



## Is the 100% Reserve Reform Finally Getting Topical?

By Christian Pfister

Banque de France, Paris 1 Panthéon-Sorbonne and Sciences Po<sup>1</sup>

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*The author considers the various 100% Reserve plans that have appeared since the interwar period and have since then been adapted, but never implemented as such. He then highlights their common features as well as their differences and exposes the criticisms voiced against them. Overall, the 100% Reserve reform does not appear as a meaningful opportunity to improve the functioning of banking systems. However, the reform is, in some respects, getting more topical.*

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<sup>1</sup> This is an adapted version of Pfister (2020b). The views expressed are the author's and not those of the Banque de France, the Eurosystem, Paris 1 Panthéon-Sorbonne or Sciences Po.

100% Reserve – also called Full-Reserve – plans have appeared in the interwar period and have since then been adapted, in response either to criticisms or to changing circumstances. In all formulations of those schemes, Government liabilities (cash, central bank reserves and short-term Treasuries) back banks' sight deposits or at least some of them. This is in contrast with current so-called "fractional reserve banking" in which, as a result of reserve requirements imposed by the central bank, reserves back only a small fraction of sight deposits.

The first part of the paper briefly presents the various plans that have emerged, highlighting the context in which they were formulated as their main common features and differences. The second part exposes the numerous criticisms voiced against its different formulations. The third part shows that the 100% Reserve reform is becoming topical. The fourth part concludes.

## Various plans

In chronological order of appearance, one can distinguish six main streams:

- The Chicago Plan (CP; Knight *et al.*, 1933; Fisher, 1936; Friedman, 1965) was elaborated in the wake of the Great Depression. It is based on a monetarist diagnosis of the crisis. As a result of too low a supply of liquidity by the Federal Reserve (Fed), the banks facing deposit withdrawals (bank runs) would have restrained their supply of credit, depriving the economy of the means of payment necessary to its good functioning and thus accentuating the recession. Consequently, the supporters of CP propose to dissociate the distribution of credit and the provision of means of payment by indirectly assigning the latter to the central bank. All sight deposits with commercial banks would be backed by equal amount of reserves held with the central bank. It would also be possible to open sight deposit accounts with the central bank or the Post Office. In that way, any bank run would become groundless.
- Tobin's proposal for a Deposited Currency (DC; Tobin, 1985, 1987), just as Narrow Banking (see below), was elaborated from the mid-1980s in the context of the crisis of U.S. savings banks. The deregulation of the savings banks industry, up to then very protected and heavily regulated, had not been matched with a corresponding responsibility of the actors. The recession of the early 1980s led to the savings banks' debacle, prompting the Congress to recapitalize the savings banks at great cost for the taxpayers. The objective of DC is thus to reduce moral hazard, and more precisely the excessive risk-taking of banks with the implicit backing of government. The backing of sight deposits with would be left to the choice of the public. As in the CP, the public could also hold sight deposits with the central bank or the Post Office.
- Narrow Banking (NB; Litan, 1987; Phillips, 1995; Kay, 2009) appears in the same context as DC. As in DC, the main objective of the reform is to limit moral hazard. However, the backing of sight deposits with reserves would play an important role in the case of NB. It would be mandatory and go along with the suppression or the reduction of the coverage of deposit insurance.
- Limited Purpose Banking (LPB; Kotlikoff, 2010; Chamley *et al.*, 2012; Cochrane, 2014) takes up the objective of limiting of moral hazard. It was developed in the context of rapid financial innovation and growth of financial markets, especially the one of securitization, in the first decade of the 2000s. The possibilities opened by technological progress, making all financial assets potentially liquid, would allow using them in transactions as substitutes for low-yielding sight deposits, notably in the form of shares of mutual funds.

- Benes and Kumhof (2012), hereafter B&K, relate their analysis to the CP. However, it is possible to see it as closer to Sovereign Money (see below). Their approach is based on the idea that the Great Financial Crisis (GFC) was caused by the distribution of credit to “unproductive” uses. To remedy this problem and allow the authorities to control the money stock, the creation of reserves would only benefit the Treasury, by crediting its account with the central bank. The Treasury would use the reserves to distribute credit to the uses considered as “productive”, to smooth the economic cycle. All transactions would be settled using accounts with the central bank.
- Finally, Sovereign Money (SM; Jackson and Dyson, 2012; Dyson *et al.*, 2016) is based on a diagnosis of the crisis similar to the one in Benes and Kumhof (2012). However, the plan differs from B&K in two features. Firstly, the reserves created for the Treasury, instead of financing credit to the economy, would be part of government revenue and thus finance the budget. More precisely, the Treasury would use these funds to smooth the economic cycle, by either paying lump sum benefits to households or financing other expenditure and reducing taxes. Secondly, the central bank could also distribute credit to banks, with the banks redistributing them to the economy, as a complement to the money created as government revenue.

Table 1 below summarizes the main differences between the various 100% reserve plans.

**Table 1: Main differences in 100% Reserve plans**

		Chicago Plan	Deposited currency	Narrow Banking	Limited Purpose Banking	Benes & Kumhof	Sovereign Money
<b>Objectives</b>	Ambition and scope	Limited	Wide	Limited	Wide	Wide	Wide
	Role of public finance	Limited (except Fisher, 1936)	Insignificant	Insignificant	Insignificant	Essential	Essential
	Control of money	Important	Unimportant	Important	Irrelevant	Essential	Essential
<b>Implementation</b>	Reduction of moral hazard	Deposit insurance unnecessary or scope limited	Increase in bank capital requirements	Deposit insurance unnecessary or scope limited	Increase in bank capital requirements	None	None
	Role of banks	Changed	Changed	Changed	Profoundly changed	Profoundly changed	Profoundly changed
	Role of central bank (apart from provision of reserves)	Can keep some sight deposits	Can keep some sight deposits	Unchanged	Unchanged	Keeps all sight deposits/ Finances the economy	Keeps all deposits/ Finances the budget
	Conduct of monetary policy	Marginally changed	Marginally changed	Marginally changed	Marginally changed	Profoundly changed	Profoundly changed

## Criticisms

100% Reserve has been criticized by academics from the beginning, including in their own camp. I distinguish between the doubts expressed on the validity of the analysis on one hand, and some undesirable consequences of plans on the other.

Regarding the validity of the analysis, critiques have underlined technical but also more fundamental limits.

- Many technical limits were signaled as early as the first formulations of the CP. They relate to the substitutability between sight deposits and other assets, to transition issues, to the difficulty to control money, and in some cases to the need to have a correct model of the economy. The possibility for economic agents to substitute the use of quasi-money for sight deposits in the settlement of transactions, and the willingness of banks to accommodate this substitution, was mentioned for instance by Hart (1935), one of the signatories of the initial CP (Knight *et al.*, 1933). Hart (1935) also mentions transition issues of three sorts. In particular, there would be uncertainty about the effects of the reform, as the transition would probably induce fluctuations in the demand for money, deemed important for the stability of the economy. Furthermore, new institutions that would replace traditional banks in the financing of the economy would become more fragile and susceptible to runs, since they would lose access to a cheap source of funds. Difficulties to control money have been evidenced by the rather poor performance of monetary targeting in the 1970-1980 period, even though those central banks that practiced it, as the Deutsche Bundesbank, managed to tame inflationary pressure more successfully than the others did. Finally, there would be a need to have a correct model of the economy, with money (for the CP, NB) or money and credit (for SM) playing a significant role in it, and echoing the transition issue mentioned by Hart (1935), the relations exhibited in the model would have to hold in the post-reform economy.
- Most of the fundamental limits have been pointed in the more recent past. According to these criticisms, 100% Reserve is too narrow an approach, static, and supporting excessive claims. Even in their broader versions, 100% Reserve plans often offer too narrow an approach because other policy measures are usually not taken into account or, when it is the case, their efficacy is denied too readily. This is the case for fiscal policy as a tool for macroeconomic stabilization (and in some cases destabilization), for prudential (including macroprudential) policies, and for structural (tax, housing, competition...) policies. This narrow approach culminates in “monetary mysticism” (*i.e.* over-stating the role of money), particularly in the CP and SM. The 100% Reserve approach is static, particularly in the case of SM, which does not take into account that, as money circulates, there is little point in trying to control what it is used for when it is created. SM is also static, as it does not consider incentives, for instance when it proposes that reserves are used by the Treasury to distribute lump-sum payments to the citizens (“helicopter money”; Pfister and Valla, 2020a). Finally, 100% Reserve plans often support excessive claims. Regarding LPB, Cochrane (2014) claims: “With today’s technology, you could buy a cup of coffee by swiping a card or tapping a cell phone, selling two dollars and fifty cents of an S&P 500 fund, and crediting the coffee seller’s two dollars and fifty cents mortgage-backed security fund”. However, this still not the case nowadays. Regarding SM, Jordan (2018) denounces the notion of “debt-free” payments it has recourse to in order to consider money created by Government as an asset, as “an illusion”. As reminded by Bacchetta (2018), a central bank needs to hold assets to inspire confidence in the currency it issues, whereas only crediting reserves that are created to the Treasury account would create a mismatch in the central bank’s balance sheet. Consequently, the losses incurred by the central bank as a counterpart of the reserves created to the benefit of the Treasury would have to be added to the Treasury’s debt to get an overall measure of government debt.

Some undesirable consequences of 100% Reserve plans would warrant adjustments, complements or closer examination. Others cast doubt on the merits of the whole project.

- Among the consequences that would warrant adjustments, complements or closer examination are five issues: the availability of safe assets, the loss of liquidity resulting from the reform, its impact on the cost and availability of loans to SMEs and consumers, a possible increase in the pro-cyclicality of the financial system, and foreign competition. Fewer safe assets would be available to collateralize financial market transactions to the extent that short-term Treasuries would be locked in banks' or mutual funds' portfolios to back deposits or mutual funds shares. Wallace (1993) has put the argument of the loss of liquidity of the economy forward in the context of 100% Reserve. Basing his analysis on Diamond and Dybvig model (1983), the author shows that in this model, NB eliminates the role of banking (i.e. the provision of liquidity). Goodhart (1993) considers the impact of 100% Reserve on the cost and availability of loans to SMEs and consumers would be detrimental. Firstly, banks would lose access to cheap resources, in the form of sight deposits, to fund these loans, an argument previously mentioned by Hart (1935) (see above). Secondly, as moral hazard in the banking system would be reduced by 100% Reserve, the cost of other bank funding sources than sight deposits would increase as banks' shareholders and creditors would bear increased risks. Goodhart (1993) also thinks the reform could increase pro-cyclicality in the financial system, as depositors would withdraw funds from risky banks, in which they would get a better yield in tranquil times, to safe haven 100% Reserve banks in times of crises. Finally, foreign competition might imply that an isolated implementation of the reform would trigger the dislocation of financial activities abroad.
- Consequences that cast doubts on the merits of the whole project relate to monetary policy and moral hazard. Regarding monetary policy, Jordan (2018) notes in the case of SM the possibility of a conflict between price stability and the provision of a potentially large credit volume. He also underlines that the addition of distributional objectives, implemented through "helicopter money" (see above), would make monetary policy a quasi-fiscal policy. Moreover, directing the allocation of credit would politicize the decision-making process of the central bank (in B&K, the allocation of credit by the Treasury would make it intrinsically political). Overall, monetary policy would risk becoming a compartment of fiscal and industrial policies. Regarding moral hazard, it would not be eliminated by B&K or SM, as the Government (in B&K) or the central bank (in SM) would play a major role in allocating credit, and would thus be held directly responsible for ensuring financial stability. More generally, in a crisis, even if sight deposits were backed by Government liabilities, the Government would likely continue to rescue financial institutions, if only to ensure the continuous provision of credit to firms and thus support the economy.

## Topicality

In spite of the criticisms it has raised, 100% Reserve could get more topical in the coming years as a result of private sector, central bank, and political initiatives.

- Some recent private sector initiatives can be linked to NB. In 2016, a former member of the staff of the New York Federal Reserve Bank (NYFRB), James McAndrews, created a bank, The Narrow Bank (TNB), with the purpose of collecting deposits from non-bank financial institutions, and redepositing with the NYFRB. In the summer of 2017, TNB asked for the opening of a so-called "Master Account" with the NYFRB in order to be able to conduct its activities. In its response, in March 2019, the FRBNY indicated that the opening of Master Accounts was discretionary (Federal Reserve Bank of New York, 2019). More interestingly, it

argued *inter alia* that deposits at institutions such as TNB “could significantly reduce financial stability by providing an unlimited supply of very attractive safe-haven assets during periods of financial market stress”. This argument echoes both the one raised by Goodhart (1993) (see above) and one frequently raised against central bank digital currencies (CBDC) (see below). A much more publicized private sector initiative is the issuance of stablecoins. Such an issuance could lead to a loss of resources by traditional payment service providers such as banks, especially in developing and emerging economies (Melachrinou and Pfister, 2020), as would be the case with 100% Reserve. Relatedly, in their second White Paper on Libra (renamed Diem in December 2020), the members of the Libra Association opposed Libra to the fractional reserve system, implicitly delivering the message that Libra, with its reserve invested up 80% in high-quality short-term Treasuries, would be safer than bank deposits.

- Some central bank initiatives that can be related to 100% Reserve have been implemented, while others are considered. In China, mobile payments have soared since the mid-2000s. In 2018, they reached the equivalent of \$ 41 trillion, and were dominated by two actors, Alipay and WeChat Pay, with respective market shares of 54% and 39%. From the beginning of 2017 to the end of 2018, the People’s Bank of China progressively raised the reserve ratio on the assets held with the payment service providers by their users, eventually bringing it to 100%. These institutions were thus *de facto* turned 100% reserve. More inadvertently, and as a by-product of their asset purchases as a monetary policy tool, central banks in most developed economies have created excess liquidity that makes it easier to implement 100% Reserve. This point was already noted by Fisher (1936) and is echoed in the current circumstances by Dyson et al. (2016). Finally, in what has been presented as “synthetic CBDC” (Adrian and Mancini-Griffoli, 2019), stablecoins could be backed by central bank reserves. In fact, these stablecoins could as well be dubbed “100% Reserve stablecoins”. More simply, central banks could issue CBDC (Pfister, 2020a). Whether the unit that is issued is a central bank liability or not, the banking sector would be disintermediated, as in 100% Reserve, subject to what has been mentioned above about excess liquidity. In addition, as mentioned by Goodhart (see above), runs on the banking system would be facilitated, since there would be no need to visit a bank’s branch or a cash dispenser anymore in order to convert bank deposits into central bank money. As a countervailing argument, the provision of CBDC as a permanently safe and liquid instrument would better protect the economy in times of crisis (Pfister, 2020a), whereas there would remain a residual risk on stablecoins (Melachrinou and Pfister, 2020a).
- In the U.S., several Congress initiatives<sup>2</sup> have proposed in order to promote banking inclusion and facilitate the distribution of fiscal support to individuals, that they could open accounts either with the Federal Reserve Bank branches or with the U.S. Postal Services branch offices, or even 100% Reserve accounts with banks. In case they are not with the Fed, the deposits would be backed by central bank reserves, and thus not covered by deposit insurance; furthermore, they would be “funded by the Federal Reserve”. The latter formulation leaves unclear whether the Fed would provide “helicopter money”, or else buy assets to provide reserves backing the deposits, or just let the reserves flow from the Treasury’s account to the ones of the Post Office or the banks at the Fed or to those of the depositors who would open accounts directly with the Fed. In the first and the second cases, if the Fed were legally forced to buy Treasuries to provide the reserves needed to back, the proposal would be related to SM. In the second case if the Fed acts on its own initiative and in the third case, it could be related to DC, although in DC the opening of accounts backed

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<sup>2</sup> See for instance the memorandum of the Committee on Financial Services of the House of Representatives (2020) on “Inclusive Banking During a Pandemic: Using FedAccounts and Digital Tools to Improve Delivery of Stimulus Payments”, that itself refers to a similar initiative in the Senate, and Ricks *et al.* (2020).

by central bank reserves is not necessarily linked to the payment of benefits and does not especially aim at the unbanked or underbanked populations. More generally, governments could support the launch of CBDCs. Indeed, if the demand for CBDCs was both large and durable, their counterpart on the asset side of central banks' balance sheets could be the potentially indefinite roll-over of the public securities purchases they conducted in the framework of their asset purchases programmes (so-called quantitative easing – QE). An unexpected answer would thus be brought both to issue of central banks' « exit » of these programmes (Pfister and Sahuc, 2020) and to the one of the redemption of the public debt held by central banks (Pfister and Valla, 2020b). In return, banks would suffer some disintermediation (see above).

## Conclusion

Addressing the topic of 100% Reserve is fraught with difficulties of two sorts: there is heterogeneity in the approach and most of these formulations lack a well-defined and commonly used analytical framework. This lack of an analytical framework contrasts with more organized schools of thought, such as New Keynesianism, and with presentations of a final organization, which often go into details, as in descriptions of a Utopia, with Dyson et al. (2016) providing the best example. It also contrasts with strong policy prescriptions, such as the systematic backing of all sight deposits with Government liabilities, in all plans except DC, or the creation of reserves essentially to finance public spending in SM.

In this paper, I present the various 100% Reserve plans. I show that there are more differences than common features between them. Furthermore, several features make B&K and SM distinct from other plans whereas LPB appears as a “radicalization” of the CP and NB. DC is original to the extent that it is “à la carte”. I also review the criticisms of 100% Reserve, discuss them and add my own comments. Some of these criticisms have led to alterations of the original framework, notably with a shift of emphasis from money control, characteristic of the CP, to financial stability and moral hazard considerations, put forward in NB and LBP, whereas B&K and SM shift the emphasis back to the creation of money.

Overall, the 100% Reserve reform does not appear as an opportunity to improve the functioning of banking systems. In fact, those systems have already undergone a deep reform following the Great Financial Crisis and have recently demonstrated their resilience to systemic shocks during the Covid-19 crisis. However, SM could easily turn into a calamity. Fortunately, the variant of 100% Reserve that is becoming topical is rather DC, the one among 100% Reserve plans least susceptible of upsetting banking intermediation, and it appears as a by-product of other projects, such as the issuance of a CBDC, rather as an end in itself. More specifically, I suggest that 100% Reserve, issuing a CBDC, exiting QE and public debt repayment are issues that could become intertwined in the future. ■

## References

- Adrian T., Mancini-Griffoli T. (2019), "The rise of digital money", *IMF Note*, 19/001, July, <https://www.imf.org/en/Publications/fintech-notes/Issues/2019/07/12/The-Rise-of-Digital-Money-47097>.
- Bacchetta P. (2018), "The sovereign money initiative in Switzerland: an economic assessment", *Swiss Journal of Economics and Statistics*, 154(3), 1-16.
- Benes J. and Kumhof M. (2012), "The Chicago Plan Revisited", *IMF Working Paper*, WP/12/202, <https://www.imf.org/external/pubs/ft/wp/2012/wp12202.pdf>.
- Chamley C., Kotlikoff L. J., Polemarchakis H. (2012), "Limited Purpose Banking – Moving from "Trust Me" to "Show Me" Banking", *American Economic Review: Papers and Proceedings*, 102(3), 113-119.
- Cochrane (2014), "Toward a Run-Free Financial System", in M. N. Baily and J. B. Taylor (ed.), *Across the Great Divide: New Perspectives on the Financial Crisis*, Chapter 10, Hoover Institution, Stanford University, <https://ideas.repec.org/h/hoo/bookch/8-10.html>.
- Committee on Financial Services of the House of Representatives (2020), *Memorandum on "Inclusive Banking During a Pandemic: Using FedAccounts and Digital Tools to Improve Delivery of Stimulus Payments"*, <https://www.congress.gov/116/meeting/house/110778/documents/HHRG-116-BA00-20200611-SD002.pdf>.
- Diamond D., Dybvig P. (1983), "Bank runs, deposit insurance, and liquidity", *Journal of Political Economy*, 91(3), 401-419.
- Dyson B., Hodgson G., van Lerven F. (2016), *Sovereign Money – An Introduction*, <https://positivemoney.org/wp-content/uploads/2016/12/SovereignMoney-AnIntroduction-20161214.pdf>.
- Fisher I. (1936), "100% money and the public debt", *Economic Forum*, April/June, 406-420, [http://realmoneyecon.org/lev2/images/pdfs/100percent\\_money.pdf](http://realmoneyecon.org/lev2/images/pdfs/100percent_money.pdf).
- Friedman M. (1965), *A program for monetary stability*, [https://miltonfriedman.hoover.org/friedman\\_images/Collections/2016c21/Houghton\\_1965.pdf](https://miltonfriedman.hoover.org/friedman_images/Collections/2016c21/Houghton_1965.pdf).
- Goodhart C. (1993), "Can we improve the structure of financial systems?", *European Economic Review*, 37, 269-291.
- Hart A. G. (1935), "A Proposal for Making Monetary Management Effective in the United States", *Review of Economic Studies*, 2(2), 104-116.
- Jackson A., Dyson B. (2012), *Modernizing Money: Why our Monetary System is Broken and How it Can be Fixed*, London, Positive Money.
- Jordan (2018), "Why sovereign money would hurt Switzerland", Swiss National Bank, [https://www.snb.ch/en/mmr/speeches/id/ref\\_20180503\\_tjn](https://www.snb.ch/en/mmr/speeches/id/ref_20180503_tjn).
- Kay J. (2009), *Narrow Banking: The Reform of Banking Regulation*, CSFI report, <https://www.johnkay.com/wp-content/uploads/2009/12/JK-Narrow-Banking.pdf>.
- Knight F., Cox G., Director A., Douglas P., Hart A., Mints L., Schultz H., Simons H. (1933), *Memorandum on Banking Reform*, Franklin D. Roosevelt Presidential Library, President's Personal File 431.
- Kotlikoff L. (2010), *Jimmy Stewart is Dead: Ending the World's Ongoing Financial Plague with Limited Purpose Banking*, Hoboken, NJ, John Wiley & Sons.
- Litan R. (1987), *What Should banks Do?*, Washington, DC, Brookings Institution.

*continued*



- Melachrinou A., Pfister C. (2020), "Stablecoins: A Brave New World?", 2020, *Working Paper 757*, Banque de France, <https://publications.banque-france.fr/sites/default/files/medias/documents/wp757.pdf>.
- Pfister C. (2020a), "Central Bank Digital Currency: A Primer", 2020, *SUERF Policy Note 143*, [https://www.suerf.org/docx/f\\_a43fc3d27915b373b163da088684d4a9\\_10947\\_suerf.pdf](https://www.suerf.org/docx/f_a43fc3d27915b373b163da088684d4a9_10947_suerf.pdf).
- Pfister C. (2020b), "100% Reserve: Calamity or Opportunity?", 2020, *Working Paper 786*, Banque de France, November, <https://publications.banque-france.fr/sites/default/files/medias/documents/wp-786.pdf>.
- Pfister C., Sahuc J.-G. (2020), "Unconventional Monetary Policies: A Stock-Taking Exercise", 2020, *Revue d'économie politique*, 130(2), 136-168.
- Pfister C., Valla N. (2020a), "Helicopter money: Panacea, shell game or Faustian pact?", 2020, *Views – The EUROFI Magazine*, April, 46, [Eurofi Magazine 2020-Valla-Pfister-Helicopter money-Panacea, shell game or Faustian pact](https://www.eurofi.org/2020/04/helicopter-money-panacea-shell-game-or-faustian-pact/).
- Pfister C., Valla N. (2020b), "Whoever pays off their debt gets rich", 2020, *Fondapol Note*, October, <http://www.fondapol.org/en/etudes-en/whoever-pays-off-their-debt-gets-rich/>.
- Phillips R. J. (1995), "Narrow Banking Reconsidered", Levy Institute, *Policy Brief*, 18, <http://www.levyinstitute.org/pubs/ppb17.pdf>.
- Ricks M., Crawford J., Menand L. (2020), "FedAccounts: Digital Dollars", *George Washington Law Review*, forthcoming.
- Tobin J. (1985), "Financial Innovation and Regulation in Perspective", *Bank of Japan Monetary and Economic Studies*, 3(2), 19-29, <https://www.imes.boj.or.jp/english/publication/mes/1985/me3-2-3.pdf>.
- Tobin J. (1987), "The case for Preserving Regulatory Distinctions", in *Proceedings – Economic Policy Symposium – Jackson Hole*, Federal Reserve Bank of Kansas City, 167-183, <https://www.kansascityfed.org/publicat/sympos/1987/s87tobin.pdf>.
- Wallace N. (1996), "Narrow Banking Meets the Diamond-Dybvig Model", Federal Reserve Bank of Minneapolis, *Quarterly Review*, Winter, 3-13, <file:///C:/Users/E086254/Downloads/qr2011.pdf>.

## About the author

**Christian Pfister** is Project Manager at DG Operations and Financial Stability of the Banque de France. He was before Deputy Director General for Economics and International of the Banque de France (2011-2013), Deputy Director General for Statistics (2013-2018) and Advisor to the Governor (2019). He teaches at Sciences Po (Financial Stability, with Françoise Drumetz) and Paris 1 Panthéon-Sorbonne (Cryptocurrencies and Monetary Economics, with Lionel Potier and Mariana Rojas-Breu).

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