

NEW EVIDENCE AND SOME CLARIFICATIONS ON THE ETHICAL IMPLICATIONS OF HYBRID BANKING CONTRACTS

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ABSTRACT: This article provides a potential denouement of a rich debate about one of the most contentious ethical issues in economics: fractional reserve lending. It provides a considered response to Philipp Bagus, David Howden, and Amadeus Gabriel's (2017) claim that hybrid contracts are examples of "hubris," provides some new empirical evidence, and clarifies certain points of disagreement.

The manner in which banking operations affect the stability of the monetary and financial system is an important and a well-studied topic in economics. The seminal model, Diamond-Dybvig (1983), demonstrates the inherent dangers of fractional reserve lending, which is not only that they create the potential for bank runs to occur, but that such runs can be triggered by seemingly innocuous events. The prevalent judgement among financially developed countries is that the benefits of fractional reserves (e.g., utilizing the economic gains from leverage) are worth bearing but necessitate a regulatory banking system. Typical interventions

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include mandatory capital requirements and (following the chief policy proposal discussed by Diamond-Dybvig 1983), government-sponsored deposit insurance. But this isn't the only option. Advocates of limited purpose banking maintain that fractional reserves are not worth the risk and that some form of mandated 100 percent reserve requirement is necessary instead (see Rothbard 2010; Kotlikoff 2010). By contrast, other parts of the free market movement contend that the perilous danger should not be attributed to fractional reserve lending *per se*, but to many of the state activities that are intended to provide resilience. Broadly speaking, they identify central banks as a key source of instability, contending that it is their centralized nature that is the problem and that a more open, competitive, and self-regulating system would work better (see Glasner 1989; Dowd 1992; Selgin 1994). Collectively, therefore, there are three main ways to cope with the "problem" of fractional reserves: (1) regulate them; (2) ban them; (3) probe more deeply into how self-regulation could adequately function.

This article focuses on a specific debate relating to the last two options. An outright ban is an obviously simpler solution, and that is a strong advantage. Indeed, if taking a pragmatic policy-centered approach, that may in fact be enough. However, there should also be scope for an intellectually rich assessment of the potential for self-regulation and the types of institutional solutions that have relevance in theory and practice. These include features such as branch banking, nonbank clearinghouses, option clauses, notices of withdrawal, and alternative solvency assurances (such as extended or unlimited liability and third-party certification). They may also incorporate financial innovation that provides new types of contract and challenge our existing understanding of what services consumers want and expect.

However, it would be misleading to imply that this is simply a matter of public policy. On the contrary, discussions about banking stability also have an impact on our understanding of broader macroeconomic performance and the contours of the business cycle (for an overview of canonical and representative texts, see Burns and Mitchell 1946; Lucas 1981; Mankiw 1985; Glasner 1997). And a recent trend is to focus on the ethical aspects of specific types of financial contract. It is this latter perspective that is of relevance for this article, because the debate is not really about whether certain

banking practices should be banned, but whether the specific type of demand deposit contract that permits banks to engage in fractional reserve lending is legitimate. The aim is not public policy pragmatism, therefore, but an understanding of the economic essence of the way in which capitalist societies operate.

This article proceeds as follows. The first section provides a reflection on a specific debate relating to the topic of this paper. The subsequent sections expand on separate elements of that debate, namely, the availability of a good, matters relating to subjectivism, and the meeting of the mind. The final section takes a step back to provide a reflection and some concluding thoughts from one side of the debate about fractional reserve banking.

A REFLECTION ON THE DEBATE

The topic of this article—the legitimacy of demand deposit accounts—is of particular relevance following the global financial crisis and has recently generated a large and important literature. One journal that has published multiple papers on this topic is *Procesos de mercado*. Van den Hauwe (2006) preempted some of these issues with a prescient article exposing conceptual flaws with a fractionally reserved free banking system, with a particular emphasis on the impact on the business cycle. Hotz (2009) drew attention to appropriate definitions of the money supply, and in doing so drew distinctions between deposit and loan contracts. Baker (2013) used an actual case of an entrepreneur’s attempt to open a bank to point out that a bank’s ability to create credit has implications for monetary stability. An emphasis on the barriers imposed by public policy results in an insightful account of how academic discourse has relevance for practical policy debates and subsequent economic activity. Guzelian and Mulligan (2015) lent an interesting empirical element to the debate, using an innovative data set to find that commodity price volatility coincided with fractional reserve lending. Van den Hauwe (2018) outlined some recent developments in monetary constitutions to reassess and bring life to Leland Yeager’s important contributions. And even more recently, Salerno (2021) confronted the importance of Ludwig von Mises’s work (as the founder of the modern Austrian school), arguing that although Mises advocated free banking institutions as a means of

limiting certain components of the money supply, this does not necessarily mean that such institutions are desirable overall.

Other recent articles of note that have pursued these themes include Bagus, Howden, and Block (2013), which attempted to clarify the debate between deposits and loan contracts. Bagus and Howden (2013) and Bagus, Howden, and Gabriel (2016) put these debates within an explicit context of business ethics, while Bagus and Howden (2016) and Bagus, Howden, and Gabriel (2018) made further inroads into the legal ramifications of deposit contracts. This article contributes directly to previously published literature on these matters.

Indeed, over the last ten years, the *Journal of Business Ethics* hosted a thoughtful debate about the potential for hybrid contracts to solve some of the key objections raised by anti-fractional reserve scholars. Following the appearance of Bagus and Howden (hereafter BH; 2009, 2012) and Barnett and Block (2009), Evans (2014) attempted to offer examples of how contractual solutions can allow demand deposit accounts to operate. Philipp Bagus, David Howden, and Amadeus Gabriel (hereafter BHG; 2015) responded by arguing that any attempt to combine deposit and loan contracts would be a legal aberration.¹ Evans (2015) provided some further considerations, to which Bagus, Howden, and Gabriel (2017) replied. Some progress was made; for example, on whether loans require a *specified* term. According to BHG (2017, 375), “Evans (2014) argues that there may be loans without a term, using the example of lending money to a friend without specifying a term.”² But there is a slight sleight of hand. Evans (2014) was responding to BH’s (2012, 296) claim that “there is always a specified and finite term limiting this use.” Evans did not say that loans don’t require a term; he asked, “Why must the term be *specified*?” (Evans 2014, 352). Evans (2015, 620) reiterated this: “Evans is challenging the

¹ To simplify things, I will use BH to refer to papers published by Philipp Bagus and David Howden, and BHG to refer to papers published by Bagus, Howden, and Amadeus Gabriel.

² Astute readers may notice some discrepancies between the citation dates in the articles that are being referenced. This is because when BHG (2017) was published, some of the Evans articles they quoted were not yet in print. What BHG cite as Evans (2013) is cited here as Evans (2014), and what they cite as Evans (2014) is cited here as Evans (2015). To avoid confusion, I have also updated their direct quotes to match the published versions.

claim that the term must, necessarily, be ‘specified.’” The example that Evans provided—lending money to a friend—did indeed have a term, but Evans’s point was that the term can be unspecified. In their most recent response, BHG (2017, 375) appeared to finally accept this, by saying that “a loan does not always explicitly mention a term.” This is an important example of progress in the debate. Both sides now seem to accept that although a loan requires a term, this term need not be “explicitly mentioned” (i.e., specified).³

Unfortunately, there are other areas where more work needs to be done. It appears that BHG (2017) have misunderstood important aspects of previous exchanges, so this article will attempt to provide some clarifications, in particular on the availability of a good, subjectivism, and meetings of the mind.

THE AVAILABILITY OF THE GOOD

One way to analyze banking activities is through the use of appropriate analogies. One useful contribution of the debate under discussion is the introduction of two specific analogies: car valets and tennis clubs. They were used to make two relatively modest points, which are that (1) there can be a tradeoff between the availability of a good and security and (2) a good need not be continually available to be useful. We can look at these in turn.

Evans (2014) used an airport valet as an example of when someone may desire something to be secure but does *not* need it to be available for use. BHG (2015) argued that were you to return early from a trip and want to collect your car, you should expect to be able to do so. They went on to say that if the car were unavailable the client would be upset. This is true, but in the example BHG (2015) assume that the car is unavailable because it has been lent to another motorist. This deflects from the point being made. The car valet example is not

³ BHG’s (2017, 375) claim that these cases are trivial because “there is simply not enough confidence and trust to have the term fixed only tacitly with a stranger” is not true. Consider the iPhone charger I have just borrowed from a complete stranger in my local Starbucks. Did we agree on a fixed point in time when I would return it? No! There may be a reasonable expectation that it will be returned once I have enough charge to make a call or when the first one of us decides to leave. Once I return it, the term will be revealed. Ex ante, however, it is clearly unspecified.

about whether the car is being used without permission. The point is that even if the car is being kept safe, this does not mean that it is continually available. Indeed, most parking will be done offsite, precisely because the car does *not* need to be available and therefore can be made *more* secure. According to Evans (2015, 622), “[A]dditional layers of security would make the car less available, not more.” Unfortunately, BHG (2017) failed to respond to the car valet example, so it is not clear whether they have accepted this modest point. However, BHG (2017, 373) did say that “the essential element of a deposit contract is the custody or safekeeping role of the deposited good ... the essential purpose of a loan contract is radically different, namely the transfer of the good’s availability to the borrower.” Their statements suggest that the car valet is a deposit: I do not want the parking company to drive my car; I just want them to keep it safe until I return from my vacation. But according to BHG (2017, 373), for deposits, “[t]here is no term as the depositors may withdraw his funds at any time.” So, does the presence of a term mean that the valeted car is in fact a loan? Or would BHG argue that this is not really a term because in all likelihood if the client turned up early the valets would endeavor to give him the car?⁴ If the distinction is as clear-cut as they claim, the response should have been simple.

The second analogy is a tennis club. Evans (2014) suggested that the availability of a good can be shared, and BHG (2017, 376) responded that “it is available only to one person at a time” But are these statements necessarily in conflict? In terms of tennis rackets, readers can agree that although two people can be joint owners of a single racket, they cannot use that racket simultaneously. But does it not make sense to say that it is available to both of them? BHG (2017) resolve the tennis racket joint ownership problem by suggesting that the players have a rule such as that the use of that racket will alternate between them. But imagine that a tennis club has one thousand players and one hundred rackets, bearing in mind that for

⁴ In BHG (2015) the authors accept that for “institutional” reasons a deposit can be “fully available” but not “immediately” available. And indeed, there is an important distinction between a good being inaccessibly held in storage and not being stored at all. But they ignore Evans’s (2015, 621) question: “[W]hy permit some frictions but not others? How can we tell them apart?” The key point is that the institutional frictions that inhibit the availability of a good can be the result of a desire for security.

many people a racket is a fungible good. If a member arrives on a day when one hundred other members are playing and asks whether any rackets are available, the answer will clearly be no.⁵ But what if there are only fifty players? Evans would say that rackets are available. Does BHG (2017)'s argument imply that they are not? After all, a cash holding can still generate utility for the depositor even if it "only" has a very high chance of being ready. A guarantee that a racket will always be available is not necessary to believe that membership in the club is a better option than buying a racket outright.

BHG (2017, 375) provided a quote from Jesús Huerta de Soto to criticize the "attempt to justify fractional-reserve banking that tries to redefine the concept of availability," but the quote merely states that it is wrong to split availability into a "strict" sense and a "lax" one. Huerta de Soto does not explain why this is an error. One might argue that if the term "full availability" has any meaning, then it implies that "availability" could conceivably be less than full. Evans (2015, 621) says that the tennis racket "is available to them both [its joint owners] in the sense that it is accessible." BHG seemingly want to make a binary distinction between whether a resource is available or not. The implicit condition that they impose is that a significantly large number of people who have a right to utilize the resource choose to do so immediately. Evans, by contrast, is willing to accept that provided there is a reasonable expectation that something is ready to use, it provides the service of being "available."⁶

In fact, it is misleading to present the point of disagreement as being about whether simultaneous availability of scarce resources is possible (BHG 2017, 376). Evans (2015, 621) specifically accepts that the racket is *not* ready for use simultaneously: its owners "are both unable to use the racket simultaneously, but so what?" BHG (2017, 376) retort, "[B]oth the bank and the depositors think they can use the money simultaneously." Not only is this empirically

⁵ Presumably the tennis club will have a contingency for the unlikely event that 101 players turn up at the same time. Maybe the most junior member must relinquish their racket. Maybe they invoke a first-come-first-served system. They could possibly utilize some form of option clause to make this all clear (and compensate those who miss out). But their contingency may also conceivably be tacit.

⁶ Note that the insertion of an option clause would ensure that those rights to utilize the resource are encumbered such that they are not violated in the unlikely event that a significant number of people exercise them simultaneously.

false, but it is an unnecessarily strong claim. Evans is saying that a fungible resource can be available to multiple parties.⁷

SUBJECTIVISM

In recent rounds of the debate, BHG seemed to extend the scope of their claims from identifying a specific type of contract that is illegitimate, to saying that any contract that comes close to being illegitimate is; “everything that resembles a demand deposit with its typical characteristics is a demand deposit” (BHG 2017, 379). But this leads to the question of how close a resemblance qualifies. The point of a hybrid is that it has some of the characteristics of a demand deposit and some of the characteristics of a loan. They cannot be dismissed as illegitimate so easily. Evans (2014) used the example of a bank that issues a time deposit but does not routinely endorse any notice of withdrawal. BHG (2017, 378) claim that this is “for all practical purposes, a ‘demand deposit contract.’” But they state that a deposit “must be available at all times” (373), and in this example, it is not. Their reasoning is that because it is not “available at all times,” it is illegitimate. But an alternative approach would be to say that because the time deposit is not available at all times, it is not a “demand deposit.”

More importantly, because there is a reasonable expectation that this deposit could be available “on demand,” it performs a very similar function to a demand deposit. For BHG (2017, 379), “in many ways some mutual funds may be similar to deposits, but in important ways they differ which makes them poor substitutes.” But standard economics tells us that the closeness of a substitute depends on many factors, and methodological subjectivism implies that what constitutes a close substitute for one person may not for another. In other words, the degree of substitutability is not given and the claim that mutual funds are “poor substitutes” for demand deposits is a violation of subjectivism.⁸

⁷ Later in their article BHG (2017, 381) write, “[A]ny individual may decide which part of his wealth he wants to hold completely available [sic] in the form of a deposit.” Why do they feel the need to use the prefix “completely,” given that their argument is that something that is not completely available is not available at all?

⁸ I am grateful to an anonymous referee for pointing out that the subjective nature of economic action does not necessarily contradict an objective approach to legal

Evans (2014) mentioned two contractual devices that might allow customers to get some of the benefits of a demand deposit without actually having one. In addition to a notice of withdrawal, he mentions an option clause. BHG (2015) responded that if the customer deems those accounts to provide perfect money substitutes, they are illegitimate. If the customer deems them not to be perfect money substitutes, they are “lottery contracts.” This is an interesting reliance on subjectivism. What if some people think they are perfect money substitutes and some merely think that they are very close money substitutes?

Another subjectivist point is in relation to motivations. When Evans (2015) raised the point of subjectivism, BHG (2017, 377) accused him of confusing “the objective characteristics of an entity with the subjective purpose it fulfils in the plans of an individual actor.” They state that subjectivism “does not mean that the characteristics of the ‘deposit’ are whatever the individual ‘subjectively’ believes them to be” (378).⁹ Earlier in their article, BHG say that a deposit “must be available at all times to satisfy the initial motivation of the depositor” (373). Evans’s (2015) point was that it is a violation of methodological subjectivism to claim to impute the motivation of the depositor. How can the initial motivation of the depositor be confirmed to have been availability? If it is simply because they have defined deposits as being continually available, this does not rule out the possibility of hybrids that cater to people with different motivations. One might say that the “essential element” of holding shares in a company is to earn an above-market return, but of course many shares will not actually achieve this. That does not make the concept of a “share” illegitimate; it just means that the motivation for buying shares may involve other things (such as the thrill of trying to beat the market or the desire to support an ethical company). Similarly, if the customer of a bank is motivated partly by availability and partly by the prospect of earning a positive return, what do we call such a product? Not only is value subjective, but it is multifaceted. The same good can

theory and that thus a conflict between the motivations of contracting parties does not automatically make that contract indeterminate.

⁹ They also say that a “judge must rule not according [to] the defendant’s subjective interpretation of the events but rather objectively according to the law” (BHG 2017, 379). Does this imply that if a homicide defendant erroneously believed that he is about to be shot this would or should be irrelevant?

provide multiple services, and on different margins. The “essence” of a contract may be one thing, but this has little bearing on the real world. In the real world, goods satisfy multiple needs, and customers make tradeoffs between alternate needs.

BHG (2017) were unconvinced by Evans’s (2015) efforts to resolve the problem by relabeling a demand deposit as a checking account. They are correct, but only because they have defined a demand deposit as having the essential feature of satisfying the customer’s desire for continuous availability. What if the customer had multiple motivations, one of which was is merely a high degree of availability? And what if they understand what fractional reserve banks do with the money? Can that be referred to as a checking account? The four largest banks in the UK—Lloyds Bank, Barclays, Royal Bank of Scotland, and HSBC—collectively possess over 70 percent of the market share in terms of the number of active accounts (Competition and Markets Authority, 2014).

And yet a search of their websites for the term “demand deposit” returns a grand total of zero matches. BHG (2015, 200) have stated that it is not the name, per se, or the contract that is the problem, but its “essence.” The problem is that they provide no reason for claiming that their understanding of the essence of these contracts is reasonable. A demand deposit contract, as they define it, is indeed illegitimate. The issue is whether *other* contracts, *actual* contracts, that have demand deposit characteristics are.

MEETING OF THE MINDS

In their conclusion, BHG (2017) state that a valid contract requires a “meeting of the minds”; and they provide three legal interpretations. The first is that the depositor believes that the bank is operating with 100 percent reserves but it does not. The second is that the depositor believes that the bank is operating with 100 percent reserves but it does not, but the bank does not realize that the depositor does not know this. The third is that the depositor wants to retain complete availability but is aware that the bank uses the funds as a loan. But what about a fourth interpretation—the depositor wants to retain *likely* availability and is aware that the bank treats the funds as a loan? In other words, the customer is

aware (possibly because of a notice of withdrawal or an option clause) that the bank does not guarantee that the depositor can withdraw their funds on demand under all circumstances, but *the customer has a reasonable expectation that they ordinarily will be able to withdraw their funds on demand?* This fourth interpretation by definition is a meeting of the minds. But is it “for all practical purposes” a demand deposit (BHG 2017, 378)? BHG say that the depositor wants complete availability of the deposit and that therefore “the motivation on the part of the depositor—to maintain full availability of his funds” (374) shows that the clauses of the contract are incompatible. But once again, what if the depositor only wants *likely* availability? In this instance would the causes be compatible? BHG (2017) accepted the empirical evidence that some depositors are confused. So, what happens when there is a meeting of some minds but not all?

BHG (2017) utilized survey evidence on public attitudes to banking, published by Evans (2010), to make an empirical claim that there is no meeting of the minds. To be fair, BHG seem to recognize this, because they revised their position. BHG (2015) said, “Public ignorance of the fact that bankers make use of the deposited money implies that such contracts are void.” However, in BHG (2017) they said, “[I]t seems that there is no meeting of the mind for *a large portion* of today’s demand deposit contracts” (381, emphasis added). The question, then, is whether all the contracts are void or just those whose parties fail to have a meeting of the minds? BHG said, “following Evans’ logic, he must regard roughly one-third of existing deposit account contracts as being invalid” (375). Does this mean that two-thirds of them are valid?¹⁰ All the survey shows is that some people do not fully understand the contract. It would be interesting to see this tested in a court of law, rather than debated in the pages of an academic journal. Yes, potentially one-third of these accounts are invalid. But that does not mean that they all are. It certainly does not rule out the possibility that there can be a meeting of the minds in demand deposit contracts.

¹⁰ BHG’s (2017) use of the survey evidence in Evans (2010) is troubling. Although they use it to support their claims, when it contradicts their priors they are dismissive of it. For example, they write: “[T]here are reasons to doubt the veracity of this reply as if the motivation was to earn interest there are far better options available” (BHG 2017, 377).

CONCLUSION

This article has provided a retrospective, from one particular position, of an important debate about the potential for hybrid contracts to provide services that are associated with demand deposits. And although progress had been made on some issues—and this article offers further suggestions for how progress could be made—there is a circularity in Philipp Bagus, David Howden, and Amadeus Gabriel’s reasoning that is probably impossible to fix. According to them, a deposit and a loan are mutually exclusive. For them, seemingly, a time deposit is legitimate, but is actually a loan. And because a demand deposit is neither a deposit nor a loan, it is thus illegitimate. However, if a time deposit (which is in fact a loan) doesn’t routinely enforce a notice of withdrawal, it becomes illegitimate, since it operates like a demand deposit. BHG seem to argue that the reason a demand deposit is illegitimate is that there is no meeting of the minds between the depositor and the bank. But in instances where the depositor understands and accepts that the bank treats the funds as a loan (i.e., where there *is* a meeting of the minds), the demand deposit is invalid, because it does not satisfy the primary motivation of the depositor. In instances where the primary motivation of the depositor is *not* complete availability, the demand deposit is invalid, because it cannot be fulfilled. In instances where an option clause exists to ensure that it *can* be fulfilled, it is invalid ... because it is a demand deposit. Their reasoning is obstinate.

BHG (2015) used a Latin phrase to emphasize their claim that some things—such as oil and water—simply do not mix. When Evans (2015) provided a counterexample, mayonnaise, BHG (2017, 380) conceded that oil and water *can* be mixed, but that “for all practical purposes and under normal conditions it remains impossible.” Notice how this switches the issue from whether it is impossible to what constitutes “normal conditions.” This example is symptomatic of the entire exchange: a bold claim is made that weakens under pressure. Another example is when they argue that traditional legal principles “are not open for innovation” (380) but then immediately concede that although there *could* be alternative legal principles, these would be undesirable. This debate isn’t about whether checking accounts are desirable, but whether they are valid.

BHG (2017, 381) argue that fractional reserve accounts are unnecessary because services such as availability and yield on investment can be obtained through a combination of separate contracts: “[A]ny individual may decide which part of his wealth he wants to hold completely available in form of a deposit, which part he wants to lend, and which part to invest.” True. All of the component ingredients of mayonnaise are available separately. People could just eat egg yolks, rapeseed oil, and lemon juice one by one. But there is clearly value in mixing them together (with other ingredients) to create mayonnaise.¹¹

BHG (2017, 380) claim that “it is hubris to think that traditional legal principles implied in our human nature can be overturned,” but this takes for granted that BHG understand those legal principles and that a significant component of the global banking system is in conflict with them. Indeed, BHG are so confident in their views that they seek to make major interventions into people’s existing, voluntary financial arrangements. Hubris indeed.

REFERENCES

- Bagus, Philipp, and David Howden. 2009. “The Legitimacy of Loan Maturity Mismatching: A Risky, but Not Fraudulent Undertaking.” *Journal of Business Ethics* 90, no. 3: 399–406.
- . 2012. “The Continuing Continuum Problem of Deposits and Loans.” *Journal of Business Ethics* 106: 295–300.
- . 2013. “Some Ethical Dilemmas of Modern Banking.” *Business Ethics* 22, no. 3: 235–45.
- . 2016. “The Economic and Legal Significance of “Full” Deposit Availability.” *European Journal of Law and Economics* 41, no. 1: 243–54.
- Bagus, Philipp, David Howden, and Walter Block. 2013. “Deposits, Loans and Banking: Clarifying the Debate.” *American Journal of Economics and Sociology* 72, no. 3: 627–44.

¹¹ BHG (2017, 379–80) deny that mayonnaise contains a mixture of oil and water. In doing so they seemingly fail to realize that egg yolks largely comprise water. They also seem to have neglected to even consult the ingredient list of a typical jar of mayonnaise, where water is commonly listed as the second-highest ingredient (after oil).

- Bagus, Philipp, David Howden, and Amadeus Gabriel. 2015. "Oil and Water Do Not Mix, or: Aliud Est Credere, Aliud Deponere." *Journal of Business Ethics* 128, no. 1: 197–206
- . 2016. "Reassessing the Ethicality of Some Common Financial Practices." *Journal of Business Ethics* 136, no. 3: 471–80.
- . 2017. "The Hubris of Hybrids." *Journal of Business Ethics* 145, no. 2: 373–82.
- . 2018. "On the Necessary and Sufficient Conditions for Legitimate Banking Contracts." *Journal of Business Ethics* 147, no. 3: 669–78.
- Baker, Steve. 2013. "Bank Reform Demands Monetary Reform." *Procesos de mercado* 10, no. 2: 291–98.
- Barnett, William, II, and Walter E. Block. 2009. "Time Deposits, Dimensions and Fraud." *Journal of Business Ethics* 88, no. 4: 711–16.
- Burns, Arthur F., and Wesley C. Mitchell. 1946. *Measuring Business Cycles*. New York: National Bureau of Economic Research.
- Competition and Markets Authority "Personal current accounts: market study update", Jul. 18, 2014 (26). Available at https://assets.publishing.service.gov.uk/media/53c834c640f0b610aa000009/140717_-_PCA_Review_Full_Report.pdf. Accessed December 15th 2021.
- Diamond, Douglas W., and Philip H. Dybvig. 1983. "Bank Runs, Deposit Insurance, and Liquidity." *Journal of Political Economy* 91, no. 3: 401–19.
- Dowd, Kevin, ed. 1992. *The Experience of Free Banking*. London: Routledge.
- Evans, Anthony J. 2010. Public attitudes to banking, a student consultancy project. Paris: ESCP Europe for the Cobden Centre.
- . 2014. "In Defence of 'Demand' Deposits: Contractual Solutions to the Barnett and Block, and Bagus and Howden Debate." *Journal of Business Ethics* 124, no. 2: 351–64.
- . 2015. "What Is the Latin for 'Mayonnaise'? A Response to Bagus, Howden and Gabriel." *Journal of Business Ethics* 131, no. 3: 619–23.
- Glasner, David. 1989. *Free Banking and Monetary Reform*. Cambridge: Cambridge University Press.
- . ed. 1997. *Business Cycles and Depressions*. New York: Garland.

- Guzelian, Christopher P., and Robert F. Mulligan. 2015. "The Wisselbank and Amsterdam Price Volatility: A Fractal Test of the Austrian Fractional-Reserve Banking Hypothesis." *Procesos de mercado* 12, no. 2: 13–42.
- Hotz, Rafael. 2009. "Considerations on Fractional Reserve Banking and Free-Banking." *Procesos de mercado* 6, no. 2: 203–15.
- Kotlikoff, Laurence J. 2010. *Jimmy Steward Is Dead: Ending the World's Ongoing Financial Plague with Limited Purpose Banking*. Hoboken, N.J.: Wiley.
- Lucas, Robert E. 1981. *Studies in Business-Cycle Theory*. Cambridge, Mass.: MIT Press.
- Mankiw, N. Gregory. 1985. "Small Menu Costs and Large Business Cycles: A Macroeconomic Model of Monopoly." *Quarterly Journal of Economics* 100, no. 2: 529–37.
- Rothbard, Murray N. 2010. *What Has Government Done to Our Money?* Auburn, Ala.: Ludwig von Mises Institute.
- Salerno, Joseph T. 2012. "Ludwig von Mises as Currency School Free Banker." *Procesos de mercado* 9, no. 2: 13–49.
- Selgin, George. 1994. "Free Banking and Monetary Control." *Economic Journal* 104, no. 427: 1449–59.
- Van den Hauwe, Ludwig, 2006. The Uneasy Case for Fractional-Reserve Free Banking. *Procesos de mercado* 3, no. 2: 143–96.
- . 2018. "Monetary Constitutionalism: Some Recent Developments." *Procesos de mercado* 15, no. 2: 67–105.