The emergence of new digital currencies—e-money, virtual currencies and stablecoins—as a substitution for cash and bank deposits, may alter the bank-based ecosystem and disrupt the monetary policy mechanism and the financial stability. As Carstens (2019, p.2) argues, "technological innovations have continually reshaped the monetary system, either by changing the nature of money or the workings of the payment system". Cryptocurrencies such as Bitcoin do not fulfil some of the money functions successfully since their value is not stable (quite high volatility) and their user network is not sufficiently large. In fact, they are often treated as speculative assets rather than as money (Claeys et al, 2018). In contrast, the creation of Facebook's digital currency could fulfil all the previous features and significantly disrupt the bank-based ecosystem. Facebook has seen an opportunity to launch its digital currencies in this context of cash disappearing and non-bank universal services. Governments, regulators and international organisations are worried about how to monitor a digital currency that could be available to more than 2.5 billion users (total number of monthly active users in 2019). In Europe, Facebook has 394 million users and Adachi et al. (2020) estimates that Libra Reserve's total assets under management could range from €152.7 billion in the "means of payment" scenario, to around €3 trillion if the currency becomes a widely adopted store of value.

Figure 1. EU's regulatory framework classification



Source: Authors' elaboration

In this paper, it is studied the monetary-financial implications of the Facebook's Libra proposal. In section 2, some risks stemming from the current monetary-financial system are identified. Section 3 and 4 focus on how a wide-acceptability scenario of Libra's 1.0 and 2.0 could challenge the current bank-based ecosystem and therefore the risks associated. The following section proposes a regulatory respond to the Facebook's Libra proposal: (i) a non-grating license approach for issuance the Libra 1.0; and (ii) grant a license to operate as an e-money institution issuing Libras 2.0, subject to fully back these issuances with central bank reserves, i.e. a Synthetic Central Bank Digital Currencies (CBDCs) issuance or a narrow banking model. Section 6 concludes.

2. THE CURRENT RISKS POSED BY THE EURO AREA'S MONETARY SYSTEM AND ITS REGULATORY FRAMEWORK

Since the advent of the digital-account-based means of payment, i.e. digital currencies, monetary systems include two main elements: (i) the infrastructures through which funds are transferred between user's accounts, i.e. the payment systems; and (ii) the means of payment themselves. Adequate functioning of the monetary system is a key issue in today's market-based economies and, to ensure this, public authorities must identify and control the risks posed both for the users and for the economy as a whole.

Any means of payment inherently has two risks: fiat-value[2] risk and operational risk. Fiat-value risk (I) could be defined as a reduction in the value of the unit of account held by the user arising from the following two causes: (i) a materialisation of the currency substitution risk stemming from a reduction in money demand both domestically and from abroad, which triggers long-term periods of currency depreciation and high inflation; and (ii) an over-issuance of money, which would trigger an excess-aggregate-demand scenario and, hence, high inflation. The operational risk (II) could be defined as the risk of suffering losses resulting from inadequate designs and ICT failures in the payment systems. Any digital-account-based means of payment has one or multiple ledgers that digitally record the users' accounts, and one or several infrastructures to move funds between users. These infrastructures can be conventional-based, such as the market-based deferred-net-settlement networks, e.g. Visa Europe; the public real-time gross-settlement networks, e.g. TARGET2; and the parallel e-money networks, e.g. PayPal and Alibaba. The

[2] Fiat money, also known as fiduciary money, is a mean of payment that does not have an intrinsic value. All account-based means of payments lack an intrinsic value because they are an intangible accounting entry in a ledger convertible into another fiat-value asset, cash.

infrastructures can also be DLT-based, in which participants jointly take part in updating the central ledger—as is the case with Bitcoin, some CBDC proposals (Auer & Böhme, 2020), and the Libra proposal.

Additionally, debt-like means of payment such as bank deposits, e-money and some stablecoins also have credit risk (III), which is defined as the possibility of suffering losses stemming from the issuer's failure to redeem its sight obligations. Debt-like or claim issuances could be either fractional backed, in which commercial bank's assets are mainly comprised by long-term debt and loans, and semi-fractional backed, in which e-money institution's assets are comprised by short-term debt and cash equivalents.

EA's monetary-regulatory framework aims at ensuring that households' and companies' access to a low-risk, efficient and cost-effective means of payment in the current bank-based ecosystem. This regulatory approach is based on four key elements: (i) a monetary policy to mitigate the fiat-value risk; (ii) a payment system oversight to control the operational risk; (iii) a microprudential and deposit-insurance framework to limit the credit risk on a microeconomic basis; and (iv) a macroprudential, deposit insurance and lender of last resort (LOLR) framework to mitigate the risks—risks of systemic bank runs and risk of economic and financial bubbles—for the economy on a macroeconomic basis.

The primary objective of the ECB's monetary policy is to maintain price stability, i.e. the fiat value of the unit of account, which is defined as an inflation rate below, but close to, 2% over the medium term. In order to fulfil this objective, the ECB takes a two-pillar approach— and economic and monetary analysis—to implement the Eurosystem's instruments, which are the open market operations, standing facilities, minimum-reserve requirements and asset purchase programmes.

One of the ECB tasks is to promote the smooth operation of payment systems, as established by the TFEU. In performing this task, the Eurosystem both operates the real-time gross settlement (RTGS) system for the euro—TARGET2—and oversees the market-based deferred-net-settlement networks—also known as wholesale interbank clearinghouses—such as MasterCard or Visa Europe.

The ECB also has a role to promote the stability of the financial system, as assumed by the TFUE. Nowadays, the most demanded form of money is bank deposits—a debt-like fractional-backed mean of payment. This means of payment—which a priori should have credit risk due to its fractional-backed reserve—is guaranteed by public authorities up to 100.000 EUR and, hence, is generally considered to be a credit-risk free means of payment. This configuration of the monetary-financial system, also called fractional reserve banking, poses the following risks to the economy as a whole: (i) a risk of systemic bank runs due to the fractional reserve; and (ii) a risk of economic and financial bubbles due to the commercial banks' ability to overshoot the economy by creating new money in the process of bank lending (Turner, 2015).

On a microeconomic basis, the credit risk of bank deposits is controlled by the UE's prudential regulatory framework—the so-called Basel III—and by the deposit insurance schemes. The Basel III framework is based on a microprudential-three-pillar approach, which aims at minimising the commercial banks' probability of default. Pillar 1 aims at: (i) converging minimum risks stemming from the assets side of the commercial banks' balance sheets, through a capital ratio, a liquidity ratio and large-exposures limits; and (ii) containing system-wide build-ups of leverage through a leverage ratio. Within Pillar 2, a commercial

bank (i) performs an internal capital and liquidity auto-evaluation process; and public authorities (ii) supervise these banks and require additional capital requirements based on different risks. In Pillar 3, the financial market disciplines commercial banks through the publication of recurrent reports. Finally, the resolution framework avoids bankruptcy once the ECB determines that a commercial bank is failing or likely to fail.

Deposit Insurance Schemes are state owned reserves, mainly comprised of public debt, which guarantees deposits in commercial banks up to 100.000 EUR. However, these reserves only cover 0.8% of total deposits. If a risk of a systemic bank-run materialises due to a full migration from bank deposits to cash, in order to comply with the guarantee of bank deposits, public authorities should either (i) recapitalise the banking system or (ii) act as a LOLR through the central bank, which would disintermediate the commercial banking system. On a macroeconomic basis, apart from the abovementioned instruments to control systemic bank-run risks, public authorities also have macroprudential instruments, such as the countercyclical buffer and loan-to-value caps, to limit over-indebtedness processes that can trigger economic and financial bubbles.

Electronic money institutions' issuances pose a credit risk as e-money is a debt-like and semi-fractional-backed means of payment and, hence, its reserve is comprised of short-term high-liquidly securities and interbank loans. For this reason, the EU's prudential regulatory framework of the e-money institutions is primarily based on two pillars: (i) a minimum requirement of safeguarding the funds that have been received in exchange for electronic money issued and a capital ratio; and (ii) a prudential supervision of these two requirements. This considerably limits the credit risk of e-money.

3. THE LIBRA 1.0: A MULTI-CURRENCY STABLECOIN ISSUANCE

In June 2019, Facebook—in partnership with some important companies in payments, technology and venture capital, such as Visa and Uber Technologies among others—announced that they were planning to create their own digital currency, called "Libra" (Libra, 2019). In this first white paper, Libra was designed as a stablecoin with the following arrangements: (i) its fiat value is designed to be denominated in its own unit of account (≋LBR); (ii) its issuances would be semi-fractional backed by a reserve mainly denominated in USD; and (iii) it wouldn't be guaranteed redeemable upon demand at face value. In the words of Facebook, "the reserve is established to help instill trust in this new currency and gain widespread adoption during its infancy". According to Fatás and Weder di Mauro (2019), this feature of Libra makes it quite similar to a currency board. Apart from the economic features, Libra 1.0 is designed as a DTL-based payment system that would allow the movement of Libra between users' accounts.

This first proposal has faced a myriad of critics from both the academic and the policymaking world. This stablecoin issuance could challenge the monetary sovereignty not only of countries with weak currencies but also that of reserve currency countries (G7 Working Group on Stablecoins, 2019). Moreover, it is not clear whether regulators can ensure privacy standards and guarantee both consumer protection and legal payments (Niepelt, 2019). Williamson (2019) goes further and argues that Libra evades regulation because it does not have a difference with coin offerings. Even though Libra would provide large network externalities, it also raises privacy and crime issues, and concerns regarding possible inappropriate use of data. In fact, the whole transaction data would be monopolised by the Libra Association (Fatás and Weder di Mauro, 2019).

Nearly one year after the first Libra announcement, and in response to regulatory authorities' concerns stemming from this particular digital currency design, Facebook published a second paper with a new design for the Libra (Libra Association, 2020). In fact, in this second white paper, Facebook introduced two versions of the Libra: a multi-currency approach (Libra 1.0) and a single-currency approach (Libra 2.0). Libra 2.0 offers the same approach as in the first white paper but is guaranteed redeemable upon demand at face value and offers a commitment to perpetually maintaining a reserve comprised of short-term public debt and cash equivalents denominated in reserve currencies units of account.

These design features make Libra 1.0 a stablecoin and, hence, ensures that it falls outside the current EU's regulatory framework. Whether Libra will become a global digital currency or not matters from a policy-making perspective. If UE's authorities grant Facebook a license to issue Libra 1.0, a risk of currency substitution could materialise and the EA's monetary sovereignty could be jeopardised. Given the composition of the Libra's reserve, by acquiring Libras 1.0, people indirectly demand a basket of short-term debt and cash equivalents denominated in: 50% USD, 18% EUR, 11% GBP, etc. For the Eurozone, this implies that a shift from EUR-denominated bank deposits to Libra 1.0 would indirectly be a demand on USD-denominated assets. With households and companies holding ≋LBR-denominated means of payment both domestically and abroad, commercial banks will increase their assets and liabilities in foreign currency and will have no need to borrow liquidity from their central bank, meaning that there will be no transmission of monetary policy via reserves. This process is shown in Figure 2. The weakened currency could lead to: (i) a reduction in the country's ability to import in its own currency, which could result in public debt problems stemming from the issuance of foreign-denominated public debt, and to (ii) long-term periods of high inflation and currency depreciation (Calvo & Végh, 1992).

Figure 2: Transmission of monetary policy via reserves

Assets		Liabilities	
EA Commercial Banks (EACB)			
Reserves	30	Retail deposits	390
Loans	280	Whosale funding	30
Deposit to USCB	30	Deposit from USCB	40
EUR-Public Debt	120		
US Commercial Banks (USCB)			
Reserves	50	Retail deposits	300
Loans	200	Whosale funding	60
Deposit to EACB	40	Deposit from EACB	30
USD- Public Debt	100		
Libra Reserve			
USD- Public Debt	0	Stablecoins	0
EUR-Public Debt	0		
USD- Whosale funding	0		

Assets			Liabilities		
EA Commercial Banks (EACB)					
Reserves		30	Retail deposits	(-40)	350
Loans		280	Whosale funding		30
Deposit to USCB		30	Deposit from USCB	(+30)	70
EUR-Public Debt	(-10)	110			
US Commercial Banks (USCB)					
Reserves		50	Retail deposits		300
Loans		200	Whosale funding	(+10)	70
Deposit to EACB	(+30)	70	Deposit from EACB		30
USD- Public Debt	(-20)	80			
Libra Reserve					
USD- Public Debt	(+20)	20	Stablecoins	(+40)	40
EUR-Public Debt	(+10)	10			
USD-Whosale funding	(+10)	10			

Source: Authors' elaboration

This rapid shift in money demand, which would see Libra 1.0 replace bank deposits, would be driven in the EU by technological features, such as a user-friendly interface and rapid and cost-effective transactions. However, in EMEs, this shift would also be driven by economic features such as a more reliable fiat value, which could fully materialise a risk of currency substitution. As a global currency outside the control of monetary authorities, Libra also poses financial stability concerns. Cecchetti and Schoenholtz (2019) emphasise that Libra may be subject to important runs on less-liquid or illiquid assets. Depending on the use of

Libra worldwide, it could trigger a global bank run in times of distress, resulting in unknown consequences.

From the user's perspective, the fiat value of Libra 1.0 would depend on: (i) the sovereign denomination of the assets in the reserve, and (ii) the Libra's commitment to fulfil the convertibility at par. In this sense, the main drawback is that users would be subject to a disproportionate exchange rate risk (Niepelt, 2019). As it would not provide completely stable purchasing power, people will not be able to perfectly smooth their consumption. This is especially relevant as ordinary people and companies make most of their purchases in domestic currency. In countries with weaker currencies, this could be beneficial.

4. THE LIBRA 2.0: A SINGLE-CURRENCY E-MONEY ISSUANCE

As mentioned above, in the second white paper, Facebook put forward a single-currency stablecoin arrangement. Libra 2.0 maintains the same DLT-based payment system and has the following economic features: (i) its fiat value is designed to be denominated in sovereign units of account—in the case of the EA, the EUR; (ii) its reserve would be semi-fractional backed by EUR-denominated short-term public debt and cash equivalents; and (iii) the Libra 2.0 issuances would be redeemable upon demand at face value, so end users would have a claim on Facebook. These design features make Libra 2.0 fall under the EU's E-money framework, meaning that Libra 2.0 would be considered to be an e-money issuance.

Due to Facebook's large customer base in UE, EUR-denominated Libra 2.0 could be a widely and rapidly adopted means of payment. If UE's authorities allow Facebook to issue Libra 2.0, the associated risks, both for users and for the EA's economy, would change. From the users' perspective, as with any other e-money issuance, Libra 2.0 would have a fiat-value risk, operational risk and credit risk. The fiat-value risk would be the same as cash and bank deposits since it stems from the sovereign unit of account (EUR). Regarding operational risk, Libra 2.0 would develop a new type of payment system, DLT-based infrastructures with new ITC risks, which would be supervised by the ECB and the NCBs. The credit risk for users would depend on the asset side. Facebook put forward a reserve comprised by A+ short-term public debt (80%) and cash equivalents (20%) denominated in EUR. If a bank-run on Libra 2.0 takes place, the high liquidity composition of the reserve allows Facebook to effectively redeem its sight obligations.

From a macroeconomic perspective, the risks would also depend on reserves. A migration from bank deposits to Libra 2.0 would trigger three main risks to the current EA's monetary-financial infrastructure: a risk of structural bank disintermediation, a risk of systemic bank-runs and a risk of sovereign-debt-market fragmentation.

The risk of structural bank desintermediation (I) consists of the shrinking of the commercial banks' balance sheets due to non-bank financial institutions investing client funds in money markets, including the interbank market. As is shown in Figure 2, a migration from bank deposits to Libra 2.0 implies that Facebook should invest the new funds collected in short-term A+ public debt (80%), purchasing it from the commercial banks, and in wholesale deposits (20%) in commercial banks. This reduces the commercial banks' balance sheet by the amount sold and banks also replace retail deposits by wholesale deposits, which are a less-stable and more expensive funding. This would also widen the structural liquidity deficit of the banking system, which could materialise a risk of systemic bank runs (II).

Figure 3. The impact in the commercial bank's balance sheet of a migration from bank deposits to e-money

Assets		Liabilities	
Commercial Banks			
Public Debt	100	Retail deposits	280
Loans	200	Whosale funding	20
E-Money Providers			
Whosale funding	20	E-Money	40
Public Debt	20		
Real sector			
Retail deposits	280	Loans	200
E-money	40	Public debt	120

Assets			Liabilities		
Commercial Banks					
Public Debt	(-16)	84	Retail deposits	(-20)	260
Loans		200	Whosale funding	(+4)	24
E-Money Providers					
Whosale funding	(+4)	24	E-Money	(+20)	60
Public Debt	(+16)	36			
Real sector					
Retail deposits	(-20)	260	Loans		200
E-money	(+20)	60	Public debt		120

Source: Authors' elaboration

Hernández de Cos (2019) and Adrian and Mancini-Griffoli (2019) considered different scenarios in which e-money could replace bank deposits and, hence, trigger different levels of structural bank disintermediation. The worst-case scenario for commercial banks would be a full-disintermediated commercial banking system, where fractional banking and, hence, money creation would be significantly limited. The Chinese commercial banking system has experienced, for several years, a significant level of bank disintermediation due to its main e-money issuers, Alibaba and Tencent (BIS, 2019). These BigTechs have played an important role in the interbank market operating as Money Market Funds (MMFs), since their liabilities are substitutes for bank deposits and these deposits were invested in the interbank market, both on a collateralised and non-collateralised basis.

The last risk for the economy as a whole is the risk of sovereign-debt-market fragmentation (III). As 80% of Facebook's reserve would be comprised by A+ public debt issuances, some EA-country's issuances under that rate—e.g. Spain, Italy, Portugal and Greece—would become less in demand, which would increase the risk premium of those countries.

5. A SYNTHETIC CBDC PROPOSAL: THE DIGITAL EURO

In this section, I set out a monetary-financial regulatory response to Facebook's two digital currency proposals. Regarding Libra 1.0, I do not recommend the authorisation of these issuances within EA's jurisdiction. As it was mentioned in section 3, any migration from EUR-denominated bank deposits to Libra 1.0 would imply an indirect USD demand and, hence, a depreciation of the EUR. In accordance with the EU's free movement of capital, any person could replace their EUR-denominated assets with USD-denominated assets. The EUR may lose its power as an international reserve and could experience a higher level of volatility. This currency substitution would only be justified due to a loss of trust in the EA's monetary-financial system, not because of technological feature—as would be the case with Libra 1.0. As for Libra 2.0, I recommend the authorisation of these issuances in EA's jurisdiction, subject to the following three changes to the EU's regulatory framework. First, in order to limit operational risk, EU's public authorities should reinforce and adapt the oversight framework to a new DLT-based payment system. Second, concurring with the issuing of the second Libra white paper, the Financial Stability Board issued new comprehensive guidelines on the regulatory approach for global stablecoins, which I assimilate to a reinforcement of the e-money regulatory framework (FSB, 2020). The guidelines cover prudential, competitive, resolution, AML and market discipline regulation, which are fields that should be reinforced due to Libra's systemic asset reserve.

Finally, in order to limit credit risk to the user and limit risk of structural bank disintermediation, risk of systemic bank runs and risk of sovereign-debt-market fragmentation to the economy as a whole, the ECB should grant Facebook access to its balance sheet in order to establish a 100% CBDC-backed reserve. This would imply a synthetic CBDC issuance and the configuration of Facebook as a Narrow Bank. In Figure 3, I show how a migration from bank deposits to CBDC—although it still materialises a risk of structural bank disintermediation—reduces the risk of systemic bank runs by eliminating the interlinkages between bank and non-bank financial institutions and fully mitigates the risk of sovereign-debt-market fragmentation.

Figure 4: E-money institutions establishing a 100%-CBDC reserve.

Assets		Liabilities	
Central banks			
Assets	50	Reserves	50
		CBDC	0
Commercial Banks			
Reserves	50	Equity	50
Public Debt	100	Retail deposits	280
Loans	200	Whosale funding	20
E-Money Providers			
CBDC	0	E-Money	0

Assets			Liabilities		
Central banks					
Assets		50	Reserves	(-40)	10
			CBDC	(+40)	40
Commercial Banks					
Reserves	(-40)	10	Equity		50
Public Debt		100	Retail deposits	(-40)	240
Loans		200	Whosale funding		20
E-Money Providers					
CBDC	(+40)	40	E-Money	(+40)	40

Source: Authors' elaboration

This 100%-CBDC reform relating to e-money issuers was implemented by the PBoC during a two-year period, from 2017 to 2019. This reform required e-money BigTechs in China, e.g. Alibaba and WeChat, to gradually establish a 100%-CBDC reserve. The main aim of this reform was to limit the risk of structural bank disintermediation stemming from interlinkages between banks and these e-money providers (BIS, 2019). Moreover, in its second white paper, Facebook introduced a Libra 2.0 100%-backed by CBDC in order to save the costs of managing the reserve.

6. CONCLUDING REMARKS

With the announcement of Libra in the first White Paper, it was thought that Facebook's stablecoin would become a global digital currency that would rule all private cryptocurrencies. After that announcement, Facebook changed its plan and has designed Libra 2.0 to please public authorities.

Nevertheless, Libra 2.0 poses several risks to Euro Area monetary-financial structure. Due to Facebook's large customer base in UE, EUR-denominated Libra 2.0 could be a widely adopted means of payment. It would derive risks of structural bank disintermediation, risks of systemic bank-runs and risks of sovereign-debt-market fragmentation. At the same time, e-money issuance presents three types of risks from the users' perspective: a fiat-value risk, operational risk and credit risk.

These drawbacks of Libra may be minimized configurating Facebook as a Narrow Bank, and allowing it to create a Synthetic CBDC. So as to do that, the ECB may grant Facebook access to its balance sheet in order to establish a 100% CBDC-backed reserve.

In the meantime, the regulatory framework of the European Union must be strengthened. Uncertainty about the rule of law should be avoided and all legal vacuums regarding stablecoins and private digital currencies removed.

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