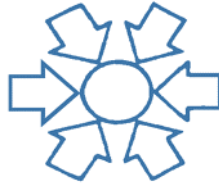


Why the FRB Pays Interest to Banks on Excess Reserves and What Might Happen If it Didn't

December 20, 2016



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This paper represents the views of Federal Financial Analytics, Inc. (FedFin). Funding for this research was provided by the American Bankers Association, which was not granted editorial authority over the paper's content, methodology, or findings. These are solely the responsibility of Federal Financial Analytics, Inc.

Executive Summary

This paper explains interest on excess reserves (IOER), why the FRB now pays it, how it fits into U.S. monetary policy, and what might happen if the rate paid on IOER were set to meet priorities other than those necessary for effective U.S. monetary policy.

To understand IOER in the U.S. financial system, it is important to consider not only monetary policy, but also the post-crisis regulatory framework. Although this framework has made U.S. banking safer, it has also significantly affected the capacity of banks to make loans and otherwise support economic expansion. We thus draw here not only on academic and other research, but also on recent instances in which other global central banks have reduced IOER or even required banks to pay for access to central-banks reserve facilities through negative interest-rate policies (NIRP). The sharp shift to negative IOER in major markets has yet to be analyzed in detail, but it already shows demonstrable and adverse impact on economic growth and financial-market resilience.

Based on this real-world analysis and relevant research, we conclude that:

- IOER is an essential tool which the FRB uses to put a floor under short-term interest rates to create a buffer against inflationary spirals during periods of monetary-policy easing. Without a floor under short-term rates, “easy money” would become so pervasive that demand spikes for newly-cheap goods would spark higher prices disproportionate to underlying economic growth. The risk of real negative rates in the U.S. is also mitigated by IOER. Inflation risk is particularly acute given current accommodative policy, making IOER even more important.
- Conversely, IOER is critical as the FRB raises rates. IOER rises in tandem with fed funds rate hikes set by the Federal Reserve so that funds do not flood into the market and push rates below the FRB’s desired target. The FRB could theoretically counter this effect by rapidly disposing of its assets so that rates rise due to larger supplies of Treasury and similar obligations, but sudden asset dispositions would be extremely destabilizing.
- If the FRB could not pay IOER set in line with desired interest rates, then the FRB would, in the absence of large asset sales or still more purchases, risk inflation or nominal negative rates, or need to rely exclusively on another facility that now pays interest to non-banks engaged in reverse repurchase agreements with the FRB. This is a most uncertain monetary-policy course and would exacerbate the flight of funds from bank deposits into non-bank liabilities with adverse effect on credit formation and financial stability. It would also increase the need for the FRB to create liquidity backstops for non-banks or seek legislation to give them access to the central bank. Without prudential regulation for these non-banks, this could pose significant systemic risk as well as drain funds from banks of all sizes.
- The FRB does not use IOER to fund its asset holdings. Portfolio assets are purchased from banks through changes to bank reserve accounts and could continue, resume, or even increase if IOER were reduced or rescinded.
- IOER does not create an incentive for banks to hold funds at the FRB rather than lend them out. Banks only hold excess reserves at the FRB due to the absence of other prudent, profitable asset options resulting from suppressed borrower demand due to slow economic recovery. A mix of new regulatory requirements, disciplined risk management, and slow recovery also limits credit formation.
- Due to limited lending opportunities, if IOER were reduced or rescinded under current regulatory and macroeconomic conditions, banks would find few safe-and-sound options in which to house

deposits. Customers might find banks charging to accept deposits or reducing rates even further, exacerbating trends already evident in the U.S. and further decreasing funding for credit formation as the economy improves.

- IOER is a critical buffer against “stagflation” (when inflation reaches undue levels but economic growth does not rebound). This is because, without IOER, there would be no floor under short-term rates. Funds would then flow into short-term consumption and speculation because there would be no way to save them for further investment without losing “real” money. This shift would not increase sustainable employment and economic growth. Should IOER be eliminated, threats to financial stability are also likely because too much money would chase too little value and sudden changes in market sentiment could have catastrophic consequences often called “cliff effects.”
- Eliminating or reducing IOER would likely not produce net budgetary savings that would reduce the deficit or fund other programs. Any reduction in IOER payments to banks would be more than offset by Federal Reserve losses due to asset sales in a rising-rate environment (which causes capital losses on debt securities).

IOER: Frequently-Asked Questions

Because questions surrounding the payment of interest on excess reserves have recently become prevalent, we here address the role of IOER from monetary, regulatory, and fiscal perspectives. We look at questions raised both on Capitol Hill and by experts around the country. To provide a clear perspective on these questions, we begin with a short series of FAQs.

Q. *What is IOER?*

A. IOER is the interest paid by the Federal Reserve on the reserves banks keep at the central bank in excess of those they are required to hold against certain transaction accounts. All reserves held by the FRB from banks are liabilities the FRB is responsible for returning to banks and are assets on the balance sheet of banks placing these reserves, with these reserve assets subject to rules such as the new leverage-capital requirements. Given these costly capital requirements, banks therefore minimize required reserves to the greatest extent possible and many products now divert deposits from the accounts subject to required reserves. This makes required reserves an increasingly ineffective tool for the transmission of U.S. monetary policy.

Q. *How Does IOER Affect Monetary Policy?*

A. The interest rates set through IOER are intended to establish a floor below the central bank’s target short-term interest rate. Without such a floor, rates could go below desired levels depending on market need, resulting in additional expansionary macroeconomic pressure and exacerbating inflation risk. When rates are as close to zero as they are at present, the inflation risk traditionally associated with falling below desired short-term rates is exacerbated by the risks of negative interest rates (e.g., cash hoarding, bank inability to accept deposits). Conversely, this floor ensures that FRB efforts to raise rates are successful. As IOER rises in tandem with higher rate signals from the FRB, IOER ensures that rates do not fall too far below the new target and thus prevent efforts to rein in growing macroeconomic risk.

Q. *Why Do Banks Hold Excess Reserves?*

A. IOER provides banks with interest on assets that house funds received from depositors that cannot be profitably deployed into other assets (e.g., loans) at higher rates without undue risk. Without IOER

and with continuing deposit inflows from individuals and business customers, interest rates would fall below the short-term rate level desired by the FRB. These deposits cannot just sit on bank balance sheets as cash in the vault. Funds would thus have to be deployed by banks in less productive – or even risky – ways without IOER or banks would need sharply to curtail deposit-taking capacity unless or until economic growth improves or regulatory conditions favor credit formation.

Q. *Do Banks Want to House Funds in Excess Reserves?*

A. No. Banks want to put deposits to productive use, but current market uncertainty coupled with slow U.S. recovery has resulted in a general reluctance on the part of individuals and businesses to finance new purchases or new facilities, diminishing productive-lending opportunities. With deposits continuing to flow into the banking system, banks use excess reserves to accommodate these funds until better opportunities are at hand.

Q. *Does the FRB Need Interest on Excess Reserves to Fund Its Balance Sheet?*

A. No. IOER plays little role in the FRB's initial asset purchases. The FRB does not “hand over cash” to banks to buy the assets that the FRB now holds on its portfolio. Instead, when the FRB buys assets (e.g., Treasury securities) from a bank, payment to that bank is in the form of an increase to that bank's reserve account with the FRB. The bank then is able to decide whether to leave that money in its reserve account or withdraw it to be put to other use. The FRB's purchase of the assets is unaffected by the decision either to withdraw the funds or leave them with the FRB. The FRB thus does not need to pay interest on these excess reserves to fund its asset purchases.

Q. *Could the FRB Do Away with IOER?*

A. Not without losing the floor under short-term rates that now is a vital protection against risky inflation and negative interest rates. With or without IOER, the FRB could add to or dispose of its portfolio.

Q. *Could the FRB Press Banks to Make Loans by Reducing or Eliminating IOER?*

A. No. Banks do not wish to house funds in excess reserves. But, without interest on these reserves, banks would need to place deposits into assets that might include higher-risk loans or financial instruments, likely sharply increasing both their risk and that of the overall financial system. Banks reluctant to “yield chase” would need to limit deposit-taking capacity, as has already been seen in countries where central banks now charge banks for excess reserves instead of paying interest on them.

Q. *Is IOER a Big-Bank Subsidy?*

A. It isn't. Banks hold excess reserves because more profitable options to deploy them are not available. Excess reserves are also assets on a bank's balance sheet and thus subject to costly leverage-capital and FDIC-premium requirements. Non-banks using the reverse repo program (RRP) receive income from the FRB for doing business with it without any of these costs.

Q. *Could Reducing IOER Provide Funding for Other Federal Expenditures?*

A. Not in a sustainable or prudent fashion. Without any interest income and given the regulatory cost of excess reserves, funds would be rapidly removed from the FRB and the floor under short-term rates could collapse. Done suddenly through legislation, the effects of this could be systemically costly under current conditions of ultra-low rates, slow growth, and geopolitical risk. Were IOER withheld from financial institutions, any presumed increase in federal revenues would be offset by the cost of far larger longer-term damage both to taxpayers and the broader economy, including those losses to the Federal

Reserve's portfolio from selling assets into an environment of rising interest rates. Because of these adverse results, the Congressional Budget Office could well score an end to IOER as a cost to the federal government rather than a short-term revenue increase.

What is IOER?

Banks doing business in the U.S. hold two types of reserves at the Federal Reserve: required reserves and those in excess of required amounts. The FRB pays interest to banks on both required and excess reserves. Required reserves must be held against "reservable liabilities," i.e., transaction accounts such as checking accounts and certain other bank deposits. The longstanding goal of required reserves is to give a central bank the lever with which to conduct monetary policy: to spur banks to create credit (i.e., expand economic growth) or to contract money supply and slow an overheated economy. This is done either by reducing reserves and thus the cost of attracting funds to lend out or, conversely, by raising reserve requirements so that banks charge more to take deposits and have fewer funds to lend, thus creating supply restrictions on lending that raise rates and slow growth. Under the FRB's Regulation D,¹ the amount of required reserves currently varies from zero on small transaction accounts and certain other deposits to as much as ten percent against very large transaction accounts (i.e., those held by companies or other customers for safekeeping and/or operational purposes like payroll). The current amount of required reserves held at the FRB is \$121.1 billion.²

Both required and excess reserves are "liabilities" of the Federal Reserve System, not "assets" – that is, the FRB must repay a bank for required reserves above necessary amounts and for any excess reserves a bank wishes returned. In contrast, reserves held at the FRB are assets on a bank's balance sheet, meaning that they are subject to regulatory-capital requirements (including the leverage requirement) even though reserves are riskless assets and are not available for rehypothecation (i.e., transfer to others) or other uses that might pose risk.

In the late 1970s, large balances of then-sterile (i.e., non-interest bearing) required reserves became a particularly acute challenge for U.S. banks. This was because inflation was driving up interest rates while banks not only remained under then-applicable interest-rate ceilings on what could be paid to depositors (so-called Regulation Q ceilings), but sterile reserves also added costs that made banks still less competitive against fast-growing money-market and mutual funds. These alternatives essentially got their start as depositors grew increasingly desperate to earn economic rates of return and thus transferred deposits from banks. Banks face this competition to this day despite the end of deposit-rate ceilings because numerous other rules (discussed below in more detail) complicate deposit-taking and competitiveness vis-à-vis non-bank cash-equivalent and similar investment products.

To reduce the cost of required reserves, banks have increasingly offered fund products as well as more traditional deposit ones. They have also long used tactics such as sweeping funds from reservable deposits into liability accounts exempt from them. The more funds are swept from reservable deposits, the smaller the relative proportion of reservable accounts to the national economy and the less effective monetary policy executed through traditional channels that rely on reservable accounts becomes. Thus, as depositors switched to funds and sweeps and similar instruments became more sophisticated, the FRB sought to find other ways to encourage banks to hold reserves, asking for and eventually earning the power to pay interest on reserves. A recent study from the Government Accountability Office (GAO)

has found that reserves – both required and, when necessary, excess ones – remain an essential tool for effective U.S. monetary policy despite the RRP.³

Without IOER and the resulting incentives for banks to hold reserves subject to FRB monetary-policy transmission, bank-deposit taking activity would be sharply curtailed when economic conditions do not offer alternative asset opportunities. Banks cannot and do not operate as the equivalent of giant safes – that is, if deposits flow into them, banks must “intermediate” these funds into assets at interest rates enough above the cost of deposits to ensure a viable, ongoing business. In a recession or other slow-growth scenario, asset opportunities at necessary rates are scarce and banks thus may refuse to accept deposits or try to charge for them. IOER as discussed below does not solve for other current constraints on deposit-taking capacity, but it directly addresses those most immediately resulting from ultra-low rates and an array of other investment opportunities that may pose inflationary and yield-chasing risk. Importantly, bank deposit-taking capacity not only creates safe stores of value – especially important for lower-income customers without access to other ways to save and safeguard their funds – but also gives banks the funds to fuel financial intermediation and thus generate loans.

How Does IOER Affect Monetary Policy?

IOER has been deployed not only by the Federal Reserve, but also by most other major central banks to avert financial panics, limit inflation risk, spur economic growth, and constrain risky expansions. IOER is intended to set a floor under short-term rates so that they do not drop far below those desired by the Federal Reserve or the other central banks that rely on IOER. FRB Chair Yellen recently reaffirmed this goal as well as emphasized the essential role of IOER as a rate floor when rates are low and the central bank must simultaneously combat a recession, saying that, “Paying interest on reserve balances enables the Fed to break the strong link between the quantity of reserves and the level of the federal funds rate and, in turn, allows the Federal Reserve to control short-term interest rates when reserves are plentiful.”⁴ This occurs because banks are unlikely to lend funds at a rate below that offered by the Federal Reserve for riskless, thoroughly-liquid assets. The FRB needs to set a floor below short-term rates because, if it could not do so, interest rates could drop very rapidly, spurring sudden inflation.

When a central bank is seeking to stimulate economic growth without inflation risk, this floor is especially critical because ultra-low rates could quickly slip below the zero lower bound (ZLB). When interest rates are, say, five percent, there is a 500 bps cushion for rates to go lower without crossing the ZLB. When the FRB’s rate is three-quarters of one percent (0.75%) as it is currently, this cushion does not exist and slippages below the desired short-term rate can quickly and inadvertently create NIRP. Negative interest rates, especially if they are the result of market gyrations and not intentional NIRP, can have very destructive effects – e.g., cash hoarding – that are further setbacks to sustainable recovery. This negative effect is already evident when IOER is not paid by central banks and where central banks in fact charge banks to house funds in excess reserves.⁵

As noted, IOER is especially necessary in the U.S. to ensure that banks gather deposits that might otherwise move outside the regulated banking system with adverse implications not only for customer services and the credit formation needed to spur recovery, but also for financial stability. Many other nations (e.g., Japan, those in the Eurozone) where IOER is negative are experiencing cash hoarding and other related problems, but likely not to the extent that would occur in the U.S. These non-U.S. markets are “bank-centric” and depositors thus lack ready access to non-bank products seen to provide cash-

equivalent protection. Without IOER in the U.S., funds would likely flood money-market funds (MMFs) and also move into riskier assets that do not promote sustainable growth or reflect FRB monetary-policy objectives.

In fact, the FRB has had to construct a new policy facility precisely because non-bank liabilities are so important a force in the U.S. The FRB has created a reverse repurchase agreement or reverse-repo program to ensure that its interest-rate signals are also transmitted to MMFs, government-sponsored enterprises (GSEs), and certain other non-bank entities holding trillions in funds that, if not subject to interest-rate floors, would likely spark inflation regardless of IOER's reinforcing rate impact through the banking channel. MMFs that hold investor money in government and related securities do not support productive-asset generation. This issue will in fact become still more acute and thus make bank deposit capacity even more essential as new SEC rules take hold and funds continue to shift from "prime" money-market instruments to those solely invested in sovereign and related obligations.⁶

The impact of the RRP on the long-term structure of the U.S. financial system, the role of "shadow" entities, and potential systemic risk are addressed in two other recent FedFin analyses.⁷ However, it is clear that the FRB is sufficiently worried by its need now to rely on non-banks that it not only created the RRP, but has begun to consider ways to serve as a "market-maker of last resort."⁸ Were the FRB to cease to pay IOER, and banks then sharply reduced their excess-reserve balances, it is likely that funds would flood into MMFs and similar instruments, forcing the FRB to rely on the RRP or some other version of it to maintain a floor under short-term rates. Even were all of this to be handled without risk as IOER is terminated and the RRP continued, it is most unclear if the FRB could continue effectively to set monetary policy. A new FRB working paper concludes that both IOER and the RRP are necessary to do so given current U.S. financial-market configuration.⁹

Why Does the FRB Pay IOER?

The idea of IOER was first suggested by Milton Friedman over four decades ago as a way to make it easier for the FRB to hit short-term interest-rate targets.¹⁰ The FRB began to advocate strongly for IOER authority in the late 1970s as the funding-market changes described above took shape. However, the FRB only won the authority to pay IOER in 2006 due in part to the challenges of enacting legislation scored as federal spending. The FRB believed that IOER would give it the tools needed not only to implement monetary policy as market conditions changed, but also that IOER could provide the FRB with enough tools to dispense with required reserves for effective rate transmission. Reducing or even eliminating required reserve balances would, the Board reasoned, expand bank deposit-taking capacity, especially for traditional transaction accounts, and thus better support lending activity.¹¹

The 2006 authority to use IOER powers was originally delayed until 2011¹² but then moved up to 2008 by Congress because the Board believed it even more urgent as a way of implementing monetary policy under conditions that at the time posed the risk of another Great Depression and made effective monetary-policy transmission still more vital.¹³ Although crisis conditions have of course waned, IOER is still viewed by the FRB and many analysts as essential not only to link actual short-term rates to those desired by the Federal Open Market Committee (FOMC), but also to facilitate the exit strategy needed to wind down the central bank's \$4.5 trillion portfolio of assets acquired in the course of post-crisis accommodative policy.¹⁴ Without IOER, the FRB would either have to depend on non-banks through the RRP (still paying interest to private institutions) or sharply increase its portfolio. Were the FRB to

expand its portfolio, as Chair Yellen now contemplates,¹⁵ short-term rates would generally be set not by the market, but by FRB moves into and out of selected asset classes.¹⁶

Why Do Banks Hold Excess Reserves?

IOER and, for that matter, the RRP are intended by the FRB as monetary-policy supports to be used in challenging circumstances. Required reserves can no longer ensure effective transmission of short-term rate signals because funds now move through the financial system in ways unaffected by the rates the FRB selects for required reserves and/or the funds made subject to them. Although the authority to reward firms for housing funds with the FRB limits inflation risk (especially close to the ZLB), interest-income from the FRB is very low compared to the returns banks and investment funds ordinarily would receive on funds deployed for productive-asset growth or otherwise invested in the global financial market. This “ordinary” net interest margin (NIM) situation has, however, yet to return eight years after the financial crisis. Even with the December, 2016 rate rise, rates across short- and long-term assets remain at historically low or even negative levels and the “yield curve” – i.e., the difference between low short-term rates and the higher ones that usually characterize longer-term assets – is essentially flat.

Under current market and regulatory conditions, excess reserves and the RRP thus offer one of the few options available for protecting a financial institution from significant liquidity, credit, volatility, and other risks. Because of the importance of NIM, financial institutions must either cut the rates they pay to depositors and investors (perhaps below the ZLB) or pay higher rates only feasible because the financial institution takes more risk and thus can earn higher interest on the assets it holds or offers to investors. This is called yield-chasing and is frequently cited as a potential source of systemic risk and macroeconomic disruption. IOER therefore allows a bank to cover the costs of taking in deposits it could not otherwise productively use, placing those funds at the FRB until appropriate lending opportunities are available.

Do Banks Want to House Funds in Excess Reserves?

In short, no. They do so because deposits given to them by individual and institutional customers must be put to work – holding funds in the cash vault is neither practically possible nor economically desirable. Cash simply cannot be held in large enough amounts given limited vault capacity and, even if banks dug bigger vaults fast enough, funds buried in them do not promote economic growth. Under ordinary conditions, excess reserves are principally a convenience for the FRB. Under continued macroeconomic stress and financial-market volatility, banks have housed significant funds – \$2 trillion¹⁷ – in excess reserves because few other asset options are available. It is worth noting that this amount regularly fluctuates as economic conditions vary, with about \$60-90 billion in funds flowing either into or out of excess reserves on a quarterly basis due to changes in lending opportunities and the supply of deposits. As conditions normalize, excess-reserve balances are likely to drop.

The reason for the shortage of assets for banks results from a complex mix of macroeconomic and regulatory factors. Due to continued economic uncertainty and a slow U.S. recovery, many individuals and companies are reluctant to make the major purchases or build the new plants necessary to create better-yielding lending opportunities for banks (e.g., small-business and corporate loans that earn significantly more than IOER without unacceptable risk). Alternative safe havens – e.g., large holdings of

Treasury securities – now bear very low interest rates that are negative when adjusted for inflation. Non-U.S. sovereign obligations now often bear both real and nominal negative rates, with the total of nominal negative-rate assets in the global market now exceeding an astonishing \$10 trillion.¹⁸

IOER is also negative in real terms for banks, but is far more liquid than other riskless or low-risk obligations because banks can call for the FRB to return excess reserves on demand. Other, less liquid obligations create more interest-rate risk because banks cannot liquidate them as quickly and these instruments also bear significant price volatility that has an adverse impact not only on a bank's interest-rate and duration risk position, but also on its reported capital ratios. Asset alternatives to excess reserves that meet safe-haven, liquidity requirements are now also in short supply due to large central-bank holdings of these assets. Flight to quality by investors around the world and new liquidity regulations¹⁹ further reduce the supply of asset alternatives.

Banks that specialize in being safe-haven depositories – often called custody banks – receive very large deposits from financial-institutions and other customers that are traditionally deployed into governmental obligations and other very low-risk assets. This is now hard to do not only for the reasons cited above, but also because the largest custody banks and other very large banks are subject to an enhanced supplementary leverage ratio (SLR) requirement by the FRB.²⁰ The SLR is set so high as to pose a significant challenge to holdings of low- or no-risk assets, especially given the yield and price distortions resulting from the shortages and risk factors described above. The SLR is a significant cost for excess-reserve holdings because it currently applies to even these no-risk assets,²¹ but the challenges described above have led many banks – especially custody ones seeking safety and liquidity – nevertheless to house funds at the FRB. These funds from custody banks and those from others for like-kind safe-haven purposes would not be available for lending even if rules and economic conditions facilitated this. Rather, excess reserves would be redeployed into Treasury and similar sovereign obligations once the risk of holding them diminishes.

To be sure, the SLR still creates a significant barrier to large excess-reserve holdings because the low rate of interest paid by the FRB makes these assets money-losing propositions when applicable rules are taken into account. The “lower-for-longer” approach to interest rates and the ultra-low and negative rates banks can earn on other assets have led some banks to refuse to accept customer deposits or to charge for doing so. This phenomenon is most obvious in Europe, where the European Central Bank and several others have reduced IOER to negative rates in hopes of forcing banks to make more loans. Without prudent, higher-rate assets and faced with negative IOER, these central banks are finding not only that their rate floors are threatened, but also that banks are ceasing to serve their vital economic intermediation function. Another recent FedFin paper on NIRP dynamics with financial intermediation and economic growth addresses this question in more detail.²²

Does the FRB Need Excess Reserves to Fund Its Balance Sheet?

No. It has been suggested that the FRB fuels accommodative monetary policy with the funds provided to it as a result of IOER. In a typical bank, liabilities and capital are required to hold assets, but this is not the case for the FRB because the FRB is not a private-banking organization, but of course is instead a governmental central bank. To purchase the Treasury and other securities now on its balance sheet, the FRB does not need to raise cash in the same way private companies do. Rather, it increases the reserve

account for each bank that sells its desired assets – essentially printing money as has long been the function of central banks.

The FRB could have done so without IOER because IOER played no role in the FRB’s actual asset purchases; instead, the FRB creates additional reserves and credits them to bank reserve accounts as payment for the assets it acquires. IOER is then a factor in the decision process for banks as they determine how to deploy the funds they receive – banks can either keep the funds at the FRB in the form of low-return excess reserves or use them for more traditional purposes such as lending. Once the FRB increases a bank’s reserve account after a bank decides to sell it the assets the FRB seeks to purchase, holding or liquidating excess reserves is a decision each bank makes based on a complex equation of opportunities for higher-yield assets, risk, capital costs, and market demand. As noted, the FRB needs IOER to put a floor under short-term funding rates, a floor that is particularly important during periods of accommodative policy, but it does not need IOER in order to acquire the assets.

Could the FRB Do Away with IOER?

Were the FRB to do away with IOER it would lose its floor under short-term rates that currently protects against both inflation and negative interest rates and ensures that interest-rate increases in fact raise market rates. Without IOER, banks would have a hard time taking in and managing deposits they do not need. As noted, the FRB now holds an unprecedentedly large balance sheet comprised of Treasury obligations and those issued by the GSEs and certain federal agencies. Unlike other central banks, the FRB’s portfolio does not include corporate bonds or other assets that arguably could be said to give the FRB authority to allocate credit to desired sectors. Rather, FRB assets are those accepted as collateral for use of FRB liquidity and widely-accepted as the least-risky assets available in the U.S. market.

These large central-bank holdings of no- and low-risk assets have significant pricing and income-distribution effects intended by the FRB to spur macroeconomic recovery, but they do not on their own affect short-term interest rates.²³ While it is possible that the Federal Reserve could sell its longer-dated securities and thus push up longer-term rates with beneficial credit-creation results, it is also possible – indeed probable – that banks and other financial institutions would then simply swap excess reserves for the FRB’s newly-released longer-dated securities due to the “flight-to-quality,” market volatility, and regulatory reasons discussed above.

It might be argued that the FRB should dispose of its portfolio to end its role as a bank within a central bank – i.e., as an institution that not only manages monetary policy, but also earns revenue due to the difference between the rates it pays on liabilities (i.e., reserves) and those it earns from its assets. This may well be the case just as it can be argued that accommodative policy does not necessarily have its desired effect. However, market experience makes it clear that sudden asset distributions not undertaken with great care as broader rates normalize could have dangerous market impact, forcing the FRB to start another round of accommodative policy instead of gradually letting its portfolio run off.

Could the FRB Press Banks to Make Loans by Reducing or Eliminating IOER?

If banks cannot house deposits in excess reserves, then the bank must either curtail deposit-taking or find other places to deploy these funds. Unless or until economic growth improves to the point at which

consumers and businesses seek credit at reasonable NIMs that do not pose risks rightly sanctioned by all the post-crisis rules, banks cannot simply take the funds now held at the FRB and create a flood of credit without creating inflationary and market-stability risk. The NIRP experience cited above is sobering. Were the FRB to follow the ECB and Bank of Japan and charge banks to house reserves at the central bank, U.S. banks are likely to follow their foreign peers and constrain deposit-taking unless or until economic growth and reduced market volatility make it possible for banks to make sustainable, prudent loans. Funds instead would then flow due to negative or no IOER into other instruments, leading to the adverse impact on credit formation described above – an adverse impact already obvious in Japan and the EU where historically-low and negative rates have yet to spur recovery even in markets far more dependent on banks than the U.S.

Without excess reserves and in the absence of a strong national recovery generating sustainable demand for prudent credit, the money banks now hold at the FRB in excess reserves would have to go somewhere else. While some of it might support credit formation in bond mutual funds or other investment vehicles, the bulk of it would leave the financial-intermediation chain that takes deposits and turns them into loans.

Is IOER a Big-Bank Subsidy?

IOER is necessary to the FRB because without it and the RRP it would be more difficult, if not impossible, for the FRB to set floors on short-term interest rates. These are as noted critical to arresting inflationary spirals and preventing negative interest rates and their dangerous macroeconomic and financial-stability results.

Other tools that might substitute for IOER such as “Helicopter” money (i.e., FRB-printed funds transmitted directly into the economy) are widely acknowledged to be at best experimental and at worst dangerous in terms of the role the FRB would then assume in setting national policy. The FRB is holding numerous conferences on ways to redesign its monetary policy that could reduce the role of IOER, but no consensus on any of these has yet emerged.²⁴

The IOER rate is also not a bank subsidy even though it is set slightly higher than that of the RRP. The FRB sets the IOER rate higher than that of the RRP precisely because of the differences between banks and non-banks (e.g., less or no capital regulation and liquidity requirements, no access to central-bank liquidity facilities, and no FDIC coverage protecting investors as is now the case for bank depositors with less than \$250,000 in an insured bank account). Were monetary policy to depend even more than it already does on non-banks, the fundamental structure of U.S. finance would become still more dependent on “shadow” institutions.

All of the privileges for banks – i.e., access to the FRB and FDIC coverage – come at considerable cost. Banks as noted must hold high amounts of leverage capital against these risk-less assets – rules not applicable to non-banks. Further, excess reserves count as assets for purposes of calculating FDIC deposit-insurance premiums. Large banks now pay to the FDIC insurance premiums of more than fifteen basis points.²⁵

Taking this premium cost into account as well as those of the SLR and other costly rules brings the difference between IOER and RRP rates down to small, if not negligible, amounts. For example, a very

large bank subject to the SLR would need to hold at least six percent leverage-ratio capital against excess reserves. For a \$10 billion position, this would mean a capital requirement of \$600 million. Assuming for purposes of simplicity that the cost of capital is ten percent – the usual assumption under current market conditions – this excess-reserve holding bears a \$60 million capital cost.

Could Recapturing IOER Provide Funding for Federal Expenditures?

Some who favor reducing or recapturing IOER argue that funds now sent to banks would then be available to fund federal expenditures without additional taxpayer funding. This would not in fact occur for more than a very short period of time. Indeed, it might not occur at all depending on the way an end to IOER is scored for budgetary purposes by the Congressional Budget Office (CBO). CBO determines whether legislation adds revenues to the federal budget (e.g., through new taxes) or is a cost to the federal government. Costs are determined not only by the extent to which direct spending is mandated, but also the degree to which a new requirement such as ending IOER affects U.S. economic activity. Even where revenues are likely (e.g., higher FRB payments to the Treasury), actions with adverse macroeconomic implications are scored as increasing the deficit.

A reduction in excess reserves could lead the Federal Reserve to sell financial assets in an attempt to retain a floor under short-term rates. If portfolio assets are sold into an environment of rising interest rates (as is currently projected), the Federal Reserve would experience capital losses on its portfolio. These losses could exceed reductions in IOER payments, decreasing rather than increasing the earnings that the Federal Reserve transfers to the Treasury and increasing the deficit unless program spending is constrained. Thus, ending IOER, while sending the Treasury some revenue, may well be seen by CBO nonetheless as increasing costs due to lower U.S. productivity, reduced tax revenue, and higher social-welfare spending resulting from financial instability and subsequent unemployment. If an end to IOER is scored in this fashion, then other federal initiatives would actually have to be cut – not receive new revenue – if IOER is terminated.

CBO scoring in this fashion is likely. Without IOER or the RRP, financial institutions receiving interest would quickly alter their behavior so that funds now available to the FRB for monetary-policy purposes are removed. It is effectively impossible to quantify the economic damage that would be done to the United States without a floor under short-term interest rates, but prior history makes it clear that the damage would be consequential, if not catastrophic. Lost federal revenue and/or heightened spending to promote a stimulus would surely ensue, eclipsing short-term budgetary “benefits” from altering IOER or the interest paid to non-banks through the RRP.

Further, given the balances now involved in IOER and RRP, a decision by the Congress to withhold these revenues could create sharp whipsaws in market-liquidity akin to the “taper tantrum” that occurred when the financial market expected the FRB to reduce its portfolio. Market pricing is indifferent to the source of supply, meaning that sudden influxes of funds from banks or MMFs out of the FRB and into the market in search of assets would have significant and disruptive impact. Any short-term gain from seizing IOER and RRP interest could thus prove extremely costly to taxpayers in lost growth and employment.

Conclusion

As Chair Yellen has observed, “The adjustment to the IOER rate has been particularly important in raising the federal funds rate and short-term interest rates more generally in an environment of abundant bank reserves.”²⁶ IOER is thus an essential part of U.S. monetary policy in the wake of the financial crisis. Without a way to put a floor under short-term interest rates through IOER, banks flush with deposits would have no way to handle them except to deploy the deposits, creating an over-supply of credit with significant inflationary and procyclical dangers. To the extent banks did not do so because of the regulatory cost of making such loans or of engaging in similar activities, banks still flush with deposits would have no choice but to refuse to accept them or charge for holding these funds in amounts sufficient to offset regulatory costs and, if possible, sustain earnings. Growing experience with the impact of curtailments on bank deposit-taking capacity in the EU already shows significant and dangerous effects, effects likely to become still more pronounced absent a short-term return to positive rates.

Necessary though it is for short-term monetary policy, IOER is not the fuel for the FRB’s large asset portfolio – this is acquired through changes to bank reserves. Terminating IOER thus would not force liquidation of the FRB’s portfolio but any such change to IOER would force banks to consider where else to deploy the funds now housed at the central bank. Under current macroeconomic and interest-rate conditions, so large a flood of funds out of excess reserves could have – especially in the absence of economic recovery – significant, destructive effects even as the FRB’s ability to prevent inflation would be hobbled, if not eliminated. Sharp gyrations in the price of U.S. Treasuries resulting from large inflows that either reduce or increase supply and thus demand for U.S. Treasuries and related obligations would not only cost U.S. taxpayers, but potentially damage the stability long associated with obligations bearing the full faith and credit of the United States Government. There is already considerable concern about Treasury-market illiquidity due to an array of recent developments, perhaps including all of the new rules governing large banks. Forcing the FRB to undertake actions sure to exacerbate market stress could have truly dangerous market-illiquidity and volatility effects. Therefore, the impact on the federal budget of an elimination of IOER could very well prove negative as losses to the Federal Reserve’s portfolio, together with contrary economic effects, overwhelm any hoped-for revenue from reduced IOER.

It should be recognized that the normalization of interest rates will increase lending opportunities for banks and result in a market-led reduction in the reserves that banks have on deposit with the FRB as normal lending picks up. Precipitous action to alter IOER or divert it from the financial system could thus have severely-adverse results that not only prove costly to taxpayers, but also harmful to U.S. recovery and resilience.

Citations

- ¹ Board of Governors of the Federal Reserve System (FRB) Reserve Requirements of Depository Institutions (Regulation D), 12 C.F.R. § 204 (2016), available at <https://www.gpo.gov/fdsys/pkg/CFR-2016-title12-vol2/pdf/CFR-2016-title12-vol2-part204.pdf>.
- ² FRB, *Federal Reserve Statistical Release H.3: Aggregate Reserves of Depository Institutions and the Monetary Base* (December 8, 2016), available at <https://www.federalreserve.gov/releases/h3/20161208/>.
- ³ Government Accountability Office (GAO), *Observations on Regulation D and the Use of Reserve Requirements* (October, 2016), available at <http://www.gao.gov/assets/690/680361.pdf>.
- ⁴ FRB Chair Janet Yellen, *Speech at "Designing Resilient Monetary Policy Frameworks for the Future," a symposium sponsored by the Federal Reserve Bank of Kansas City, Jackson Hole, WY: The Federal Reserve's Monetary Policy Toolkit: Past, Present, and Future* (August 26, 2016), available at <http://www.federalreserve.gov/newsevents/speech/yellen20160826a.htm>.
- ⁵ Georgi Kantchev, Christopher Whittall, and Miho Inada, "Are Negative Rates Backfiring? Here's Some Early Evidence" (August 8, 2016), *Wall Street Journal*, available at <http://www.wsj.com/articles/are-negative-rates-backfiring-heres-some-early-evidence-1470677642>.
- ⁶ Securities and Exchange Commission (SEC) Rule on Money Market Fund Reform; Amendments to Form PF, 17 CFR §§ 230, 239, 270, 274, & 279, available at <https://www.sec.gov/rules/final/2014/33-9616.pdf>.
- ⁷ See Federal Financial Analytics (FedFin), *Where the Money goes and Why it Matters: The Market and Policy Impact of Reduced Custody-Bank Deposit Capacity* (August 4, 2015), available at http://www.fedfin.com/images/stories/client_reports/FedFin%20Study%20-%20The%20Market%20and%20Policy%20Impact%20of%20Reduced%20Custody-Bank%20Deposit%20Capacity.pdf; and FedFin, *Square Pegs and Round Holes: The Effectiveness of Monetary Policy and Macroprudential Regulation in the Post-Crisis Regulatory Regime* (May 18, 2016), available at http://www.fedfin.com/images/stories/client_reports/FedFin%20White%20Paper%20on%20The%20Effectiveness%20of%20Monetary%20Policy%20and%20Macroprudential%20Regulation%20in%20the%20Post-Crisis%20Regulatory%20Regime.pdf.
- ⁸ Federal Reserve Bank of New York (FRB-NY) President and CEO William C. Dudley, *Speech at The Federal Reserve Bank of Atlanta 2016 Financial Markets Conference, Fernandina Beach, FL: Market and Funding Liquidity: An Overview* (May 1, 2016) available at <https://www.newyorkfed.org/newsevents/speeches/2016/dud160501>.
- ⁹ Elizabeth Klee, Zeynep Senyuzm and Emre Yoldas, *Effects of Changing Monetary and Regulatory Policy on Overnight Money Markets* (September, 2016), available at <http://www.federalreserve.gov/econresdata/feds/2016/files/2016084pap.pdf>.
- ¹⁰ Federal Reserve Bank of San Francisco (FRB-SF), *Why did the Federal Reserve start paying interest on reserve balances held on deposit at the Fed? Does the Fed pay interest on required reserves, excess reserves, or both? What interest rate does the Fed pay?* (March, 2013), available at <http://www.frbsf.org/education/publications/doctor-econ/2013/march/federal-reserve-interest-balances-reserves/>.
- ¹¹ FRB Governor Mark Olson, *Testimony before the Senate Committee on Banking Housing, and Urban Affairs: Regulatory Relief* (June 21, 2005), available at <http://www.federalreserve.gov/boarddocs/testimony/2005/20050621/default.htm>.

¹² Financial Services Regulatory Relief Act of 2006, Pub. L. No. 109-351, §§ 201-203, 120 Stat. 1966, 1968-1969 (October 13, 2006), available at <https://www.congress.gov/109/plaws/publ351/PLAW-109publ351.pdf>.

¹³ Emergency Economic Stabilization Act of 2008, Pub. L. No. 110-343, § 128, 122 Stat. 3765, 3796 (October 3, 2008), available at <https://www.congress.gov/110/plaws/publ343/PLAW-110publ343.pdf>.

¹⁴ FRB, *Federal Reserve Statistical Release H.4.1: Factors Affecting Reserve Balances of Depository Institutions and Condition Statement of Federal Reserve Banks* (December 8, 2016), available at <https://www.federalreserve.gov/releases/h41/20161208/>.

¹⁵ FRB Chair Yellen, *The Federal Reserve's Monetary Policy Toolkit: Past, Present, and Future*, *op. cit.*

¹⁶ Robin Greenwood, Samuel G. Hanson, and Jeremy C. Stein, *The Federal Reserve's Balance Sheet as a Financial-Stability Tool* (September, 2016), available at <https://www.kansascityfed.org/~media/files/publicat/sympos/2016/econsymposium-greenwood-hanson-stein-paper.pdf?la=en>.

¹⁷ FRB, *Federal Reserve Statistical Release H.3*, *op. cit.*

¹⁸ Alastair Marsh, "Negative Yields Have Turned Bond Trading Into a Commodity Market" (August 10, 2016), *Bloomberg News*, available at <http://www.bloomberg.com/news/articles/2016-08-10/negative-yields-have-turned-bond-trading-into-a-commodity-market>.

¹⁹ Office of the Comptroller of the Currency (OCC), FRB, and Federal Deposit Insurance Corporation (FDIC) Liquidity Coverage Ratio: Liquidity Risk Management Standards (LCR), 12 C.F.R. §§ 50, 249, & 329 (2014), available at <https://www.gpo.gov/fdsys/pkg/FR-2014-10-10/pdf/2014-22520.pdf>; OCC, FRB, and FDIC Net Stable Funding Ratio: Liquidity Risk Measurement Standards and Disclosure Requirements, 12 C.F.R. §§ 50, 249, & 329 (2016), available at https://www.fdic.gov/news/board/2016/2016-04-26_notice_dis_c_fr.pdf.

²⁰ OCC, FRB, FDIC Regulatory Capital Rules: Regulatory Capital, Enhanced Supplementary Leverage Ratio Standards for Certain Bank Holding Companies and Their Subsidiary Insured Depository Institutions, 12 C.F.R. §§ 6, 208, 217, & 324 (2014), available at <https://www.gpo.gov/fdsys/pkg/FR-2014-05-01/pdf/2014-09367.pdf>.

²¹ OCC, FRB, and FDIC Regulatory Capital Rules: Regulatory Capital, Revisions to the Supplementary Leverage Ratio, 12 C.F.R. §§ 3, 217, & 324 (2014), available at https://www.fdic.gov/news/board/2014/2014-09-03_notice_dis_c_fr.pdf.

²² FedFin, *POLICY BRIEF: What Negative Rates Do to Financial Stability* (September 8, 2015), available at http://www.fedfin.com/images/stories/client_reports/FedFin%20Policy%20Brief%20-%20What%20Negative%20Rates%20Do%20to%20Financial%20Stability.pdf.

²³ FedFin, *Income-Inequality: U.S. Monetary-Policy and Regulatory Wealth-Distribution Drivers* (September 19, 2016), available at http://www.fedfin.com/images/stories/client_reports/FedFin%20Paper%20on%20Income-Inequality%20U.S.%20Monetary-Policy%20and%20Regulatory%20Wealth-Distribution%20Drivers.pdf.

²⁴ Federal Reserve Bank of Kansas City (Kansas City Fed), Agenda for "Designing Resilient Monetary Policy Frameworks for the Future" Symposium, Jackson Hole, WY (August 25-27, 2016), available at <https://www.kansascityfed.org/publications/research/escp/symposiums/escp-2016>.

²⁵ FDIC Assessments Rule, 12 C.F.R. § 327 (2014), available at <https://www.fdic.gov/news/news/financial/2014/fil14057a.pdf>.

²⁶ FRB Chair Yellen, *Remarks Before the House Committee on Financial Services: Semiannual Monetary Policy Report to Congress* (February 10, 2016), available at <https://www.federalreserve.gov/newsevents/testimony/yellen20160210a.htm>.