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Modern Monetary Theory: Revising Money Demand and Supply from Umer Chapra's Perspective

Abstract: *The global crisis and the COVID-19 pandemic have intensified the debate surrounding Modern Monetary Theory (MMT), particularly as nations resort to budget deficits. MMT economists argue that the central government, not constrained by fiscal limits, can maintain effective demand to achieve public goals like full employment and economic growth. However, economists remain skeptical about the permissiveness of MMT in generating new money. Extensive research is needed to explore the foundation of money supply and demand, examining if it truly achieves economic goals or leads to failure. Umer Chapra offers a profound monetary perspective, considering the demand and supply of money in the Islamic monetary system that aims for justice. This study aims to examine MMT's money demand and supply from Chapra's viewpoint, incorporating its economic goals. Employing a qualitative approach based on library research, this study finds that the endogenous MMT money demand model requires revision within Chapra's framework. To avoid misallocation and achieve economic objectives, the study suggests adopting Chapra's recommendations, such as eliminating bank interest in credit allocation and controlling unproductive and speculative money demand. This ensures that the MMT idea of endogenous money functions properly. However, further research is needed to address the techniques for avoiding money demand in the speculative sector, an area where Chapra's work lacks detail. Collaboration among Muslim economists can fill this gap and enrich the discussion. By bridging this gap, this study contributes to the ongoing discussion on monetary policy and provides valuable insights for policymakers and economists.*

Keywords : *Modern Monetary Theory (MMT), Money Demand, Money Supply, Endogenous Money, Islamic Monetary System*

INTRODUCTION

Modern Monetary Theory (MMT) proposes a controversial approach to economic management, particularly in the context of the COVID-19 pandemic and the resulting increase in national debt (Gilbert & Guénin, 2022; Omran & Zelmer, 2021). Many countries have faced significant budget deficits due to the need for extensive financial resources to address the pandemic's impact on their economies. Developed countries such as Spain, England, France, Italy, Singapore, Germany, Japan, and the United States (Chadha et al., 2021), as well as developing countries like India, Mexico, Malaysia, the Philippines, Thailand, and Vietnam, have all experienced widened fiscal deficits (IMF, 2022). In Indonesia, the government has allocated substantial funds for the National Economic Recovery program, leading to an increased budget deficit (Kemenkeu RI, 2020). In response to these challenges, MMT proponents advocate for the government's ability to print money to stimulate economic growth and overcome debt expenses.

However, MMT's permissive stance on money printing has sparked debates among economists, particularly regarding the risk of inflation (Kelton, 2020a, 2020b; Newman, 2020). Critics argue that excessive money supply can lead to hyperinflation (Armstrong & Mosler, 2020; Vernengo & Caldentey, 2019), as seen in historical examples such as Zimbabwe (McIndoe Calder, 2009), Venezuela (Hilmola, 2021), Germany during 1939-1945, and

Argentina in 1946 (Ocampo, 2020). Prominent economists like Paul Krugman and Thomas Palley have expressed reservations about MMT, highlighting issues related to fiscal and monetary policy coordination and the lack of a credible inflation theory (Krugman, 2019; Palley, 2013, 2014, 2015).

To address these concerns and examine the effectiveness of MMT's monetary policies, this study will explore Umer Chapra's perspective on money demand and supply within the Islamic monetary system (Nurfaedah et al., 2022). Chapra emphasizes the importance of managing money demand efficiently and equitably, highlighting the need to balance money supply with the equilibrium level of money demand (Chapra, 1985, 1995, 1996). By analyzing MMT's money demand and supply through the lens of Chapra's monetary thought, this research aims to provide solutions to the challenges and criticisms faced by the MMT concept, particularly in achieving economic objectives while avoiding inflation.

Despite existing studies critiquing MMT, none have utilized Umer Chapra's monetary thought as a basis for analyzing MMT's monetary framework. This research intends to address this gap and contribute to the understanding of money demand and supply in the context of MMT, drawing on Chapra's perspective. The findings of this study are expected to offer insights and potential solutions to enhance the effectiveness of MMT's monetary policies and promote economic stability.

THEORETICAL

The Money Demand Model according to Umer Chapra

Umer Chapra's money demand model builds upon the conventional economic money demand framework proposed by Keynes. According to Chapra, there are three motives for the demand for money (Chapra, 1985, 1996) (see.fig 1) . The first motive is transactional, involving the purchase of goods and services for consumption (*C*) investment (*I*), and imports and exports (*Y*). Chapra argues that this motive encompasses government expenditure (*G*) as well, as it falls under consumption and investment categories (Umam, 2020). However, he acknowledges that not all consumption and investments are productive or necessary (Umam, 2020).

Related to this first goal, Chapra notes that not every consumption that is issued is consumption based on needs. In addition, the investments made are not all productive (Umam, 2020). So, in consumption (*C*), there are goods and services that are needed and vice versa, there are also goods and services that are not needed. Likewise in exports and imports, there are goods and services that are needed and some are not needed. This also applies to investment. According to Chapra, there are investments that are not productive and even speculative (Chapra, 1985, 1996).

Furthermore, the second motive for money demand is for the purpose of guarding against unpredictable needs that could happen to him. This second requirement cannot be estimated accurately. The third motive for money demand according to Keynes is for the purpose of speculation (Correa, 2009). The purpose of speculation in question is to take advantage of opportunities to make profits in the commodity market, stock exchange, foreign exchange, and finance. In more detail, Umer Chapra created a chart to analyze the Keynesian money demand model (see.fig 1):

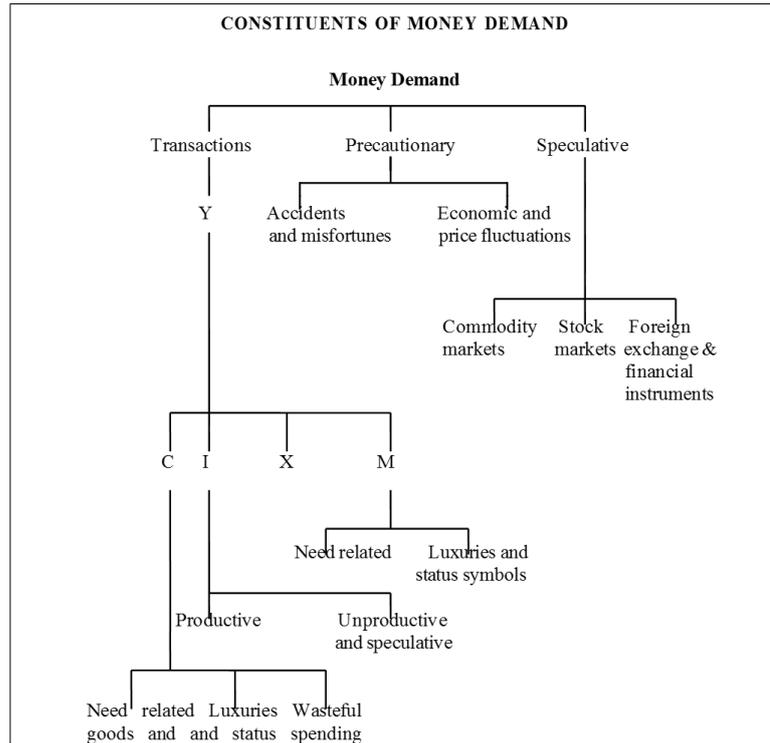


Figure 1. Chapra's analysis of Keynes' Money Demand Model

The second motive for money demand is precautionary, aimed at safeguarding against unforeseen needs. The third motive is speculative, where individuals seek to profit from opportunities in commodity markets, stock exchanges, foreign exchange, and finance. Chapra presents a chart analyzing the Keynesian money demand model, illustrating how the demand for money for precautionary and speculative purposes reduces the available money for transactions, and how the demand for unnecessary consumption and unproductive investment reduces money available for necessary consumption and productive investment (Umam, 2020; Umam et al., 2021).

Chapra argues that achieving an economically desirable and non-inflationary condition requires reducing the demand for money for unnecessary consumption and unproductive investment. Conversely, if the demand for money increases across all purposes, it can lead to macroeconomic imbalances (Rossi, 2010). Therefore, efficient and equitable money demand is essential for achieving macroeconomic goals under non-inflationary conditions (Chapra, 1996).

After critiquing the Keynesian money demand model, Chapra proposes an efficient and equitable money demand model in an Islamic context. He formulates $Md = f((Ys, S, \pi))$ where money demand Md as a function of factors such as fulfilling needs-related goods and services (Ys), social values like zakat (S), that influence resource allocation and distribution, and the profit-sharing rate (π) within a system that rejects interest-based financial intermediaries (Chapra, 1996).

From the short explanation above, it knows that basically Umer Chapra does not explicitly mention whether the concept of money is exogenous or endogenous. However, the endogeneity of Umer Chapra's money can be observed from the concept of money demand which departs

from Keynesian root with the fixation in cleansing the role of interest. Thus, according to Umer Chapra, as quoted by Khoirul Umam, the management of money demand in an efficient and fair manner is important because it implies to money supply in the fiat money system (Umam, 2020; Umam et al., 2021).

The Money Supply Model according to Umer Chapra

Chapra emphasizes the importance of balancing aggregate money supply with money demand and aligning the distribution of money supply with socioeconomic needs without resorting to coercion. In an Islamic economy, where instruments like open market operations and government securities interest rates are unavailable, achieving this balance becomes even more critical (Chapra, 1996). Chapra suggests two approaches for managing money supply:

- 1) *Monetary targets*: Chapra proposes setting a target range for money supply growth that aligns with expected socioeconomic objectives and stable prices (Chapra, 1996). Countries that announce monetary targets have been shown to have lower inflation rates (Cukierman, 1992). Chapra suggests adopting a set annual growth rate in money supply (M) that corresponds to secular growth in production and changes in velocity. However, he emphasizes that the state's positive role and fiscal policy cannot be ignored in an Islamic economy (Chapra, 1996).
- 2) *Achieving targeted growth in M_0* : The central bank should determine the desired growth in money supply (M) annually, considering national economic goals and currency stability. This target should be reviewed quarterly or as needed, based on economic performance and trends. The central bank should distribute a proportion of the money supply to the government as an interest-free loan for financing social welfare projects (Chapra, 1985). Another portion should be allocated to commercial banks, primarily through *mudarabah* advances, to serve as a quantitative and qualitative instrument of credit control (Chapra, 1985). Specialized credit institutions should also receive a portion of the money supply to fund productive activities of self-employed individuals, farmers, and small businesses that may struggle to access funds from commercial banks and other financial institutions (Chapra, 1985).

By aligning money supply with demand and implementing these measures, an Islamic economy can achieve socioeconomic goals while maintaining stability and fairness.

RESULTS AND DISCUSSION

Modern Monetary Theory Basic Concepts

Modern Monetary Theory (MMT) is a macroeconomic paradigm that focuses on understanding the macrodynamics of monetarily sovereign states. A monetarily sovereign country is one that issues its own currency, imposes taxes and other payments in that currency, has no foreign-currency public debt, and maintains a relatively unrestricted exchange rate. In this

institutional framework, the central government is not financially constrained and can effectively manage the money supply to achieve public goals such as full employment and price stability (Mitchell et al., 2019).

In the context of MMT, the central bank, as the monetary authority, credits the recipient banks' accounts to finance government expenditures. The central bank, being the monopoly supplier of currency, cannot run out of money. While regulations may require the government to issue debt through bond sales to increase its account balance at the central bank, the government's ability to make payments depends on the positive balance in its account. This is a key principle of MMT, highlighting that crediting bank accounts is the technical means by which the government settles its obligations (Mitchell et al., 2019).

The MMT model recognizes that central banks have the capacity to handle government payments, including taxes and bond purchases. While the conventional belief suggests that central banks lend to governments through fractional reserve requirements, MMT argues that central banks facilitate government financing by creating money. This is achieved indirectly through the central bank's implementation of monetary policy and liquidity management to maintain its interest rate target (Tymoigne, 2014). Currency monopolists must spend or loan their currency into circulation before it can be repaid through taxes or bond sales, according to MMT (Mitchell et al., 2019).

In summary, MMT posits that governments create money through spending and collect taxes on that money. Taxes are not viewed as a means to finance the government, but rather to drive the demand for government-issued currency within the economy. Citizens and businesses seek the government's money to fulfill their tax obligations, creating a tax-driven demand for money. The government can spend its money into existence due to this demand, with taxes serving to drive the supply of money in the economy (Ehnst, 2022; Voldsgaard & Ehnts, 2020).

MMT Money Demand Model

While MMT does not explicitly outline the motive for money demand, its model of money demand can be examined within the framework of the aggregate expenditure model. The MMT aggregate demand model aligns with the general mainstream understanding, representing consumption by households (C), investment spending by firms (I), government spending (G), and net exports ($NX = X - M$). This model forms the basis for understanding money demand in the MMT perspective (Mitchell et al., 2019).

Private Consumption Expenditure: Private consumption refers to the purchase of goods and services by households. It constitutes a significant portion of overall GDP spending and includes non-durable commodities, durable goods, and services (Mitchell et al., 2019).

Private Investment: In macroeconomics, investment refers to expenditure that enhances the economy's productive potential. This includes capital investment by businesses, inventory investment, and property investment by households. Private investment spending contributes to the economy's productive capacity and influences the demand for money (Mitchell et al., 2019).

Government Expenditure: Government expenditure involves the purchase of goods and services by the government. It takes various forms, including expenditure on specific goods and services, public investments in infrastructure, and transfers to the private sector. Government spending impacts the demand for money and contributes to overall aggregate demand (Mitchell et al., 2019)

Net Exports: Net exports (*NX*) represent the difference between a country's exports and imports. Exports contribute to national income, while imports represent a leakage from the economy. The net export balance influences the overall demand for money (Mitchell et al., 2019).

MMT Money Supply Model

In contrast to conventional views on money supply and the money multiplier, MMT economists argue that central banks cannot actively control the money supply. According to MMT, money supply is endogenous, driven by the demand for bank loans and the willingness of banks to lend. Real-world banks expand their balance sheets through lending, which generates deposits backed by reserves. MMT asserts that lending encourages deposits, as opposed to the belief that deposits drive lending (Mitchell et al., 2019).

MMT challenges the notion that central banks control the money supply through their ability to manage the monetary base. Instead, MMT argues that central banks manage monetary policy and set interest rate targets, which influence the interbank rate and reserve requirements. Banks determine lending decisions based on creditworthiness, and if deemed creditworthy, borrowers receive loans and banks acquire necessary reserves through interbank or central bank transactions. The money supply expands in response to demand for loans, making it endogenous rather than exogenously controlled (Mitchell et al., 2019).

Umer Chapra's Views on MMT

Umer Chapra, with his deep understanding of monetary systems in an Islamic economic framework, emphasizes the need for fair and responsible treatment of money to achieve economic goals and general welfare. He considers the fiat money system, which forms the basis of modern economics including MMT, to be permissible in an Islamic economic system (Chapra, 1985, 1996). However, Chapra highlights the importance of regulating fiat money circulation to maintain its functions as a medium of exchange, a store of value, and stable in value (Wray, 1998).

Chapra emphasizes that individuals, communities, and the state must act honestly and fairly to ensure the proper functioning of the currency. This includes utilizing money for fulfilling needs and productive investments rather than speculative purposes. Chapra argues that the values of human responsibility and resource management, guided by the principles of Islam, can influence the motive for money demand and foster effective and targeted allocation of money (Chapra, 1996).

To reinforce these values, Chapra proposes strengthening economic, social, and political institutions to achieve price stability and resource allocation in line with economic objectives. Price stability ensures efficient resource allocation, but it cannot be solely relied upon to achieve economic goals. The

value-based approach must be complemented by strengthening institutions to ensure stable prices and equitable allocation of resources (Chapra, 1996).

In the context of replacing interest-based finance, which Chapra sees as a driver of demand for money for conspicuous consumption, unproductive investments, and speculation, he proposes adopting profit-loss sharing. This system encourages borrowers to undertake profitable projects and allows financing for entrepreneurs without valuable collateral. Profit-loss sharing finance not only reduces demand for money for wasteful purposes but also promotes output, employment, and the satisfaction of relevant requirements (Chapra, 1996).

In conclusion, Umer Chapra's perspective offers insights into how money demand and supply should be treated within the MMT framework. He emphasizes the importance of fair treatment of money, strengthening institutions, and shifting from interest-based finance to profit-loss sharing. These considerations align with the goals of achieving economic equality, optimal economic growth, and the efficient allocation of resources in line with Islamic principles. By incorporating Chapra's insights, MMT can better address the management of money demand and supply to achieve its intended economic objectives.

Equitable Manner of Money Demand and Supply: A Proposal for MMT

Money Demand

Chapra emphasizes the importance of freezing money demand to needs-based consumption and productive investment in order to achieve economic goals such as optimum economic growth and full employment. To achieve this, interest-based financing should be replaced with profit-loss share-based financing, which promotes stability and equity in money demand. The profit-sharing ratio remains contractually stable throughout the financing agreement, providing a more stable and fair allocation of funds. Prominent Western economists, including Henry Simons, Hyman Minsky, and Joan Robinson, have recognized the significance of Chapra's ideas (Chapra, 1996).

MMT can apply Chapra's money demand model to filter money demand and optimize its allocation for productive sectors. In Chapra's model, money demand (Md) is a function of Ys , S , and π ($Md = f(Ys, S, \pi)$). Ys represents the demand for Islamic-valued goods and services that fulfill productive needs and investments, while S represents moral and social values and institutions that minimize unnecessary consumption and unproductive investments. The variable π reflects the rate of profit-loss sharing, as interest is not allowed in the Islamic economic system (Chapra, 1996).

Chapra's perspective on money demand highlights how the endogeneity of money in Islam differs from conventional concepts of endogeneity such as MMT. By implementing Islamic principles and guidelines in the financial system, the endogeneity of money in Islam can be effectively realized. MMT should consider incorporating elements of the Islamic economic system to minimize fluctuations in aggregate demand for money and promote efficiency and equity in its use.

Money Supply

a) Ensuring Equitable Money Demand

Regardless of whether deposits create loans or loans create deposits, the focus should be on ensuring that money demand aligns with desired economic goals. Money demand should be allocated for productive sectors and eliminate elements of speculative and unproductive consumption. MMT has not implemented a mechanism to filter money demand, which raises concerns about achieving economic stability, full employment, and optimal economic growth.

Chapra highlights the need to research and ensure that money demand is free from unnecessary consumption and unproductive investments. Identifying values and institutions that can effectively fulfill the objectives of money demand is crucial. Strengthening institutions and aligning them with Islamic principles can promote stability and equity in money demand.

MMT would be more effective in achieving its economic goals by considering the principles advocated by Chapra. By filtering money demand and ensuring its alignment with productive sectors, economic stability can be achieved, full employment conditions can be met, and optimal economic growth can be realized.

b) Treating Created Money as Fay'

The implications of printing base money (M_0) need to be considered in terms of its use. Seigniorage, the difference between created money and its costs, should be treated as fay', similar to wealth acquired without actual combat in Islam. Chapra suggests using seigniorage primarily to finance projects aimed at improving the socioeconomic conditions of the poor and reducing income and wealth inequality. It would be inappropriate to allocate seigniorage to projects that only benefit the wealthy.

Chapra proposes that the central bank make the entire M_0 available to the government, commercial banks, and specialized financial organizations in proportional amounts. The government could receive interest-free loans to fund social welfare projects, while commercial banks and specialized credit institutions could use their allocation to provide entrepreneurial opportunities for the poor. Treating seigniorage as fay' ensures that money creation supports socioeconomic development and reduces inequality.

c) Inclusiveness of Credit Allocation

The existing credit system tends to allocate credit inequitably, especially to those who are not deemed creditworthy. Small businesses face difficulties in accessing funding from banks due to the additional risks and expenses associated with such funding. This lack of inclusive credit allocation hinders full employment and optimal economic growth.

Chapra suggests implementing loan guarantee schemes funded by both the government and commercial banks to reduce risks. Islamic banks, in particular, do not require interest-bearing loan repayment guarantees. The scheme can enable small firms to access bank funding without providing collateral, as long as their credentials have been registered or certified by the underwriting system. If a firm experiences a moral failure, the bank would be reimbursed.

MMT should consider the inclusiveness of credit allocation proposed by Chapra. By providing credit opportunities to a wider range of individuals, including those without valuable collateral, full employment and optimal economic growth can be achieved.

CONCLUSION

In conclusion, this study highlights the need to revise the Modern Monetary Theory (MMT) money demand model by incorporating Umer Chapra's perspective on Islamic monetary principles. Chapra emphasizes the elimination of bank interest in credit allocation and the avoidance of money demand in unproductive and speculative sectors. The current MMT model lacks specific norms for controlling money demand and relies solely on the demand for bank loans and the willingness of banks to lend. This absence of filtering allows money demand to potentially be spent in sectors that are unproductive and contain speculative aspects, leading to misallocation of funds. Consequently, the endogeneity of money as conceptualized in MMT does not effectively work due to the influence of exogenous variables on money demand.

Furthermore, effective management of money demand is crucial for the MMT money supply model to achieve economic goals. While Chapra acknowledges the significance of exogenous determinants in money supply, he does not provide detailed theoretical explanations on how the exogenous model can balance with money demand. However, if money demand can be well controlled for productive sectors and speculative elements are avoided, the MMT supply model can be more efficient, especially when utilizing Chapra's model of credit allocation inclusivity. This would allow a larger number of productive small businesses to access bank credit without being limited to those with valuable collateral. However, further research is needed to address the avoidance of money demand for speculative sectors in the context of money supply through banks, an aspect that Chapra has not thoroughly examined.

Finally, Chapra's proposal to treat seigniorage as a result of money printing offers a significant concept to realize desired economic goals. By allocating seigniorage to fund social welfare projects aimed at improving the socioeconomic conditions of the poor through vocational education and training, housing, healthcare facilities, and other necessary services, MMT can be more effective in achieving objectives such as full employment and optimal economic growth. Revising the MMT money demand model in line with Chapra's perspective, managing money demand, and treating seigniorage appropriately are essential steps towards achieving the desired economic goals. Future research should focus on refining the model for avoiding money demand in speculative sectors and exploring the practical implementation of Chapra's proposals to ensure a more equitable and efficient monetary system.

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