

Implications and Consequences of 100% Reserve Banking Through Islamic Monetary System

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Abstract

The objective of this study is to shift the reserve deposits into the treasuries in order to improve the economic and social justice and less inequality. However, this is a noncontroversial deed and it looks like a sensible approach. The reasons why Islamic finance scores better than the conventional finance to enhance financial inclusion and bring in greater economic and social equity is because it is interest-free and the two pillars of Islam are risk sharing and redistribution of wealth. In order to better understand the 100% reserve banking, first we understand the implications and consequences of banking system and evaluation of money creation, and how institutions control the money and credit supply in the operation market? However, this study suggests some reforms for existing financial system converts into Islamic monetary system through complete reserve banking system.

Key words: 100% reserve banking system, Islamic Monetary system, money creation

Introduction

This action will eliminate the costly tax payer funded. Whereas, Chicago plan 1930, (Benes and Kumhof 2013), is a recent and strong evidence of 100% reserve backed deposits. These financial institutions work as an independent and only for public purposes. This structure may be facing the issue of debt write-offs and its related effects. This study will also reform the monetary system of financial institutions. However, central bank will held all the money accounts and it is the responsibility of central bank to define the nature of money and resolute the quantity of money. This act will control the commercial banks and they are unable to create the credit by themselves. However, full reserve banking goal is to eradicate the aptitude of banks to create money by splitting credit and money. They create a public money system, which backed by safe assets in order to distinguish with private money system where, market forces and leverage are uttered for loans and savings. The government or central banks established such unique independent institutions, which have a specific obligation to regulate the quantity of money in rotation.

It becomes crucial for Muslims to comprehend the nature of money and the financial system in order to build a superior system for the Islamic world. According to Asad zaman (2016) state has the right to create the money because it has numerous radical implications. It is fact that money is a public good and useful for all. However, benefits from creation of money are not restricted for small group of people. It is also available to all the general public for every time. The implementation of this idea needs such genius reforms in order to develop a well-established monetary system for Islamic countries It further creates money safe assets and state is the responsible for creation of assets and backup of it. Although this is true that the existing systems, namely capitalism, socialism and welfare state, have to different extents been successful in expansion of economies but simultaneously has led to increased inequitable distribution of wealth.

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It is important thereby to explain and examine the nature and function of money through its coordinating relationship between money, finance, and the real social economy in the absence and presence the rate of interest and the presence of tradable instrumentation of the inherent 100 percent reserve requirement monetary system. Such a formal perspective of money and the monetary system needs to be thoroughly explained and understood to relieve money from its social ills and restore its social potential. Choudhury, M.A. (2016) defines quantity equation of money and exchange equation, we also obtain for Islamic money, financing, and real economy relationship, the following result: The equation of exchange is $m_i v_i = p_i y_i$ for micro-money (m_i) pursuing a specific project (i) with a velocity of money circulation ($v_i \leq 1$). The result then is the utilization of the quantity of money fractionally ($v_i < 1$) or wholly ($v_i = 1$) in the project(s) under financing. The value of the latter equals price (p_i) multiplied by real output (y_i). Thus fractional or 100 percent circulation of money in projects through financing is represented by the interactive aggregation of money as deposits and thus as micro-money now circulating in congeries of participatory projects (the principle of extensive complementarities).

Henry Ford said – in substance – *“It is well enough that people of the nation do not understand our banking and monetary system, for if they did, I believe there would be a revolution before tomorrow morning”* Molyneux (2016) explains the idea for elimination of a fractional reserve banking system is based on the view that financial crises are directly caused by banks’ ability to create credit well beyond the direct control of the central bank and the protection afforded by the lender-of-last resort facility. So the elimination of a fractional reserve banking system is considered a way that a safe money asset will be created, backed by the state, and therefore ending the need for costly (taxpayer funded) bank bail-outs. All plans for full reserve banking aim to remove the ability of banks to create money by separating money and credit. They create a public money system (backed by safe assets) that is distinct from a private money system where savings and loans are dictated by leverage (propensity to take on risk) and market forces.

Literature Review

However, Zarlenga and Poteat (2016) present a money and banking system proposal which has evolved since the Great Depression of the 1930s, and is now ready for implementation and has even been introduced as potential legislation into the United States Congress. Thus, money defined as wealth, and money defined as credit/debt, can lead to social injustice through the money system, where one element in society is able to amass wealth and power by creating and controlling money, without productive work. Furthermore, Zarlenga (2002) defined *Money is an abstract social power based in law* and is an unconditional means of payment. *Money creation is a social prerogative, and hence the benefits of money creation should accrue to the whole society* (Zarqa, 1983, 98). *“Money is a creature of the Law”* (Knapp, 1924).

Choudhury, M.A. (2016) addresses some pertinent issues that attempt to explain the social and just function of money in the organization of the political economy of power and acquisition by the accumulation of wealth on the one hand. On the other hand, his study supports the government control of sovereign money supply to finance social projects and infrastructure. The authors also explain the IMF perspective of the modern monetary approach to the formation of new Money through the banking system as follows: *“What is clear is that banks cannot make loans until they first create the money which they place into the borrower’s account”*. Thereby, if D denotes deposit in a commercial bank that enables the formation of new money M , then the bank creates an equivalent amount as loan in the borrowers’ accounts.

Al-Jarhi (2016) Reforming the contemporary monetary and financial system have come under the limelight with the onset of the last international financial crisis. However, reform should be wider and more comprehensive. An interesting point the authors make is debunking the old textbook concept of derivative deposits being created from primary deposits. They claim that banks create money out of thin air through the process of lending, based on profitability expectations. The availability of reserves is of little concern, as the central bank accommodates the supply of money desired by banks through its discount window and open market operations, paying attention solely to setting its target level of interest rate. Al-Jarhi's model (1981) proposes that such newly issued money would be placed in profit-and-loss-sharing (PLS) investment accounts with banks, which would be used to finance private and government investment and consumption activities, based on economic feasibility (or investment) criteria.

Reardon (2016) "perhaps no subject as important to mankind as the nature of money has been so neglected". An important definitional concept not addressed by the authors is at what level of the government the money should be issued: national, supranational, or local. Many people have argued that a movement toward sustainability must be a movement toward local economic decision-making and local government, yet the authors do not address this. However, many green economists "in an international context have criticized the money system for its role in stimulating conflict and creating massive inequality between nations" (Cato, 2009, 74).

Molyneux (2016) describes for a re-design of the monetary system to aid both economic development and social justice. The main proposal is to shift the Federal Reserve Bank into the Treasury – this seems a sensible and not too controversial action. Probably, the shift to abolish fractional reserve banking is the most controversial – although it has been promoted by many others in the past but never came to fruition. The authors argue, will lead to improved economic and social justice and less inequality. However, Dow et al. (2015) have noted that these proposals are all well-intentioned, but all plans for 100% reserve banking have serious shortcomings. First, they argue that even if the state could control the money supply there would be little scope for asset maturity transformation or credit intermediation. They would likely resemble investment trusts where liabilities and assets had simple size, maturity, and other features. This would make the banks safer but would dramatically curtail credit expansion.

Ahmed (2016) addressing a fundamental problem in economics and finance that needs urgent attention and remedy before we destroy the global economy and ecosystems. The authors' recommendations that money creation be bestowed entirely on the government, that the fractional reserve system be stopped and newly created money be pushed into the economy particularly through infrastructure spending is much appreciated but nonetheless we view it as an intermediate solution towards a more comprehensive solution like a gold based interest-free electronic credit system.

Assessment of Full Reserve Banking

Our assessment of full-reserve banking develops along two lines. Firstly, we focus on the meaning and the role of money in an historical context and in modern economies. Second, we look at the link between credit, money supply and the economy.

- **Banking and Money Evaluation**

Embedded in all the full reserve banking proposals is the idea that it is socially unacceptable to have a money supply which is almost entirely determined by the private sector. Society requires a safe asset as a unit of account, means of payment and store of value and the conclusion is drawn from the crisis that the banking sector cannot be relied upon to produce a

safe asset. Bank deposits are currently inside money in the sense that they are assets of depositors but liabilities of the banks, and there is a risk that these liabilities will not be honored. It is observed that, historically payments were made with commodity money (outside money) which is a pure asset and therefore carries no risk. However the supply of these commodities (notably precious metals) proved to be too restrictive relative to society's needs and inside money increasingly overtook outside money; the banking system evolved in such a way as to make these deposits also safe assets. For long periods the banking system operated on a reasonable level of trust in the prudence of banks' credit policies, but increasingly in the central banks' actions designed to promote that prudence. Certainly crises destroy much of that trust, which then has to be restored, but the 100% reserve banking plans assume that this time trust cannot be restored. In fact, because of state backing of deposit insurance, public trust in bank deposits as a store of value has been maintained in spite of the crisis – it is trust in the system as a macro phenomenon which has been eroded.

Deposit insurance has in practice succeeded in protecting bank deposits during and after the crisis, but only in some cases when combined with massive state support including nationalization. In essence money was fully collateralized and the only risk was linked to the type of good used and the demand for that particular good. The term 'credit' comes from the Latin word 'credo' - 'I trust'. A government guarantees on deposits acts as a transfer of trust from the banking system to the government. The proposed alternative is to go back to a completely outside-money system, where money is the asset of, or is completely backed by, the public sector, where the public sector liability is not regarded as involving any risk. This is a bold idea. Aside from a small and ever-declining proportion of outside money provided by the state, money in practice has always been created by private sector institutions and has involved a token of credit extended by some and received by others (Wray 2004). While banks settle net payments between themselves using state money in the form of their balances with the central bank, non-bank payments are settled primarily through bank deposits.

Bank deposits thus perform the money function of means of payment. In addition they act as a store of value, as long as there is public trust in bank deposits. The full reserve banking plans envisage renewed trust in bank deposits, whose value the state would ensure. But, since the aim is to constrain the expansion of bank deposits, the availability of safe assets would be reduced - for all other financial assets, some risk would be attached, so that they could not be regarded as a good store of value.

Savings accounts would now carry risk about which the general population would need to take an informed position. But even financial experts in the run-up to the crisis failed to price in risk adequately – the effect of unreasonable conventional judgment's arrived at under uncertainty. It is totally unreasonable to expect the general public to undertake this kind of assessment and bear the consequences of a financial failure without deposit insurance. Yet the only alternative on offer is zero-risk deposits earning zero return and in fact, if banks are to be induced to manage them, probably attracting bank fees. It seems to be assumed that the new fully-backed bank accounts are held for transactions purposes only (for both real and financial activity), something which is reasonably stable. But the demand for money arises also from increases in liquidity preference at times when price volatility is high and expectations are unclear (precautionary demand) or when volatility in asset prices declines and markets are more confident in upward or downward trends in asset prices (speculative demand). The authorities would need to be sensitive to these fluctuating sources of money demand when setting their targets. Demand for money other than for transactions purposes reflects a reasonable response to fundamental uncertainty. But the build-up to the crisis demonstrated the widespread capacity for conventional expectations to be unreasonable and, in particular, to underestimate risk. As a result high expected returns on market assets could entice society into treating assets as safe which are in fact much less safe than current bank assets. The demand for liquidity could be satisfied by assets other than the fully-backed stock of bank deposits. It is therefore conceivable that 100% reserve requirements on depository institutions would 'just drive even more finance into shadow banking, and make the system even riskier' (Krugman (2014). Whereas, Goodhart (2008) explores the ways in which regulation affects institutions inside and outside the regulatory net as the 'boundary problem'. In the case of full reserve banking, the problem of low profit opportunities in retail banking may be so severe that the end of fractional reserve banking would mean the end of banking, leaving financial activity to institutions outside both the regulation and protection of the authorities. Aside from a small and ever-declining proportion of outside money, money in practice has always involved a token of credit extended by some and received by others. Even the state has traditionally engaged in debt monetization through currency issue which yields monetary sign or age. What advocates of full reserve banking regard as 'money' is only a small part, alongside bills of exchange and other forms of IOU, of 'credit' which keeps the wheels of industry turning in modern market economies. Whenever an individual or business issues an IOU to another individual or business, the issuer is a non-bank that starts to create a liability that looks like and functions as money within a confined monetary space. For instance, a supplier grants a credit in the form of goods or services whose purchase is financed with an IOU in the form of a bill of exchange. The important lesson here is that IOUs issued by a creditworthy individual or business not only have the characteristics of ('look like') money, but also may perform the functions of money; this is in fact how transactions have been conducted over thousands of years before the introduction of modern money (Wray 2004). The emergence of crypt to currency testifies that virtually anyone can issue money, as long a functioning clearing system, credible income stream and returns are in place to back up each issue. While the full reserve banking proposals envisage enforced (endogenous or exogenous) limitations on the supply of money, monetary history demonstrates that societies develop money assets according to need, making that enforcement very difficult. This phenomenon is encapsulated in Goodhart's Law. For example, the Scottish banking system arose from a shortage of coinage. The need was met by paper money (IOUs) issued by trustworthy partners against the security of their loan assets and the partners' capital. Rather the banks organized themselves in such a way as to promote prudent behavior which maintained confidence in their liabilities. As the UK banking system evolved, institutions and practices were developed which allowed banking to expand while (normally)

maintaining stability (Checkland, 1975). This expansion financed economic development through the provision of credit by banks with growing expertise in risk assessment, while at the same time providing an endogenous expansion of money in the form of bank deposits (Cameron, 1992). But from the 1970s, endogenous credit creation was fuelled by competition within the financial sector rather than the needs of the real economy (Chick 1986). More recent experience of banking indicates the ever-increasing scope for much more damaging endogenous financial developments; we consider below how that played out in extreme form in the case of the Icelandic bank subsidiary, KSF, located in the UK when attempts were made to exert control on the money supply.

The development of mechanisms to meet demand for credit is a matter of many centuries of historical experience, predating market exchange and thus the need for a means of payment. Yet, as endogenous money theory shows, money was a by-product of the provision of credit by trusted suppliers. Not only is the supply of credit relevant to the development process, but it is relevant too to the income multiplier process, whereby bank credit allows investment to precede the generation of the saving to finance it. It is clearly critical to the plans for full reserve banking how the money supply will be determined relative to demand and how far the demand for credit will be met.

- **Controls on the Supply of Credit and Money**

The proponents of the 100% reserve banking system advocate decisions on money creation to be taken by a monetary committee independent of the government. The aim to control rather than influence the money supply heightens issues already raised by the current policy framework, but which are not adequately addressed by the full reserve banking proposals. The first issue is the relationship between the central bank and government. The nature and effects of central bank independence are in fact controversial. The crisis has required a new relationship between governments and central banks which acknowledged their interdependencies, Dow (2014a). Starting from the work of Alesina (1993), the economic literature has provided some evidence suggesting that the higher is the degree of independence of the central bank; the lower will be inflation expectation and consequently the level of inflation. Moreover the literature has suggested possible measures by which the central banker can be credibly forced to act in a *non-partisan* manner. This can be reasonably implemented, for instance when the objective of the central banker is clear and easily understood as is the case of an inflation target strategy. But even if these judgment's about the feasibility and merits of central bank independence are accepted, it is much more problematic to judge the work of a central banker or a committee whose job would be to inject *money* into the banking system and to place a limit on the amount.

The performance would have to be based on a counterfactual, but it is difficult to envisage how this would be chosen and estimated. It is beyond the scope of this text to see whether these policies are actually effective, and whether these advances in monetary economics are the real cause of the “conquest of inflation”. There is in fact substantive evidence challenging its merits (Daunfeldt and de Luna 2008). These issues are particularly important for the PM/NEF plan which, unlike the others, is for the state literally to create all money for payments purposes, rather than indirectly through the supply of bank reserves issued on demand. The mechanisms by which money would get into the economy would be primarily through government spending and debt repayment

Any shortfall in the supply of money would be met by directly financing bank credit, where its supply was thought to be inadequate, but credit only for productive purposes. But there are clear interdependencies between fiscal policies, the supply of credit for productive purposes and the state of the economy. Such interdependencies require an institutional structure which promoted coordination between the government and the monetary committee. The challenge for the committee to identify productive uses of credit is also not insignificant; even if successful, there would no doubt be diversion from other sources of credit which could be devoted to more speculative purposes. Moreover, partisan behavior would enter into consideration; consider for instance two similar projects deemed as equally viable and of a productive nature. The question is whether both projects would receive the necessary financing or whether only the one which is closely linked to the government in power at that time would be executed.

Even if we accept that it was possible (and desirable) to completely isolate the monetary authorities from political pressure via some form of strict legislation (as in the case of the England Central Bank (ECB), for instance), the next big problem would be which model and forecast the committee would have to follow to inject credit into the economy. Supporting the 100% reserve proposals, Martin Wolf (2014) wrote "*the central bank would create new money as needed to promote non-inflationary growth*". This assertion assumes that the central bank has a *correct* model of the economy and this can be used to make correct decisions about the level of money injected in the economy. However, from a Keynesian perspective there cannot be a 'correct' model or 'true' risk measures because of fundamental uncertainty (Dow 2014), hence macroeconomic models which generate monetary policy recommendations can only be seen as a guide rather than a rule. As highlighted in Dow (2014) 'central banks have become explicit about the various forms of uncertainty they face. The most fundamental of these is model uncertainty: uncertainty as to the best model to use as the basis for policy-making. The theoretical literature generally presumes that there is such a thing as a correct model, but that policy-makers face stochastic errors in identifying it (Hansen and Sargent 2004). Finally, the central bank's task is complicated further by the fact that real-time data on GDP are subject to heavy revision. Orphanides and van Norden (2002) find that the revisions of US GDP are quite sizable and are of the same order of magnitude as the estimated output gap. In the same spirit, Edge and Meisenzahl (2011) find similar results for the debt-to-GDP ratio, casting doubts on this indicator and its ability to be used as a key indicator for macro prudential policy.

Some critics have observed that this statement suffers from the fallacy that reserves are at the beginning of the process, rather than the end of the monetary process. This critique however would no longer be valid since banks, in a newly created monetary system, would be just financial intermediaries without any power to create money. Hence, the current process where policymakers set the rate of interest at which they supply liquidity to the banking system and supply reserves on demand to maintain that rate of interest would not be in operation any longer. The central bankers would have to use their monopoly power of liquidity supplier to set the quantity rather than the price. In order to do so, they will have to leave the interest rate free to fluctuate. This, however, would exacerbate some of the problems that the full reserve banking proposal tries to solve. It is likely that during an economic expansion firms and households would increase the competition for liquid resources; in turn this would push up the price (interest rates) of these resources. The result would be that the adverse selection and moral hazard problem would worsen.

Unsurprisingly therefore the central banks' record on producing accurate forecasts of the economy is rather poor, supporting indeed the view that a true model, good to understand the economy and forecast future events, does not exist. As a result there is a range of models with differing policy implications, but these also need to be considered in light of the institutional

framework of monetary policy. Thus Taylor (2008), for instance, has put forward the thesis that one of the causes of the financial bubble which preceded the great financial crash was the FED's inability and slowness to act.

Yet the full reserve banking proposals seem to reflect confidence in market efficiency, most explicitly in the case of the limited purpose plan (LPB) plan for financial institutions structured around mutual funds. State-controlled money would be a safe asset, but earn no return. In order to earn a return, households would need to invest in assets of variable value, i.e. non-money assets. Since these would not enjoy state protection, households, along with large financial companies, would lose out in the event that a bail-in was required. Further it is an important feature of the free banking view that bank failures in a truly free market system would be isolated events; an adverse assessment of risk attached to one bank would simply lead to a transfer of accounts to another bank. But this belies the possibility of systemic bank failure; we are back to the issue of the significant difference between confidence in free market forces on the one hand and a Minskyan analysis of inherent financial instability on the other. If systemic failure of financial institutions is a real possibility, then market discipline of individual institutions will not protect asset holders. Indeed, as Goodhart (2009) points out, the big failures in the crisis fell outside the conventional retail banking system.

Banks certainly fuelled asset markets with credit, but the ultimate problem was asset markets themselves. Nevertheless it could be argued that full reserve banking, by constraining credit growth, would constrain the capacity for markets to become so fragile that they collapse, causing a financial crisis. But the international financial system has shown itself capable of massive expansion outside national regulatory restrictions which in turn has impacted on asset markets, and particularly markets in speculative assets. The credit restrictions therefore might be felt more by SMEs rather than financial markets. Macro prudential regulation would still be required for the entire financial system, based on close attention to the way in which it was evolving and to trends in asset markets.

Conclusion

Full reserve banking plans arose out of the perception that the crisis resulted from excessive bank credit, which was the counterpart to uncontrolled money creation. The plans seek to exert central bank control over money; the aim is that a quantity of a safe asset would be supplied in line with an inflation target. Credit would be provided by pure financial intermediaries and would therefore be kept within limits. But the risk attached to credit, and indeed to all other financial assets, would be borne by the savers. Finally all the plans envisage a sharp split between heavily controlled money on the one hand and the provision of savings vehicles and credit on the other. We have raised issues with the basis for setting the money supply target. But further all the plans show a remarkable degree of confidence that financial institutions without special regulation or public support would promote financial stability in their intermediation role. They also assume that savers will be happy to accept bail-in risk on any savings which earn a return.

We can summarize the proposed reforms for existing financial and economic system may converts into Islamic monetary system through these suggestions: (i) Replacing the classical loan contract by the 16 Islamic finance contracts, (ii) Exclusive monopoly of the issuing of money through a government-owned central bank, (iii) All issued money is to be placed in PLS investment accounts with banks, (iv) The central bank issues central investment certificates, to be held by banks and public and traded in an open market as an interbank and monetary policy instrument, (v) Debt trading, as well as the use of all risk trading contracts, is prohibited in financial markets, (vi) Debtors would be granted free rescheduling in case of temporary illiquidity, but penalized in case of delinquency.

References

- Alesina, A. (1993) Central bank independence and macroeconomic performance: Some comparative evidence, *Journal of Money, Credit and Banking*, 25, 151-62.
- Al-Jarhi, Mabid Ali (1981), "A Monetary and Financial Structure for an Interest-Free Economy: Institutions, Mechanism and Policy". Seminar on Monetary and Fiscal Economics of Islam, Islamabad, available in *Money and Banking in Islam*, Islamabad, Institute of Policy Studies, pp. 69-87.
- Al-Jarhi, Mabid Ali (2016), "The Nature of Money in Modern Economy – Implications and Consequences" JKAU: Islamic Economics, 29(2), pp. 75-78. (July 2016)
- Benes, J. and Kumhof, M. (2013), *The Chicago plan revisited*, IMF Working Paper WP/12/202.
- Cato, Molly Scott (2009). *Green Economics—An Introduction to Theory, Policy and Practice*, London, Earthscan
- Cameron, R. (1992) *Financing Industrialization*, Glasgow and London: Collins.
- Checkland, S. G. (1975) *Scottish Banking: A History, 1695-1973*. Glasgow and London: Collins.
- Chick, V. (1986), The Evolution of the banking system and the theory of saving, investment and interest, *Economies et Societes, Monnaie et Production*, 3: 111-26. Reprinted in P. Arestis and S. C. Dow (eds), *Money, Method and Keynes: Selected Essays by Victoria Chick*. London: Macmillan, 1992.
- Choudhury, M.A. (2016). "The Nature of Money in Modern Economy – Implications and Consequences" JKAU: Islamic Economics, 29(2), pp. 101-109 (July 2016)
- Daunfeldt, S.-O. and de Luna, X. (2008) Central bank independence and price stability: evidence from OECD-countries, *Oxford Economic Papers* 60 (3): 410-22.
- Dow, S. C. (2004) Uncertainty and monetary policy, *Oxford Economic Papers*, 56, 539-61
- Dow, S. C. (2014), Monetary policy, in J. B. Davis and W. Dolfsma (eds), *The Elgar Companion To Social Economics* (second edition). Cheltenham: Edward Elgar.
- Dow, S. C. (2014a), the relationship between central banks and governments: what are central banks for? in C. A. E. Goodhart, D. Gabor, I. Ertürk and J. Vestergaard (eds), *Central Banking at a Crossroads: Europe and Beyond*. London, New York and Delhi: Anthem Press, pp. 229-44
- Dow, S., Johnsen, G. and Montagnoli, A. (2015), *A critique of full reserve banking*, Sheffield Economic Research paper Series, ISSN 1749 – 8368 SERPSno. 2015008 March
- Goodhart, C. A. E. (2009) Narrow banking is not the answer to systemic fragility, *Financial Times*, October 28
- Goodhart, C. A. E. (2008) The boundary problem in financial regulation', *National Institute Economic Review*, 206 (October)
- Hansen, L. P. and Sargent, T. J. (2004) *Robust Control and Economic Model Uncertainty*, Princeton, NJ: Princeton University Press
- Knapp, George, (1924) *State Theory of Money*, London: published on behalf of Royal Economic Society by Macmillan.
- Krugman, P. (2014) Is a banking ban the answer?, Op-Ed., *New York Times*, April 26th
- Meera, Ahmad (2016). . "The Nature of Money in Modern Economy – Implications and Consequences" JKAU: Islamic Economics, 29(2), pp. 115-118 (July 2016)
- Molyneux, P. "The Nature of Money in Modern Economy – Implications and Consequences" JKAU: Islamic Economics, 29(2), pp. 111-114 (July 2016)
- Montagnoli, A. and Moro, M. (2014), everybody hurts: SWB and banking crises, *University of Sheffield Working Paper* 2014010

- Orphanides, A. and van Norden, S. (2002), the unreliability of output-gap estimates in real time', *Review of Economics and Statistics*, 84, 569-583
- Reardon, J (2016). . "The Nature of Money in Modern Economy – Implications and Consequences" JKAU: Islamic Economics, 29(2), pp. 95-99 (July 2016)
- Taylor, J. B. (2009), the financial crisis and the policy responses: An empirical analysis of what went wrong, *National Bureau of Economic Research Working Paper* 14631
- Wolf, M. (2014) Strip private banks of their power to create money, Op. Ed., *Financial Times*, 24 April
- Wray, R. (2004) *Credit and State Theories of Money: The Contributions of A. Mitchell Innes*. Cheltenham: Edward Elgar
- Zaman, A (2016), The Battle for the Control of Money. JKAU: Islamic Economics, 29(2), pp: 81-94 (July 2016).
- Zarlenga, Stephen, (2002) *Lost Science of Money*, American Monetary Institute, New York.
- Zarqa, M. Anas (1983), Comment on al-Jarhi's paper "A Monetary and Financial Structure for an Interest-Free Economy: Institutions, Mechanism and Policy", available in Ahmad, Ziauddin, et al (eds.) *Money and Banking in Islam*, Islamabad, Institute of Policy Studies.
- Zarlenga, Stephen and Robert Poteat (2016), "The Nature of Money in Modern Economy – Implications and Consequences" JKAU: Islamic Economics, 29(2), pp. 57-72. (July 2016).