

# Monetary policy in the US and EU after quantitative easing: the case for asset based reserve requirements (ABRR)<sup>1</sup>

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## Abstract

This paper critiques the Federal Reserve's quantitative easing (QE) exit strategy which aims to deactivate excess liquidity via higher interest rates on reserves. That is equivalent to giving banks a tax cut at the public's expense. It also risks domestic and international financial market turmoil. The paper proposes an alternative exit strategy based on ABRR which avoids the adverse fiscal and financial market impacts of higher interest rates. ABRR also increase the number of monetary policy instruments which can permanently improve policy. This is especially beneficial for euro zone countries. Furthermore, ABRR yield fiscal benefits via increased seignorage and can shrink a financial sector that is too large.

**Keywords** Quantitative easing, asset based reserve requirements, exit strategy

**JEL reference** E52, E58

## 1. Introduction

This paper critiques the Federal Reserve's quantitative easing (QE) exit strategy which aims to deactivate excess liquidity via higher interest rates on reserves. That strategy is equivalent to giving banks a tax cut at the public's expense, and it also risks domestic and international financial market turmoil. The paper offers an alternative exit strategy based on asset based reserve requirements (ABRR) which avoids the adverse fiscal and financial market impacts of higher interest rates. Implementing a system of ABRR also increases the number of monetary policy instruments which can permanently improve policy. This is especially beneficial for euro zone countries. Furthermore, ABRR yield fiscal benefits via increased seignorage, and they can also help shrink the financial sector which many believe has become too large owing to financialization of the economy.

## 2. What is QE?

QE is an unconventional monetary policy used by central banks when standard monetary policy has become ineffective because the central bank's short-term policy nominal interest rate is at or near zero and cannot be lowered further to stimulate economic activity. It involves the central bank buying financial assets (like mortgage backed securities and collateralized debt obligations) from commercial banks and other financial institutions, and thereby increasing the monetary base.

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### **3. The effects of QE**

QE in the US has had four major effects. First, it has significantly expanded the size of central bank balance sheets. Thus, the Federal Reserve's balance sheet has expanded by over \$3 trillion, rising from \$920 billion at the end of December 2007 to over \$4.2 trillion at the end of February 2014.

Second, a concomitant part of that expansion has been an increase in excess reserves of the commercial banking system which as of February 2014 were \$2.5 trillion.

Third, QE has lowered long-term interest rates and increased stock prices and financial wealth, which are the channels whereby it has stimulated real economic activity.

Fourth, QE has contributed to significant capital inflows to emerging market (EM) economies. That is because EM economies have had far higher interest rates over the last several years than the US and other developed economies which have been pursuing QE policies.

### **4. The challenge of exiting QE**

The US economy has now healed significantly since the financial crisis of 2008 and the Great Recession of 2009. The Federal Reserve has therefore begun to implement its strategy for exiting from QE and normalizing monetary policy in anticipation of more normal future economic conditions.

Exiting QE raises three major challenges. First, how should monetary policy deactivate the excess reserves of the banking system so that they do not finance either future unwanted inflationary private sector expansion or destabilizing asset price bubbles?<sup>2</sup> Second, how should policy avoid triggering asset price disruptions (i.e. a stock market or bond market crash)? Third, how should policy avoid causing exchange rate disruptions from international capital flow reversals that could trigger financial market turmoil in the rest of the global economy?

### **5. The Federal Reserve's exit strategy**

The Federal Reserve's current strategy involves three components. The first component is so-called "tapering" when the Federal Reserve scales back its QE purchases, gradually reducing them to zero. Thereafter, the Federal Reserve's balance sheet will be gradually reduced by having the private sector redeem maturing securities held by the Fed, which will reduce private sector holdings of reserves.

The second component is transparent forward guidance which is intended to enable markets to plan for the QE exit process and thereby help stabilize financial markets.

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<sup>2</sup> The Federal Reserve needs to deactivate excess reserves because it needs to re-establish reserve scarcity in order to push the future short term policy interest rate above zero. Additionally, it needs to deactivate reserves if there are any monetarist transmission channels whereby excess liquidity on bank balance sheets changes bank portfolio and lending behavior.

The third component is a plan to pay an increased interest rate on reserve deposits at the Fed. This is intended to give banks an incentive to maintain their excess reserve deposits with the Fed, thereby deactivating them.

## **6. The Fed's strategy is already not working**

Unfortunately, there is every indication that the plan is already going wrong. First, talk of tapering in August 2013 contributed to immediate (albeit short-lived) stock and bond market price declines.

Second, the anticipation and beginning of tapering may have contributed to international capital flow reversals and exchange rate disruptions that have already rocked emerging market (EM) economies.

Third, the payment of higher interest rates on excess reserves promises to be very expensive. It is also expansionary, which runs counter to the purpose of raising interest rates. The expense is very clear. Given banks hold \$2.6 trillion in total reserves, every one hundred basis point increase in interest rates costs the Federal Reserve \$26 billion. If the Fed's policy interest rate returns to 3 percent, that would cost \$78 billion. That is an effective tax cut for banks because the Fed would pay banks interest, which would reduce the profits it pays to the Treasury. The banks, which were so responsible for the financial crisis, would therefore emerge winners yet again. Taxpayers, who bailed out the banks, would once again bear the cost.

Paying interest to banks would also run counter to macroeconomic policy purpose since it would be pumping liquidity into the banks when policy is explicitly trying to deactivate liquidity. That smacks of policy contradiction.

## **7. Asset based reserve requirements (ABRR): an alternative exit strategy**

Implementing a system of ABRR offers a superior alternative QE exit strategy (Palley, 2010). Not only can such a system of address the exit challenge more effectively and more cheaply to taxpayers, it also offers long-term policy benefits regarding the conduct of monetary policy. In particular, it addresses the problem of asset bubbles that caused the financial crisis. Furthermore, ABRR have particular benefits for Europe because they can help address the loss of national monetary policy resulting from the creation of the euro.

### **7.a) What are ABRR?**

ABRR consist of extending margin requirements to a wide array of assets held by financial institutions (Palley, 2000, 2003, 2004). ABRR require financial firms to hold reserves against different classes of assets, with the regulatory authority setting adjustable reserve requirements on the basis of its concerns with each asset class.

ABRR are easy to implement, use the tried and tested approach of reserve requirements, and would fill a major hole in the existing range of financial policy instruments. However, maximum effectiveness of an ABRR approach requires system-wide application to diminish possibilities for avoidance that can contribute to instability. For instance, if applied only to

banks, ABRR would encourage lending to shift outside the banking sector, thereby promoting shadow banking that has been shown to be relatively less stable. To fully succeed, reserve requirements must therefore be set by asset type, not by who holds the asset.

ABRR are also compatible with existing regulation but they differ from conventional notions of quantitative regulation. The historic focus of bank regulation has been the prevention of bank runs and the traditional form of regulation has been reserves on liabilities (deposits). ABRR have a different focus which is avoiding excessively risky speculation, and they can also help shrink a bloated financial sector resulting from financialization.<sup>3</sup> This focus on curbing risky speculation is similar to capital standards. However, as discussed further below, ABRR are more flexible than capital standards because they impose reserve requirements rather than equity requirements and they are also counter-cyclical rather than pro-cyclical.

### **7.b) ABRR provide a superior exit strategy from QE**

ABRR can provide a superior exit strategy from QE. Instead of paying increased interest rates on excess reserves, the Federal Reserve would impose a reserve requirement on assets with the aim of mopping up the excess liquidity QE has created. Banks would have to hold reserves against their assets, and so too would other financial institutions.

How does this help? Instead of raising interest rates to deactivate liquidity, the Federal Reserve would impose asset reserve requirements. That avoids paying interest to banks and rewarding them. It also avoids implicitly penalizing taxpayers by lowering the Federal Reserve's profits, and thereby reducing the profits it pays to the Treasury.

Imposing reserve requirements on assets will mean loan interest rates rise to compensate lenders for money tied up backing those loans. However, it will have less of an effect on loan interest rates than increasing the central bank's policy interest rate. If the loan interest rate ( $i_L$ ) is a mark-up ( $m$ ) over the central bank's policy interest rate ( $i_F$ ), the loan rate without ABRR is given by:

$$(1) i_L = i_F + m$$

The loan rate with ABRR is given by:

$$(2) i_L = [1 + k]i_F + m \quad 0 \leq k < 1$$

$k$  = asset reserve requirement. The loan rate increases because lenders charge borrowers for the liquidity they must hold against loans. A higher asset reserve requirement ( $k$ ) increases the loan rate ( $i_L$ ), as does a higher policy rate ( $i_F$ ). As regards exiting QE, the goal is to absorb excess reserves held by banks. Imposing a reserve requirement that impacts all loans absorbs more excess reserves with less impact on the loan rate than does raising the central bank's policy rate. The latter only affects reserves by discouraging lending at the margin.<sup>4</sup>

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<sup>3</sup> For details about financialization and its economic effects see Epstein (2001), Hein (2012), Krippner (2005), and Palley (2008, 2013a).

<sup>4</sup> Raising the policy interest rate induces banks to hold more as reserves by reducing the amount they loan ( $L$ ). The approximate effect on banks' reserve demand ( $R$ ) is  $dR/di_F = [dL/di_L \cdot di_L/di_F]$ . Raising the reserve requirement on loans causes banks to hold more reserves by compelling them to back all loans with reserves ( $kL$ ). The approximate effect on reserve demand is  $dR/dk = L + kdL/di_L \cdot di_L/dk$ .

Consequently, an ABRR strategy will impose less disruption on the overall economy. The specific effects on bond and stock markets would depend on the particulars of how reserve requirements were assessed. The stock market would likely strengthen if stocks were assessed with a zero reserve requirement while bonds had a positive requirement. This is because stocks would become relatively more attractive compared to bonds. Conversely, stock prices would likely drop if stocks were subjected to a positive reserve requirement and bonds were zero-rated.

Lastly, deactivating excess liquidity via ABRR diminishes the likelihood of capital flow reversals from EM economies back to the US. That is because financial capital would have a reduced incentive to flow back to the US given the short term policy rate ( $i_F$ ) is unchanged. Indeed, imposing ABRR might even cause some US outflows by financial capital seeking to avoid reserve requirements.

### ***7.c) ABRR would improve the conduct of monetary policy***

Most importantly, ABRR can permanently improve the conduct of monetary policy (Palley, 2000, 2003, 2004). There is widespread recognition that the financial crisis which triggered the Great Recession was significantly due to financial excess, particularly related to real estate. Moreover, there is growing recognition that the real estate bubble was just another, albeit the largest, in a string of bubbles.

The toleration of serial bubbles over the past two decades reflects profound intellectual failure among central bankers and economists who believed inflation targeting was a complete and sufficient policy framework (Palley, 2005). It also reflects lack of policy instruments for directly targeting financial market excess. With central banks relying on the single instrument of the short-term interest rate, using that interest rate to target asset prices would be like using a blunderbuss that inflicts massive collateral damage on the rest of the economy.

ABRR offer a simple solution to this problem by providing a new set of policy instruments that can target financial market excess, leaving interest rate policy free to manage the overall macroeconomic situation. By obliging financial firms to hold reserves, the system requires they retain some of their funds as non-interest-bearing deposits with the central bank. The implicit cost of forgone interest must be charged against investing in a particular asset category, reducing its return. Financial firms will therefore reduce holdings of assets with higher reserve requirements and shift funds into other lower-cost and thus relatively more profitable asset categories.

By adjusting reserve requirements on specific asset classes, central banks can target specific financial sector imbalances without recourse to the blunderbuss of interest rate increases. For example, if a monetary authority was concerned about a house price bubble generating excessive risk exposure, it could impose reserve requirements on new mortgages. This would force mortgage lenders to hold some cash to support their new loans, raising the cost of such loans and cooling the market.

If a monetary authority wanted to prevent a stock market bubble, it could impose reserve requirements on equity holdings. This would force financial firms to hold some cash to back their equity holdings, lowering the return on equities and discouraging such investments.

ABRR also act as automatic stabilizers. When asset values rise or when the financial sector creates new assets, ABRR generate an automatic monetary restraint by requiring the financial sector come up with additional reserves. Conversely, when asset values fall or financial assets are extinguished, ABRR generate an automatic monetary easing by releasing reserves previously held against assets.

In all of this, ABRR remain fully consistent with the existing system of monetary control as exercised through central bank provision of liquidity at a given interest rate. They are also compatible with the existing regulatory system based on capital requirements, liquidity requirements, and liability based reserve requirements (i.e. reserve requirements on deposits). However, they are superior to these systems because ABRR are a form of financial automatic stabilizer. That is the opposite of capital requirements which are a form of financial automatic de-stabilizer. Equity capital tends to be destroyed in economic downturns when it is hardest to replace, and requiring firms to come up with more capital to cover losses and deteriorated asset quality deepens downturns. The reverse holds in booms when capital standards can contribute a pro-cyclical dynamic.

At the microeconomic level, ABRR can be used to allocate funds to public purposes such as inner city revitalization or environmental protection (Thurow, 1972; Pollin, 1993). By setting low (or even negative) reserve requirements on such investments, monetary authorities can channel funds into priority areas, much as government subsidized credit and guarantee programs and government-sponsored secondary markets have expanded education and home ownership opportunities and promoted regional development.<sup>5</sup> Conversely, ABRR can be used to discourage asset allocations that are deemed socially counterproductive.

ABRR also promise significant fiscal benefits by increasing seigniorage revenue for governments at a time of fiscal squeeze. To the extent that required reserves constitute a tax on financial institutions, that tax is economically efficient given the costs of resolving financial crises. It will also shrink a financial system that many believe is bloated.

#### ***7.d) Advantages of ABRR for the euro zone***

ABRR are especially attractive for the euro zone. That is because they can help address the instrument gap created by the euro's introduction. The euro's establishment has required member countries to give up their own interest rate policy and exchange rates. That has reduced the number of policy instruments, creating problems for country economic policy management. ABRR can fill this policy instrument gap because they can be implemented on a geographic basis by national central banks.

Property lending, which has been a major focus of concern, is particularly suited to this. If the euro zone were suffering excessive house price inflation, the European Central bank (ECB) could raise reserve requirements on mortgage loans secured by property. In addition, national central banks could have the power to set reserve requirements above (but not below) the rate established by the ECB. Thus, if Spain or Ireland were suffering excessive house price inflation, their national central banks could raise reserve requirements on mortgage loans secured by property in those countries. That would raise mortgage loan rates in Spain and Ireland without raising rates in other countries.

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<sup>5</sup> Negative reserve requirements would work by giving banks a reserve requirement credit that could be applied against other asset holdings with positive reserve requirements.

Nationally contingent ABRR within the euro zone would create some incentive to shop for credit across countries. That means ABRR will work best when linked to geographically specific assets that cannot evade the regulatory net. This includes secured loans, particularly mortgage loans which are secured by collateralized property. However, even with jurisdictional shopping, ABRR will still be effective. That is because jurisdictional shopping is costly and that shopping cost creates space for some degree of cross-country interest rate differentials that a system of ABRR can take advantage of.

Additionally, ABRR can be used to encourage holdings of euro zone country government debt by assessing a low or negative reserve requirement on such assets. Such a measure would have helped greatly in the euro zone financial crisis of 2010–2012. A negative reserve requirement would have increased demand for government debt, thereby discouraging speculative attack against euro zone government debt and lowering bond interest rates. That might have prevented government bond interest rates from spiking and causing Europe's public debt crisis.

### ***7.e) ABRR as a means of tackling financialization***

Finally, ABRR offer an important policy instrument for addressing the problem of financialization and reducing the size of the financial sector (Palley, 2013b). Epstein (2001, p.1) defines financialization as referring to “the increasing importance of financial markets, financial motives, financial institutions, and financial elites in the operation of the economy and its governing institutions, both at the national and international level.”

Palley (2013a, p.9) describes financialization as transforming “the functioning of economic system at both the macro and micro levels. The principal impacts are to (1) elevate the significance of the financial sector relative to the real sector; (2) transfer income from the real sector to the financial sector; and (3) increase income inequality and contribute to wage stagnation.” These adverse effects of financialization are now being recognized by mainstream economists and Cechetti and Kharroubi (2012), from the Bank of International Settlements, report that too large a financial sector lowers growth.

The adverse macroeconomic effects of financialization call for shrinking the size of the financial sector. ABRR can play an important role as part of a strategy to do so by imposing reserve requirements on those parts of the financial sector that have expanded excessively. That can lower returns in those activities, thereby shrinking them.

## **8. Conclusion: the question of policy authority**

This paper has argued that ABRR provide a superior exit strategy from QE compared to the Federal Reserve's current proposed strategy of paying interest on reserves. Not only would an ABRR based exit strategy be cheaper and more effective, it would also yield significant improvements in the conduct of monetary policy by giving the Federal Reserve new policy instruments to target specific financial sector disruptions. An ABRR strategy would also yield similar benefits to the ECB and the euro zone. The Federal Reserve already has the legal authority to impose ABRR on commercial banks. If it needs new legal authority to enable it to impose ABRR beyond the banking sector, it should seek that authority from legislators. Lack

of authority is not an argument against ABRR: instead, it is an argument for new legislation granting authority.

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