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Making Money Safe

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INTRODUCTION

If you have $1 million and keep it in cash, there is no chance of default and your wealth will always retain its value in nominal terms. Logistical costs and security concerns, however, generally prompt those with that much money to hold it in account form—in bank deposits, money-market funds, or other credit instruments.[1] But if you hold $1 million in account form, there generally *is* a risk of default.[2] This is not only inconvenient for managers of large cash pools; it also creates the risk of panics—i.e., en masse, systemwide withdrawals from such accounts due to fear of delay or loss. Panics remain the most dangerous source of instability in the financial system today.[3]

Providing better options to hold money safely is desirable and feasible; failure to do so is a serious but fixable flaw in the legal architecture of money and payments

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1 A desire for yield is also relevant to this choice, though it is not dispositive: in the rare cases where interest rates have gone negative, there has not been a large shift to cash holding. *See, e.g.*, Thomas Hale & Dan McCrum, *Why Do Investors Buy Negative Yield Bonds?*, FIN. TIMES, April 12, 2016 ("Buying negative yielding debt might be considered similar to paying a government to guard your money in a vault.").

2 Deposit insurance on bank accounts is capped at $250,000 per account. *See* 12 U.S.C. § 1821(a)(1)(E) (2012).

3 On the susceptibility of short-term debt to runs and panics, see, e.g., Jack Bao et al., *The Runnables*, BOARD GOVERNORS FED. RES. SYS. (Sept. 3, 2015), https://www.federalreserve.gov/econresdata/notes/feds-notes/2015/the-runnables-20150903.html. On the persistence of vast amounts of panic-prone debt in the system, see, e.g. VOLCKER ALL., UNFINISHED BUSINESS: BANKING IN THE SHADOWS 14 fig. 1 (2016), https://www.volckeralliance.org/sites/default/files/attachments/VolckerAlliance_UnfinishedBusinessBankingInTheShadows.pdf; Bao et al., *supra*. On the pernicious effects of panics, see Ben S. Bernanke, *The Real Effects of the Financial Crisis: Evidence from the Global Financial Crisis*, BROOKINGS PAPERS ON ECON. ACTIVITY, Sept. 2018, at 1, title page, https://www.brookings.edu/bpea-articles/the-real-effects-of-the-financial-crisis/ ("[T]he unusual severity of the Great Recession was due primarily to the panic in funding and securitization markets, which disrupted the supply of credit.").

in the United States.[4] There have been a handful of proposals to mitigate this problem.[5] The Federal Reserve (the Fed), however, is currently resisting an attempt to contribute to this effort.[6] The project involves a new bank called "TNB USA Inc." (TNB), which proposes to hold as its sole investment asset a reserve account at the Fed.[7] (One of the Fed's principal functions is to serve as a banks' bank, providing a safe place for private banks to park *their* cash, in so-called reserve accounts.)[8] Other banks keep only a fraction of their deposits on reserve with the Fed, and loan the rest out.[9] Thus, in a famous scene from *It's a Wonderful Life*, George Bailey, played by Jimmy Stewart, tells his skittish depositors, "You're thinking of this place all wrong—as if I had the money back in a safe."[10] The money, he explains, has been loaned out.[11] But TNB *would* keep its depositors' money in a virtual safe at the Fed.[12]

The Fed, however, has not permitted TNB to open a reserve account.[13] In a recent advance notice of proposed rulemaking (ANPR), the Fed lays out its rationale

4 There are a handful of ways that institutions may be able to hold account money in nondefaultable form. First and foremost, banks can hold money in (nondefaultable) reserve accounts at the Federal Reserve. *See infra* note 8. Second, certain nonbank institutions—money-market funds and government-sponsored enterprises—may participate in the Federal Reserve's overnight reverse repurchase program, a facility established in 2014 that permits these entities to park their cash at the Fed overnight. *See Overnight Reverse Repurchase Agreement Facility*, BOARD GOVERNORS FED. RES. SYS., https://www.federalreserve.gov/monetarypolicy/overnight-reverse-repurchase-agreements.htm (last visited July 31, 2019); *Reverse Repo Counterparties*, FED. RES. BANK N.Y., https://www.newyorkfed.org/markets/rrp_counterparties.html (last visited July 31, 2019). Finally, managers of large cash pools may opt to use a deposit broker to split their cash balances into $250,000 chunks—the federal deposit insurance cap—and spread them among a number of different banks. *See, e.g.*, *The Insured Cash Sweep Service*, PROMONTORY INTERFINANCIAL NETWORK, https://www.promnetwork.com/services/ics (last visited July 31, 2019).

5 *See, e.g.*, Morgan Ricks et al., *A Public Option for Bank Accounts (or Central Banking for All)*, *in* INSIDE MONEY: RE-THEORIZING LIQUIDITY (Christine Desan ed., forthcoming 2019), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3192162 (proposing that all U.S. persons and entities be permitted to open an account directly at the Fed).

6 *See* Memorandum of Law in Support of Defendant Federal Reserve Bank of New York's Motion to Dismiss, TNB USA Inc. v. Fed. Reserve Bank of N.Y., No. 1:18-cv-07978 (S.D.N.Y. Mar. 8, 2019), https://www. tnbusa.com/wp-content/uploads/2019/03/2019.03.08-HNC-Motion-to-Dismiss-Brief.pdf; *see also* Complaint at 3, TNB USA Inc. v. Fed. Reserve Bank of N.Y., 1:18-cv-07978 (S.D.N.Y. Aug. 31, 2018).

7 *See* Complaint, *supra* note 6, at 1 ("TNB's sole business will be to accept deposits only from the most financially secure institutions, and to place those deposits into TNB's Master Account at the [NY Fed].").

8 *See, e.g.*, *Federal Reserve Accounts and Services*, FED. RES. BANK S.F., https://www.frbsf.org/banking/about/what-we-do/accounts-services/ (last visited July 12, 2019).

9 *See Reserve Requirements*, BOARD GOVERNORS FED. RES. SYS., https://www.federalreserve.gov/monetarypolicy/reservereq.htm (last visited Sept. 3, 2019).

10 IT'S A WONDERFUL LIFE (Liberty Films 1946).

11 *Id.*

12 *See* Complaint, *supra* note 6, at 1.

13 *See id.* at 1–2.

for rejecting TNB's application.[14] This Essay argues that the Fed's reasoning amounts to an indictment of the current system. Some of the Fed's arguments are on point but capable of being addressed by a more comprehensive approach; others amount to a defense of a suboptimal status quo. After critiquing the ANPR, the Essay concludes with an account of how a more comprehensive approach could capture the benefits TNB offers, while addressing the Fed's few legitimate concerns.

I. BACKGROUND

Until the Civil War, paper money in the United States was privately issued by banks, circulated at a discount to par, and could default if the issuing bank went bust.[15] Starting with the Legal Tender Act of 1862, which introduced the short-lived "Greenbacks," and culminating with the Federal Reserve Act of 1913 and Federal Reserve notes, paper currency in the United States became "safe" and circulated at par.[16] This was a major step forward in the legal architecture of money and payments in the United States. The most significant weakness in this architecture today is the plethora of unsafe options—the digital equivalents of private, defaultable paper banknotes—for individuals and entities holding large sums of money in *account* form. Deposit insurance is capped at $250,000 per account,[17] and deposit equivalents in money markets—defaultable in the same way that private bank notes were in the early nineteenth century—remain susceptible to widespread withdrawal, or panics.

Panics are the most damaging thing that can happen to a financial system.[18] The short-term debt instruments that are subject to withdrawal in panics function, in normal times and from the lender's perspective, as a type of "money claim"—that is, just like a bank deposit, they serve as a place to park one's cash so one can access it for near-term transactional needs.[19] In addition to bank accounts, examples

14 Regulation D: Reserve Requirements of Depository Institutions, 84 Fed. Reg. 8829 (proposed Mar. 12, 2019) (to be codified at 12 C.F.R. pt. 204) [hereinafter ANPR].

15 *See, e.g.*, GARY B. GORTON, MISUNDERSTANDING FINANCIAL CRISES 6 (2012).

16 Legal Tender Act, ch. 33, 12 Stat. 345 (1862); Federal Reserve Act, ch. 6, § 16, 38 Stat. 251, 265–68 (1913) (codified as amended at 12 U.S.C. § 411 (2012)). National bank notes dominated the period between the Civil War and the founding of the Federal Reserve.

17 *See* 12 U.S.C. § 1821(a)(1)(E) (2012). *But see The Insured Cash Sweep Service*, *supra* note 4 (describing a deposit-brokering service to spread large cash holdings among different banks).

18 *See, e.g.*, Bernanke, *supra* note 3; *see also* MILTON FRIEDMAN & ANNA JACOBSON SCHWARTZ, A MONETARY HISTORY OF THE UNITED STATES: 1867–1960, at 441–42 (1963) ("[B]anking panics have occurred only during severe contractions and have greatly intensified such contractions, if indeed they have not been the primary factor converting what would otherwise have been mild contractions into severe ones.").

19 For a good explanation of why these claims function as money, see MORGAN RICKS, THE MONEY PROBLEM: RETHINKING FINANCIAL REGULATION 29–51 (2016) (introducing the term "money-claim" as a label for this category of instrument). Specifically, these short-term debt instruments function for the claimants as part of their "transaction reserve"—assets put aside to meet near-term obligations such as payroll, rent, and so on. *Id.* at 31.

include money-market funds, commercial paper, and "repo" funding.[20] These instruments were the core of the "shadow banking system" that lay at the heart of the recent financial crisis. There is no good reason to invest in these instruments *except* for the instrumental value their "moneyness" provides.[21] Trillions of dollars of these claims continue to fund U.S. financial institutions.[22] The most important step we can take to address this source of fragility is to facilitate greater provision of nondefaultable money claims—a tractable problem of legal and monetary design. The Federal Reserve should be fostering initiatives targeted at this end, but, as noted, has recently done the opposite in the case of TNB.

TNB is a bank founded by a former executive vice president for the Federal Reserve Bank of New York. TNB stands for "The Narrow Bank."[23] A narrow bank is a bank whose assets comprise not risky loans or securities, as most banks hold, but rather "safe" assets: in its purest form, cash in the vault or reserve account balances with the Federal Reserve. Narrow bank proposals have a long pedigree, but to date the idea has not been implemented.[24] TNB, a pure narrow bank, is distinguishable from most proposed versions in that it arises not from a regulatory mandate but in response to a private profit opportunity. This profit opportunity did not exist until very recently, as it relies on a relatively new feature of the architecture of money and banking: interest that the *Fed* pays to *banks* on banks' reserve accounts.[25] Congress granted the Fed authority to pay this type of interest in 2008,[26] and the rate only rose above 0.25 percent in December 2015.[27] TNB's sole

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20 *See id.* at 31–40.

21 *See id.* at 45 (stating that short-term debt claims, even when they pay a positive yield, do not offer an attractive risk-adjusted yield, and are seen, "together with currency and checkable deposits, as precisely the resources [the holders] are *not* investing").

22 *See supra* note 3.

23 *See* TNB USA, https://www.tnbusa.com/ (last visited July 31, 2019). James McAndrews, the chief executive officer of TNB, "was executive vice president and head of the Research and Statistics Group at the Federal Reserve Bank of New York from 2010–2016." *About Us*, TNB USA, https://www.tnbusa.com/about/#staff (last visited July 21, 2019).

24 Narrow bank proposals go back at least as far as the "Chicago Plan" of the 1930s. For a history, see generally RONNIE J. PHILLIPS, THE CHICAGO PLAN & NEW DEAL BANKING REFORM (1995). For other influential voices arguing in support of narrow banks, see, e.g., IRVING FISHER, 100% MONEY (3d ed. 1945); MILTON FRIEDMAN, A PROGRAM FOR MONETARY STABILITY 68–76 (1960). For more recent proposals, see LAURENCE J. KOTLIKOFF, JIMMY STEWART IS DEAD: ENDING THE WORLD'S ONGOING FINANCIAL PLAGUE WITH LIMITED PURPOSE BANKING (2010); Gary Gorton & Andrew Metrick, *Regulating the Shadow Banking System*, BROOKINGS PAPERS ON ECON. ACTIVITY, Fall 2010, at 261.

25 *See* Financial Services Regulatory Relief Act of 2006, Pub. L. No. 109-351, §§ 201, 203, 120 Stat. 1966, 1968–69 (authorizing the Fed to start paying interest on reserves in 2011); Emergency Economic Stabilization Act of 2008, Pub. L. No. 110-343, § 128, 122 Stat. 3765, 3796 (accelerating the effective date for this authorization to October 1, 2008).

26 *Id.*

27 Technically the Fed pays two different interest rates: interest on required reserves (IORR) and interest on excess reserves (IOER), but the two rates have been the same since the Fed started paying them. *See Interest Rate on Excess Reserves*, FED. RES. BANK ST. LOUIS, https://fred.stlouisfed.org/series/IOER (last visited Sept. 3, 2019); *Interest Rate on Required Reserves*, FED. RES. BANK ST. LOUIS, https://fred.stlouisfed.org/series/IORR (last visited Sept. 3,

investment asset would be its reserve account with the Fed.[28] Currently, the Fed pays interest on reserves (IOR) at a rate of 2.35 percent;[29] TNB could offer *its* account holders something slightly below this and still turn a profit.[30]

The Fed, as noted, has not approved TNB's application for a reserve account, and recently issued an ANPR that articulates its rationale for rejecting it.[31] This Essay analyzes the ANPR and argues that it illustrates the suboptimal nature of the current money-and-payments system in the United States, before outlining a better approach to making money safe.

II. CRITIQUING THE FED'S RATIONALE

The Fed articulates concerns relating to monetary policy implementation, financial intermediation, and financial stability. This part critiques the Fed's reasoning in each area.

A. Monetary Policy Implementation

In order to analyze the Fed's concerns with respect to monetary policy implementation, one must understand certain key features of our money and banking system.

Banks are required to hold a certain percentage of their deposit bases in the form of vault cash or as a balance in their accounts with the Fed.[32] These are the banks' "reserves"; if a bank holds more than the required amount in vault cash or in its account at the Fed, this constitutes "excess reserves." The Federal Reserve has long conducted monetary policy by targeting the interest rate at which banks lend excess reserves to each other, the "federal funds" rate.[33] This rate is supposed to have a ripple effect on other interest rates in financial markets,[34] spurring economic

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2019). The distinction is not important for purposes of this piece, and I refer to both as interest on reserves (IOR).

28 *See supra* note 7.

29 *See Interest Rate on Excess Reserves*, *supra* note 27; *Interest Rate on Required Reserves*, *supra* note 27.

30 TNB's business model relies on being able to pay institutional depositors a higher rate than they can attain elsewhere. One category of potential clients may have access to the Fed's overnight reverse repurchase agreement facility, which offers rates that are consistently twenty basis points below the IOR. *See, e.g.*, Morgan Ricks, *Money as Infrastructure*, 2018 COLUM. BUS. L. REV. 757, 792 fig. 5. On deposit rates more generally, see, e.g., John Cochrane, *Competitive Deposits?*, GRUMPY ECON. (Mar. 14, 2019), https://johnhcochrane.blogspot.com/2019/03/competitive-deposits.html.

31 *See* ANPR, *supra* note 14.

32 *See Reserve Requirements*, *supra* note 9.

33 *See generally Federal Funds Data*, FED. RES. BANK N.Y., https://apps.newyorkfed.org/markets/autorates/fed%20funds (last visited Sept. 3, 2019).

34 *See What Is the Fed: Monetary Policy*, FED. RES. BANK S.F., https://www.frbsf.org/education/teacher-resources/what-is-the-fed/monetary-policy/ (last visited Sept. 3, 2019) ("Changes in the federal funds rate are intended to cause changes in other short-term

activity when it falls and cooling activity when it rises.[35] Until 2008, the Fed's targeting approach relied on the relative scarcity of excess reserves.[36] By affecting the supply of reserves in the system through open-market purchases and sales of Treasury securities—adding reserves to the system when it bought securities and draining reserves when it sold them[37]—the Fed shifted the rate at which banks lent to each other.[38] (This is a straightforward matter of supply and demand: *ceteris paribus*, increasing the supply of reserves lowers the price of borrowing them, and decreasing the supply raises the price of borrowing them.)

But in recent years, the Fed has had to change its approach. In response to the financial crisis, the Fed pumped vast amounts of liquidity into the financial system, so that excess reserves exploded, interest rates fell to zero, and changes in the supply of reserves would not trigger a shift in interest rates.[39] At the same time, in 2008, the Fed gained new legal authority to pay interest on banks' reserve accounts.[40] IOR thus became the Fed's principal mechanism shifting interest rates. The idea, at least initially, was that the IOR would set a floor on the federal funds rate, as no bank would lend to another at a rate below what it could earn by keeping its reserves parked at the Fed. But in practice the effective federal funds rate stayed consistently *below* the IOR for a number of years,[41] only recently rising above IOR by a few basis points.[42] (This meant that in order to achieve its target interest rate, the Fed had to pay banks *extra* basis points in IOR, amounting to pure economic rent for banks,

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interest rates. Indirectly, the federal funds rate also affects long-term interest rates, the total amount of money and credit in the economy, and ultimately, employment, output, and inflation.").

35 *See, e.g.*, *id.* ("To fight recessions, the Fed can use its monetary policy tools to lower the federal funds rate.").

36 For a good account of the conduct of monetary policy through manipulating the supply of excess reserves, see Ricks, *Money as Infrastructure*, *supra* note 30, at 779–86.

37 *See Making Sense of the Federal Reserve: A Closer Look at Open Market Operations*, FED. RES. BANK ST. LOUIS, https://www.stlouisfed.org/in-plain-english/a-closer-look-at-open-market-operations (last visited Sept. 3, 2019).

38 *See* Ricks, *Money as Infrastructure*, *supra* note 30, at 779–86.

39 *Id.* This problem is one symptom of a "liquidity trap." *See, e.g.*, Paul Krugman, *Monetary Policy in a Liquidity Trap*, N.Y. TIMES (Apr. 11, 2013), https://krugman.blogs.nytimes.com/2013/04/11/monetary-policy-in-a-liquidity-trap/.

40 *See supra* note 25 and accompanying text.

41 *See, e.g.*, Alex Dryden, *U.S. Fed Hike: What Is the IOER and What Does It Mean?*, J.P. MORGAN ASSET MGMT. (Dec. 21, 2018), https://am.jpmorgan.com/us/en/asset-management/gim/adv/insights/us-fed-hike-what-is-the-ioer-and-what-does-it-mean; Stephen Williamson, *Interest Rate Control Is More Complicated than You Thought*, REGIONAL ECONOMIST, Apr. 2016, at 15, https://www.stlouisfed.org/publications/regional-economist/april-2016/interest-rate-control-is-more-complicated-than-you-thought. The reason the Fed funds rate stayed below IOR was that there are a small number of nonbank institutions, in particular the mortgage securitization giants Fannie Mae and Freddie Mac, that have *non-interest-bearing* reserve accounts at the Federal Reserve, and that can lend in the federal funds market. These institutions are more than happy to lend out excess reserves at a positive rate below IOR.

42 *Compare Interest Rate on Excess Reserves*, *supra* note 27, *with Federal Funds Data*, *supra* note 33.

with no broader benefit to the economy.[43])

In its proposed rule, the Fed refers to narrow banks such as TNB as "pass-through investment entities" (PTIEs),[44] and states that

> [d]epending on the constellation of interest rates, PTIEs could be an attractive investment for lenders in short-term funding markets such as the federal funds market. If the current lenders in the federal funds market shifted much of their overnight investment to deposits at PTIEs, the federal funds rate could become volatile.[45]

Because the PTIE business model depends on paying depositors a rate below IOR, however, no institution that receives IOR would open an account at a PTIE. The only lenders in the federal funds market who would be tempted to open an account at a PTIE are a (very) small number of institutions that are allowed to maintain a reserve account with the Fed but that cannot receive IOR, such as Fannie Mae.[46] Now that the federal funds rate is above IOR, however, these institutions have no incentive to park their cash at a PTIE rather than lending overnight in the funds market. If the funds rate were again to fall below IOR in the future, perhaps these entities would shift from the funds market to a PTIE, but it is hard to see what could keep the funds rate below IOR *without* these entities lending in the funds market.[47] In any event, it is worth remembering that prior to 2008, there was a relatively small supply of loanable reserves relative to total reserves in the system,[48] but volatility remained a manageable problem.[49]

The Fed makes two further arguments regarding monetary policy; a bit of further background is necessary to make sense of them. The Fed's balance sheet is, like others, made up of assets and liabilities. Its principal liabilities are banks'

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43 The problem would evaporate if, as Morgan Ricks, Lev Menand, and I have proposed in other work, interest-paying reserve accounts were available to all U.S. individuals and entities; it would arguably be eased if TNB's business model were successful. *See* Ricks et al., *supra* note 5.

44 Economist John Cochrane refers to this term as a "subtle denigration" of narrow banks. John Cochrane, *Fed vs. Narrow Banks*, GRUMPY ECON. (Mar. 13, 2019), https://johnhcochrane.blogspot.com/2019/03/fed-vs-narrow-banks.html. I nevertheless follow the terminology adopted by the Fed.

45 ANPR, *supra* note 14, at 8830.

46 *See supra* note 41; *see also* Doreen Fagan, *Why the Fed Pays Interest on Banks' Reserves*, FED. RES. BANK OF ST. LOUIS (Apr. 11, 2018), https://www.stlouisfed.org/open-vault/2018/april/why-fed-pays-interest-banks-reserves ("Some institutions keep deposits with the Fed but don't receive interest—specifically, Fannie Mae and Freddie Mac and the Federal Home Loan banks.").

47 *Supra* note 41. Banks that receive IOR on excess reserves would not lend those reserves to other banks at a lower rate.

48 *See* Ricks, *supra* note 30, at 781–82 (noting that in early May 2008, "the banking system's required reserves were $42 billion and excess reserves were $2.0 billion," and that between early September and late December 2008, "[e]xcess reserves in the banking system rose . . . from about $2 billion to about $800 billion").

49 *See, e.g.*, Spence Hilton, *Trends in Federal Funds Rate Volatility*, CURRENT ISSUES ECON. & FIN., July 2005, at 1, 1, https://www.newyorkfed.org/medialibrary/media/research/current_issues/ci11-7.pdf.

reserve accounts. The aggregate quantity of reserves is augmented or diminished by the Fed's purchase and sale of assets: if the Fed buys a bond, it credits the reserve account of the seller's bank, and the bank in turn credits the seller's personal account. The money supply has grown. If the Fed sells a bond, it debits the reserve account of the buyer's bank, and the bank in turn debits the buyer's personal account. The money supply has contracted. The upshot is that reserve accounts at the Fed are ultimately matched with assets that the Fed holds.[50] (Thus, as reserves skyrocketed during the crisis, so did the value of the assets on the Fed's balance sheet.)[51]

Most issuers of short-term debt in money markets do not have reserve accounts at the Federal Reserve.[52] If their investors migrate to PTIEs, and if the Fed wants to keep broader measures of the money supply stable,[53] the Fed will be forced to increase the total quantity of base reserves, thereby expanding its balance sheet. This potential dynamic grounds both of the Fed's final arguments under the "monetary policy" rubric. First, the Fed argues that "a large-scale migration of institutional cash investors to deposits at PTIEs and away from other depository institutions, money market mutual funds, or repo markets could result in smaller trading volumes across a range of unsecured and secured overnight money markets."[54]

While the Fed cites this as an argument against PTIEs, it is, to the contrary, the strongest argument in their favor. Claims issued in short-term money markets are close substitutes for bank deposits, and function effectively as money[55]—but privately-issued, defaultable money. Again, the possibility of default creates the risk of runs and panics, which is by far the most important lingering weakness in our

50 It is worth emphasizing that this is an artifact of how the Fed affects the expansion and contraction of base reserves. It would logically be possible, if Congress granted it the necessary authority, for the Fed to credit persons' accounts without any consideration, thus creating liabilities with no matching assets; this, however, would create significant problems of its own. *See, e.g.*, John Crawford, *Shining a Light on Shadow Money*, 69 VAND. L. REV. EN BANC 185, 186–90 (2016) (reviewing MORGAN RICKS, THE MONEY PROBLEM: RETHINKING FINANCIAL REGULATION (2014)). Because the Fed in fact expands or contracts base reserves by buying and selling assets, the Fed's liabilities are matched with corresponding assets.

51 *SeeAssets: Total Assets: Total Assets (Less Eliminations from Consolidation): Wednesday Level*, FED. RES. BANK OF ST. LOUIS, https://fred.stlouisfed.org/series/WALCL (last visited Aug. 27, 2019).

52 For example, broker-dealers—sometimes referred to as investment banks, in contrast to commercial banks—do not have reserve accounts at the Fed and cannot accept deposits, but fund themselves with close deposit substitutes in commercial paper and "repo" (overnight secured lending) markets. *See, e.g.*, FIN. CRISIS INQUIRY COMM'N, THE FINANCIAL CRISIS INQUIRY REPORT 103 (2011) [hereinafter FCIC REPORT] ("Unlike banks and thrifts with access to deposits, investment banks relied more on money market funds and other investors for cash; commercial paper and repo loans were the main sources.") .

53 These broader measures include "base" money such as reserve accounts, and privately issued claims such as bank deposits and short-term money claims. *See, e.g.*, *The Money Supply*, FED. RES. BANK OF N.Y., https://www.newyorkfed.org/aboutthefed/fedpoint/fed49.html (last visited Sept. 3, 2019). Data on the broadest measure of money, so-called M3, stopped being reported by the Fed in 2006. *Id.* The author has heard at least one Fed economist call for reemphasizing M3, given the centrality of M3 claims such as repo in the financial crisis.

54 ANPR, *supra* note 14, at 8830.

55 *See supra* note 19.

financial system.[56] In an optimal system money demand would be satisfied by nondefaultable claims. The Fed is concerned, however, that "[i]f this shift were large enough, or if cash shifted into or out of PTIEs rapidly, the reference rates derived from reported transactions in those markets, such as the overnight bank funding rate . . . , could also become volatile," and that "[t]his volatility could make it difficult for the Federal Reserve to control short-term rates more broadly as a means of implementing monetary policy."[57] The obvious reply on reference rates is that others can be found. With respect to volatility, to the degree that administered rates—via PTIEs or otherwise[58]—replace rates in short-term money markets, particularly if the substitution is comprehensive, it should *stabilize* and streamline monetary policy transmission. The path of influence would be direct from the administered rates to longer-term rates in the economy, rather than from administered rates to money market rates to longer-term rates, as it is now.

A final concern the Fed raises in this area is more compelling, and relates to the fact that as reserve accounts at the Fed grow, so must the Fed's portfolio of assets.[59] The Fed observes that "[t]he ability of PTIEs to attract a very large amount of deposits at a rate above other key overnight money market rates could affect the [Fed's] plans to reduce its balance sheet to the smallest level consistent with efficient and effective implementation of monetary policy."[60]

The problem with a large Fed balance sheet is that there are reasons to be skeptical of the ability of a government body to allocate capital.[61] This concern is reduced if the Fed can invest in safe, highly liquid assets, where credit risk assessment is less important and where the Fed's presence is less likely to affect asset prices in particular sectors.[62] The asset class that most closely meets these criteria is Treasury securities—and, indeed, this is what the Fed has traditionally bought and sold through its open-market operations.[63] But there is a finite supply of such securities—likely insufficient to back the entire stock of money in our economy.[64] This would potentially create significant challenges if PTIE uptake

56 *See supra* note 3.

57 ANPR, *supra* note 14, at 8830.

58 For example, through FedAccounts. *See infra* notes 87–92 and accompanying text.

59 *See supra* note 50.

60 ANPR, *supra* note 14, at 8830.

61 *See, e.g.*, Ricks et al., *supra* note 5, at 19–20.

62 *Id.*

63 *See Permanent Open Market Operations*, FED. RES. BANK OF N.Y., https://www.newyorkfed.org/markets/pomo_landing.html (last visited July 20, 2019) ("Purchases or sales of Treasury securities on an outright basis have been used historically to manage the supply of reserves in the banking system."). As part of the Fed's policy of quantitative easing over the past decade, the Fed has also been active in the mortgage-backed securities market. *See, e.g.*, *Open Market Operations*, FED. RES., https://www.federalreserve.gov/monetarypolicy/bst_openmarketops.htm (last visited July 20, 2019).

64 *See, e.g.*, Ricks et al., *supra* note 5, at 19 & n.98. Note that at the turn of the millennium, top officials at the Fed were nervous about the effect of the (very briefly) shrinking national debt

were widespread and the Fed had to expand its balance sheet. Again, this invites a more comprehensive approach to providing safe money options for large account holders. In other work, Morgan Ricks, Lev Menand, and I propose using the Fed's discount window as a potential solution.[65] In the end, while this is a concern that should not be dismissed out of hand,[66] and one that the TNB model does not address, it should not lead us to acquiesce to the suboptimal and unstable status quo.

B. Financial Intermediation

If there is an insufficient quantity of Treasuries to support the entire stock of money in our economy, that means that some money creation must involve the purchase of other assets—small business loans, mortgage-backed securities, and so on. In the current system, money created by the purchase of these assets is carried out by private banks (for just as the Fed can create money by purchasing assets, so can a bank). If a bank makes a loan, it has, in essence, bought an asset: a contractual claim to future cash payments from the borrower. If the loan is for $50,000, the bank purchases this contractual claim by crediting the borrower's account with $50,000: new money is created *ex nihilo*.[67]

As noted, the fact that the government is arguably not well suited to make these sorts of investments is perhaps the most significant, though not insurmountable, obstacle to the public provision of nondefaultable base money in account form (similar to the provision of nondefaultable physical cash). The Fed does not address this problem head on in its ANPR, but instead articulates several peripheral arguments that are, on their own, much weaker objections to the PTIE model.

First, it states that

> [d]eposits at PTIEs . . . could become attractive investments for many lenders in overnight funding markets. Lenders in the overnight general collateral ("GC") repo market could find PTIE deposits more attractive than continued activity in the overnight GC repo market. If the rise of PTIEs were to reduce the demand for GC repo lending, securities dealers could find it more costly to finance their inventories of Treasury securities. Such a development could impair the liquidity of the repo market, making it harder for banks to monetize Treasury securities in times of stress and raising the overall cost of Treasury borrowing.[68]

It is odd that the Fed zeroes in on Treasury markets, as this is the asset that is universally understood to be well suited to the Fed's open-market operations. It is not at all clear that crowding out private money issuers investing in Treasuries, and replacing them with PTIEs investing in reserve accounts, which will in turn lead to the open-market purchase of Treasuries, would raise borrowing costs for the

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on monetary policy for this very reason—and this in a system where bank loans (contra the PTIE model) had a large monetary multiplier effect on the Fed's operations.

65 Ricks et al., *supra* note 5; *see also infra* note 90 and accompanying text.

66 *Contra* Cochrane, *supra* note 44.

67 The constraint on this is reserve requirements. *See supra* note 32 and accompanying text. If reserve requirements are ten percent of a bank's deposit base, and a bank has $10 in reserves and $90 in deposits, it can only create $10 more *ex nihilo* without increasing its reserves.

68 ANPR, *supra* note 14, at 8830.

Treasury: demand would shift at the margin from private market actors to the Fed, but it would not fall in aggregate.[69]

The concern with the Treasury repo market may be understood, however, as a special case of the more general concern the Fed expresses a few lines later: luring money claimants away from banks and money market issuers would cause their funding costs to rise, which would raise lending costs more broadly.[70] This is a fair point on its face,[71] but there are several compelling responses.[72] First, the rates banks charge in making loans to their borrowers are determined by their *marginal* cost of funds, not their average cost of funds. This means that a bank will lend only if the risk-adjusted yield compares favorably to the rate at which it can lend or borrow in the federal funds market, which does *not* tightly track the rate it pays to depositors.[73] Second, deposits and deposit equivalents are cheap relative to other funding sources because of their "moneyness," as Jeremy Stein and his coauthors have observed.[74] One way of understanding the funding advantage these instruments give their issuers is that they constitute the private capture of "seigniorage"—that is, the profits the government has typically made from issuing money.[75] (It takes less than a dollar's worth of metal to mint a dollar coin.) If we understand the money and payments system as a public resource, seigniorage rightly belongs to the public. Thus, even *if* cheap funds translate into lower-interest loans for the customers of banks and shadow banks—which is far from clear—it represents a haphazard and inefficient pass-through subsidy. If certain categories of

69 It is worth emphasizing that while one might think private borrowers in repo markets that use Treasuries as collateral offer safety to lenders, because these borrowers engage in other risky activities, lenders may still run in a crisis: repo lenders ran on Bear Stearns, for example, even when their position was collateralized by Treasuries. *See* FCIC REPORT, *supra* note 52, at 288. Lenders preferred quick and easy access to their money to foreclosing on the collateral. TNB is distinct because it is narrow—it would not engage in other risky activities that would put its solvency at risk.

70 ANPR, *supra* note 14, at 8830 ("PTIEs could also diminish the availability of funding for commercial banks generally. To the extent that deposits at PTIEs are seen as a more attractive investment for cash investors that currently hold bank deposits, these investors could shift some of their investments from deposits issued by banks to deposits with PTIEs. This shift in investment, in turn, could raise bank funding costs and ultimately raise the cost of credit provided by banks to households and businesses.").

71 Robin Greenwood, Sam Hanson, and Jeremy Stein describe the funding advantage of short-term debt issuers in terms of a "money premium." Robin Greenwood et al., *A Comparative-Advantage Approach to Government Debt Maturity*, 70 J. FIN. 1683, 1685 (2015).

72 *See generally* Ricks et al., *supra* note 5, at 21–22.

73 In general, when the federal funds rate falls, interest on deposits falls immediately, but when the federal funds rate rises, interest on deposits rises very slowly. *See, e.g.*, John C. Driscoll & Ruth A. Judson, *Sticky Deposit Rates* 1 (Fin. & Econ. Discussion Series, Working Paper No. 2013-80) (finding "that rates are downwards-flexible and upwards-sticky," and that "[i]n the absence of such stickiness, depositors would have received as much as $100 billion more in interest per year during periods when market rates were rising").

74 Greenwood et al., *supra* note 71, at 1706.

75 *Id.* at 1705 (referring to the funding advantage from issuing short-term, money-like debt claims as "seigniorage").

borrowers are seen to merit subsidies, the government can do it in a more direct way, as it does, for example, with home mortgages and student loans.[76] And if the removal of the subsidy has a negative economic impact, the Fed could and should lower rates generally for the benefit of all borrowers, without acquiescing in the capture of significant economic rents by banks.

As a final point, the Fed observes, contra the arguments of some, that it is unlikely that PTIEs, which would serve only institutional clients,[77] would positively impact the interest rates paid to retail depositors.[78] This is almost certainly true, and points to the desirability of a more comprehensive approach.[79]

C. Financial Stability

Finally, the Fed addresses financial stability. Its arguments on this point are not persuasive, and to the degree they *do* have force, they are a frightening indictment of the poor architecture of the current system. According to the Fed,

> the emergence of PTIEs likely would have negative financial stability effects on net. Deposits at PTIEs could significantly reduce financial stability by providing a nearly unlimited supply of very attractive safe-haven assets during periods of financial market stress. PTIE deposits could be seen as more attractive than Treasury bills because they would provide instantaneous liquidity, could be available in very large quantities, and would earn interest at an administered rate that would not necessarily fall as demand surges. As a result, in times of stress, investors that would otherwise provide short-term funding to nonfinancial firms, financial institutions, and state and local governments could rapidly withdraw that funding from those borrowers and instead deposit those funds at PTIEs. The sudden withdrawal of funding from these borrowers could greatly amplify systemic stress.[80]

The first thing to note here is that an argument against a more stable money option based on the fear that money-market investors might flee to it in a panic is above all an indictment of money markets. Similar logic could lead one to reject *any* stable money options, including insured deposits or federally issued paper money. In any event, the argument that in a crisis, if no PTIEs existed, money-market investors would *not* flee to perceived safe havens such as Treasuries, flies in

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76 *See, e.g.*, *Publication 936 (2018), Home Mortgage Interest Deduction*, INTERNAL REVENUE SERV., https://www.irs.gov/publications/p936 (last visited Sept. 3, 2019) ("You can deduct home mortgage interest on the first $750,000 . . . of indebtedness."); *Subsidized and Unsubsidized Loans*, FED. STUDENT AID, https://studentaid.ed.gov/sa/types/loans/subsidized-unsubsidized (last visited Sept. 3, 2019) (describing subsidized student loans).

77 *See, e.g.*, Complaint, *supra* note 6, at 1 ("TNB's sole business will be to accept deposits only from the most financially secure institutions . . . ."). TNB's business model depends on keeping operating costs low; because there are a number of unavoidable costs in opening up any bank account, particularly relating to compliance with anti-money-laundering and "know-your-customer" rules, retail depositors will not pass the cost-benefit test for a pass-through entity.

78 ANPR, *supra* note 14, at 8830–31.

79 *See generally* Ricks et al., *supra* note 5; *see also infra* 86–92 and accompanying text.

80 ANPR, *supra* note 14, at 8831.

the face of recent experience.[81] It also implicitly relies on a model of financial crises that is incomplete—one in which potential "runners" from money markets make incremental decisions to flee based on finely calibrated calculations of the optimal combination of safety and yield. There may be some truth to this, particularly in normal times, but a more compelling model of *panics* sees a sudden shift in equilibrium wherein safety—the ability to return one hundred cents on the dollar without delay—takes lexicographical priority such that the existence of any option perceived as safer is enough to trigger a run.[82] Again, this is consistent with what happened in the crisis.[83]

It is also worth noting that PTIEs would likely crowd out much of the current money market activity—an unambiguous win for stability. Of course, this could create problems if widespread migration occurred relatively quickly. The lack of a plan for such a transition phase is a shortcoming of TNB, but could easily be addressed by a more comprehensive approach.[84]

III. WHAT A MORE COMPREHENSIVE APPROACH COULD ACCOMPLISH

PTIEs such as TNB would be a boon for the financial system, in attracting managers of large cash pools to accounts that would be nondefaultable and therefore nonrunnable. The Fed's objections based on the effects on private money-market trading—otherwise known as the shadow banking system[85]—take TNB's greatest strength for a weakness, and reflect an indefensible adherence to an unstable status quo.

There are, however, potential challenges and drawbacks to the PTIE model as currently proposed that a more comprehensive approach could successfully address.[86] Ricks, Menand, and I suggest allowing all U.S. persons and entities to bank directly with the Fed—opening "FedAccounts."[87] As part of this comprehensive reform proposal, we address key issues that TNB, on its own, does not. For example, if widespread migration into FedAccounts caused quick (but not

81 *See, e.g.*, Bryan J. Noeth & Rajdeep Sengupta, *Flight to Safety and U.S. Treasury Securities*, REGIONAL ECONOMIST, July 2010, at 18, https://www.stlouisfed.org/publications/regional-economist/july-2010/flight-to-safety-and-us-treasury-securities.

82 For a good account of different models of financial crises, see RICKS, *supra* note 19, at 52–77.

83 *Supra* note 81.

84 *See* Ricks et al., *supra* note 5; *see also infra* 86–92 and accompanying text.

85 *See, e.g.*, John Crawford, *Lesson Unlearned?: Regulatory Reform and Financial Stability in the Trump Administration*, 117 COLUM. L. REV. ONLINE 127, 127 n.1 ("'[S]hadow banking' refers . . . to one specific activity: funding a portfolio of financial assets with lots of short-term debt").

86 A more comprehensive approach might, of course, involve PTIEs, but to the degree PTIEs arise as private profit-making projects, they are unlikely to address these problems.

87 Ricks et al., *supra* note 5. For another approach that deals with these issues comprehensively, see Robert C. Hockett & Saule T. Omarova, *The Finance Franchise*, 102 CORNELL L. REV. 1143 (2017).

crisis-driven) flight from private money markets, this *could* be destabilizing; but we suggest this is precisely the sort of unusual and exigent circumstance that would justify the Fed employing its emergency lending authority under section 13(3) of the Federal Reserve Act to provide private money issuers with needed liquidity as they transition to either longer-term funding or smaller balance sheets.[88]

From a longer-term perspective, the most serious drawback to the PTIE model is that it could require the Fed to maintain a large, permanent portfolio of assets beyond the traditional choice of Treasuries. We address this drawback by recommending that the Fed maintain its current "outsourcing" arrangement with chartered banks in making these granular investment decisions,[89] by replacing these banks' lost deposit funding with discount window loans.[90]

It is also worth noting that in addition to addressing specific drawbacks of PTIEs as proposed, FedAccounts would offer a number of additional benefits. The fact that it would be available to all U.S. persons would ensure that even retail depositors enjoyed higher interest rates—something we believe is desirable on distributional grounds, but that PTIEs focused on institutional clients would be unable to deliver. It would promote financial inclusion for the unbanked and underbanked.[91] It would also improve payment speed and efficiency, provide for public capture of seigniorage, promote regulatory streamlining, and help eliminate certain tolls on commerce such as interchange fees.[92] In short, it would offer all the benefits of PTIEs and more, and address the few valid concerns the Fed articulates in its proposed rule.

CONCLUSION

The continuing abundance of defaultable money claims in account form is the central source of instability in the U.S. financial system. Providing alternatives to crowd out these private money issuers would be unambiguously good. PTIEs such as TNB could help do this. The Fed's rejection of this model reflects an indefensible allegiance to the status quo. At the same time, the Fed raises valid concerns with the PTIE model as proposed—but these concerns can be addressed by a more comprehensive reform project. Increasing safe money options is desirable and attainable. The Fed should help foster and guide initiatives to provide safe money rather than resisting them.

88 Ricks et al., *supra* note 5, at 18 n.92.

89 If one views money and payments as a public good, a good way to understand the Fed's current approach is that it outsources both the management of accounts and payments, and much of the money creation in our economy, to private banks. Under our approach, the Fed would continue outsourcing some of the money creation while insourcing accounts and payments.

90 *See* Ricks et al., *supra* note 5, at 19–22.

91 *See id.* at 6–9.

92 *See id.* at 9–17.