

Anwer, Zaheer; Khan, Shabeer; Abu Bakar, Muhammad

Article

Shari'ah-compliant central banking practices: lessons from Muslim countries' experience

ISRA International Journal of Islamic Finance

Provided in Cooperation with:

International Shari'ah Research Academy for Islamic Finance (ISRA), Kuala Lumpur

Suggested Citation: Anwer, Zaheer; Khan, Shabeer; Abu Bakar, Muhammad (2020) : Shari'ah-compliant central banking practices: lessons from Muslim countries' experience, ISRA International Journal of Islamic Finance, ISSN 2289-4365, Emerald, Bingley, Vol. 12, Iss. 1, pp. 7-26, <https://doi.org/10.1108/IJIF-01-2019-0007>

This Version is available at:

<https://hdl.handle.net/10419/236954>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



<https://creativecommons.org/licenses/by/4.0/>

Sharī'ah-compliant central banking practices: lessons from Muslim countries' experience

Central
banking
practices

Zaheer Anwer

*School of Business and Economics, University of Management and Technology,
Lahore, Pakistan*

Shabeer Khan

*Department of Business Administration, Sukkur IBA University,
Sukkur, Pakistan, and*

Muhammad Abu Bakar

International Centre for Education in Islamic Finance, Kuala Lumpur, Malaysia

7

Received 10 January 2019

Revised 24 January 2019

27 April 2019

28 December 2019

14 February 2020

Accepted 14 February 2020

Abstract

Purpose – The purpose of this study is to document how a central bank can perform its primary and secondary functions in a Sharī'ah-compliant manner. It also seeks to investigate the outcomes of the experiments of Muslim-majority countries in this regard.

Design/methodology/approach – As a first step, a detailed review of existing literature is conducted, which discusses the views of scholars and practitioners on the central banking mechanism in a fully Sharī'ah-compliant financial system. Moving further, the case studies of Iran, Sudan and Pakistan are presented to highlight experiences of regulators from three Muslim-majority countries, which aimed to achieve full compliance with Sharī'ah (Islamic law) principles related to Islamic finance. To evaluate their models, an assessment of their practices is performed in the light of Sharī'ah rules and principles based on existing literature. Finally, the issues involved in establishing a Sharī'ah-compliant central bank (SCCB) are discussed and improvements are suggested.

Findings – It is found that Iran played an effective role in pursuing broader objectives of monetary policy by setting priorities for credit allocation and assisting the government in reducing expenses; however, with respect to instruments, its experience is limited to the rebranding of conventional products. Sudan has not only used monetary policy to effectively curb inflation but also it has introduced various indirect instruments to perform monetary operations. Pakistan succeeded in formulating a theoretical roadmap to establish a SCCB but the desired objectives could not be achieved because of multiple factors.

Practical implications – This study has important policy implications for regulators and policymakers from Muslim countries, who can use the findings in shaping effective Sharī'ah-compliant central banking practices in their respective countries.

Originality/value – This study discusses the salient features of an important Islamic financial institution, the central bank and evaluates the experiments of three Muslim-majority countries in implementing Sharī'ah-



compliant central banking practices. To the best of the knowledge, this evaluation has not been performed in the existing literature and the present study fills in this gap.

Keywords Pakistan, Sudan, Islamic finance, Monetary policy, Iran, Shari'ah-compliant central bank

Paper type Research paper

Introduction

Modern economies considerably rely on central banks for their stability and growth owing to their various important functions comprising traditional and developmental functions (Blancheton, 2016). The traditional functions of a central bank can be further divided into two groups; i.e. the primary functions (e.g. issuance of currency notes, supervision of the financial system, maintenance of liquidity for both the government and private sectors and conduct of monetary policy) and the secondary functions (e.g. management of public debt, management of foreign exchange and advising the government on policy matters). The developmental functions include infrastructure development for the financial sector, the institutionalization of savings and investments, allocation of credit to priority sectors and provision of training to industry participants. To effectively perform these functions, central banks use different instruments such as treasury bills, required reserve ratio and the discount rate. These instruments are predominantly based on money creation and the manipulation of the interest rate in the economy. This is because of the underlying notion that macroeconomic indicators can be influenced by manipulating interest rates, as it is the interest rate, which can transmit the nominal sector effects to the real sector (Mishkin, 2007). A central bank may fail to achieve its broad objectives if it cannot use conventional interest-based instruments to perform its functions. Nevertheless, in an economic system, that is envisaged to be governed in the light of Islamic principles, these instruments cannot be used; consequently, central banks in Muslim countries, which operate an Islamic financial system are required to adopt a completely different model. This study contributes to the existing literature by discussing salient features of Shari'ah-compliant central banking practices and evaluating the efforts made by selected Muslim-majority countries in introducing Shari'ah-compliant central banks (SCCBs).

It is widely known that the most important instruments available to central banks are based on money creation or interest rates. So, what if an economic system does not support the fractional reserve system or endorse charging interest on loans? The interest-based central banking system would not be suitable for countries following that economic system, and certain modifications would be required. As the principles of Shari'ah (Islamic law) do not allow dealings based on *ribā* (interest) and call for a 100 per cent reserve system (Askari et al., 2014), many of the current practices need to be discarded and new tools and instruments should be devised to effectively perform central banking functions in a Shari'ah-compliant manner. This issue is very critical, in view of certain factors. Firstly, Muslim countries carry an important place in the world, in terms of their contribution to population, resources and economic activities. Muslim governments are mandated to implement Shari'ah-compliant economic principles to run the economy, and central banks have a very important role to play in achieving this purpose. Secondly, the Islamic finance industry has recorded notable growth in the past four decades but it is becoming evident that the interest-based model of central banking does not possess the ability to regulate and supervise banking activities grounded on profit-and-loss-sharing (PLS) contracts. The existing set of central banking guidelines (principally influenced by the Basel accords) lays stress on achieving an optimal capital adequacy ratio and uses capital as a buffer against

any potential losses (Hasan, 2014). This framework envisages banks as intermediaries that deal in risk assets and expand credit in a prudent manner to achieve optimal profits. However, to perform transactions based on risk-sharing contracts, Islamic banks need to develop expertise in mitigating business risk and equity investment risk. Existing central banks do not possess this knowledge, and hence, they are unable to educate Islamic banks in this regard. Thirdly, this lack of competence on the part of central banks is the primary reason behind their reluctance in introducing and promoting equity-based instruments such as *mudārabah* (profit sharing) and *mushārahah* (partnership), and instead, they rely on the replication of conventional instruments.

It is, therefore, important to determine the attributes of an SCCB and discuss related case studies to analyse the progress made in this respect. This study contributes to the existing literature by exploring the structure and practices of an SCCB. To perform this evaluation, as a first step, a detailed review of existing literature is undertaken to list and analyse the views of scholars and practitioners thereon. Moving further, the case studies of Iran, Sudan and Pakistan are presented to highlight the experiences of regulators from three Muslim-majority countries, which aimed to achieve full compliance with Sharī'ah principles related to Islamic finance since the 1980s. This assessment is important as, in addition to geographical and economic differences, these countries follow different *fiqh* (Islamic jurisprudence) schools, which, in turn, have several implications for the central banking model. To evaluate these models, an assessment of their practices is performed in the light of Sharī'ah rules and principles based on the existing literature. Finally, the issues involved in establishing an SCCB are discussed and improvements are suggested.

There are at least two important contributions to this work. Firstly, it is noted that a substantial amount of research has been done in the previous decade on different segments of Islamic finance, including commercial banks and the *takāful* (Islamic insurance) industry, particularly after the global financial crisis of 2008. Most of these research studies assess whether Islamic financial institutions (IFIs) remain more resilient in comparison to their conventional counterparts. However, there is a dearth of literature discussing how a central bank performs its functions in a Sharī'ah-compliant manner and contributes to the development of the Islamic financial system. The existing work bridges this literature gap. Secondly, it discusses the efforts of policymakers of central banks of Iran, Sudan and Pakistan to remove interest from the banking system and compares their practices with the proposed Islamic economic system as per the suggestions of Muslim economists.

The rest of the work is organized as follows: the next section provides a detailed literature review. The research methodology that is thereafter expounded. The case studies of Iran, Sudan and Pakistan are then discussed. This is followed by a section on results and discussion of them. The policymaking recommendations conclude the study.

Literature review

History and functions of a central bank

The history of modern central banking can be traced back to the seventeenth century when the Bank of England (BOE) was established in 1694 following a model devised by Charles Montagu (Cukiernan, 1992). Although BOE did not function such as the current central banks, an evolutionary process in the following centuries led to the emergence of modern central banks that are well-organized and perform various important functions. In the early days, note printing was considered the prime function of central banks, as in Europe and Asia only promissory notes (IOUs) were practised as exchange instruments, in addition to gold and silver, even up to the seventh century. In the present day, central banks perform a

range of activities to run the financial system and contribute to economic growth (Blinder, 1999). It is important to briefly highlight these functions before moving further:

- Central banks print money and facilitate exchange through a common currency for the residents of a country.
- They supervise the banking system of a country by issuing regulations from time to time and evaluating compliance with their instructions through on-site and off-site monitoring.
- Central banks create and maintain liquidity in the banking system through various channels. In this respect, they design monetary policies in a manner consistent with the government's targets for economic growth, inflation and employment.
- Central banks assist governments by providing intermediation services to raise public debt, sourced from local and international lenders.
- To ensure the competitiveness of exports and maintain stability in the foreign exchange market, central banks are tasked to keep the exchange rate of the local currency at an appropriate level and prevent it from wide fluctuations. Moreover, they are the custodians of a country's external reserves and manage foreign exchange reserves by analysing maturities and payment obligations.
- Central banks assist the government through advice on economic issues and the formulation of policies to promote the full utilization of a country's resources.
- They maintain liaison with international agencies to safeguard a country's interests by exchanging information and feedback. In the post 9/11 era, this activity has gained extreme importance as financial crimes and illegal money transfers have proliferated, and international regulations have become very strict.
- Central banks conduct research to investigate the state of the economy and decide on key focus areas for development. In this respect, they decide on priority areas for disbursement of government funding and programmed lending schemes.

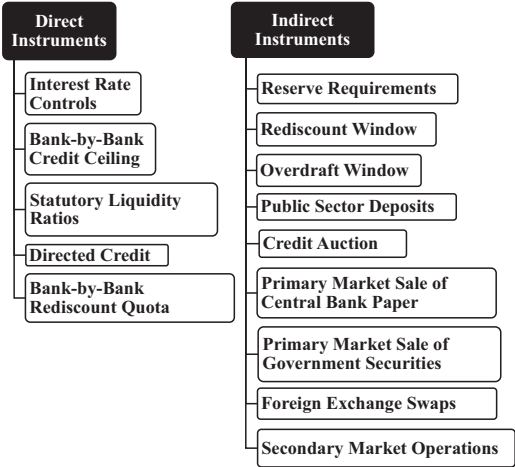


Figure 1.
Direct and indirect
instruments available
to central banks

Source: Adapted from Choudhry and Mirakhori (1997)

- Central banks provide training facilities to bankers and other industry players to increase awareness and reduce financial crimes in the country.

In their pursuit of these functions, central banks adopt a variety of instruments as presented in Figure 1. Direct instruments set or limit prices or quantities through regulation and target the balance sheets of commercial banks, whereas indirect instruments operate through the market by influencing underlying demand and supply conditions and aim at the balance sheet of the central bank (Choudhry and Mirakhor, 1997).

Orthodox vs heterodox monetary policy

Central banking practices have significantly changed in the past decade, especially after the global financial crisis (Lenza *et al.*, 2010). The orthodox approach called for quantitative easing; i.e. the expansion of the central bank's balance sheet, particularly an expansion of the monetary base. It does not alter the composition of the asset side of the balance sheet. Only the "conventional assets" held by the central bank are increased. On the liability side, the increase in the monetary base is reflected in an accumulation of central bank reserves. However, the heterodox approach calls for qualitative easing, and in this scenario, the composition of asset holdings is changed in a manner that "unconventional assets" are introduced by replacing conventional assets. However, the overall size of the central bank's balance sheet is left untouched.

In the case of non-standard measures, the central bank not only changes the nature of transactions conducted but also chooses different counterparties. In other words, to support the credit creation process and promote real activities, a central bank can:

- increase the loan supply through the banking channel;
- support the functioning of private credit markets or
- provide credit directly to the non-financial sector.

Moreover, non-standard measures can be used to enhance the effectiveness of conventional monetary policy actions and ease financing conditions in the event of weaknesses of conventional monetary policy measures.

Proposed structure of Shari'ah-compliant central banks

Chapra (1985) envisages a central bank as the pivot of the Islamic banking system as its productive efforts can be instrumental in achieving the socio-economic goals of the Islamic economy. In his view, an SCCB should be an autonomous government institution that will perform most of its routine functions (e.g. issuance of currency, banker to the government, controlling money supply, the lender of last resort and others) in line with its conventional counterpart. However, it requires incorporating modifications and introducing innovations in the existing model to make it harmonious with the Shari'ah.

An SCCB should take the responsibility of ensuring that socio-economic justice is ensured and that wealth is not concentrated in few hands, as powerful players may hinder the growth of smaller entrepreneurs, misuse equity-based modes such as *muḍārabah* and *mushārahah*, and impede the achievement of the higher Shari'ah objectives (*maqāṣid*). It should design and implement monetary policies for the country and use Shari'ah-compliant instruments and methods for this purpose.

The desired goals of monetary policy can be achieved only with the help of harmonious fiscal policies, and cooperation from the government is essential for this purpose. To effectively perform the supervision of financial institutions, an SCCB needs to review all

existing laws and regulations related to interest-based transactions in the economy and amend them in the light of Sharī'ah rulings. In designing such policies, special care should be exercised in safeguarding the interests of the industry and stakeholders.

An SCCB is exposed to unique challenges because of the distinct nature of PLS-based contracts. Firstly, Islamic banks face higher exposure to liquidity crises, as they may not be able to withdraw their equity-oriented investments until the completion of the project to meet any liquidity needs. Secondly, IFIs may have a higher exposure to solvency risks, as they invest in equity-based contracts and are vulnerable to adverse movements of markets. To mitigate these risks, SCCBs are required to maintain reserve pools to finance Islamic banks. Similarly, SCCBs should guide and regulate the investment process of IFIs and help them in allocating investments to priority sectors and in refraining from financing speculative or unduly risky projects. Therefore, SCCBs should simultaneously play the roles of an innovator for the banking system, a mentor to the government and an educator to the society. To help it function independently, it should be permitted to raise income through means such as service charges and Sharī'ah-compliant investments.

There are other suggestions found in the existing literature regarding the conduct of SCCBs. [Uzair \(1978\)](#) asserts that SCCBs, to regulate investments and restrict risky investments, should hold 25 per cent of the credit stock of all the commercial banks operating in the country. The conventional objectives of a central bank such as credit control, the lender of last resort and development of the banking sector can be achieved very easily if a central bank has control over the credit of every commercial bank. [Siddiqi \(1983\)](#) agrees that the objective of an SCCB is to strive for the public benefit. He avers that to do so it should not become a profit-making institution. To save national resources, an SCCB should regulate the flow of funds and regulate commercial banks in a manner that keeps the economy on the road of development and avoids financial crises in the country.

Moving ahead, as the risk exposures of IFIs are substantially different from conventional banks, Basel standards cannot be applied to IFIs without proper modifications. Thus, an SCCB is required to facilitate a more comprehensive risk management framework for IFIs ([Akkizidis and Khandelwal, 2007](#)). The Islamic Financial Services Board ([IFSB, 2005](#)) has thus introduced core principles to complement the Basel guidelines and facilitate central banks in performing monitoring functions more effectively. IFSB has issued guidelines to the Islamic finance industry related to credit, equity investment, market liquidity, rate of return and operational risk for developing risk management models. It is worth mentioning that IFIs have unique exposures to market, equity investment and operational risks in comparison to their conventional counterparts. SCCBs should, therefore, issue comprehensive guidelines, keeping into consideration the business conditions and legal environment of their respective countries, to effectively mitigate these risks.

To address market risk, SCCBs should encourage IFIs to establish a conceptual framework to identify relevant market risks, setting risk limits for investment accounts and outlining pricing, valuation and income recognition strategies by establishing a strong management information system. To tackle equity investment risk, SCCBs should issue directives related to initiation, monitoring (through continuous valuation) and exit of equity-based contracts such as *muḍārabah* and *mushārahah*. Finally, in terms of operational risk, IFIs are exposed to Sharī'ah non-compliance risk that can be a threat to their very existence if operations are not run in a Sharī'ah-compliant manner. SCCBs usually issue detailed guidelines concerning the appointment of Sharī'ah boards and the undertaking of Sharī'ah compliance review to ensure that investments are made in accordance with Sharī'ah rules and that all documentation is in order. Most importantly, the principles of income

recognition should be set very prudently, and SCCBs should guide IFIs regarding the disposal of profits that cannot be recognized as income.

Likewise, SCCBs should advise IFIs about Shari'ah-compliant instruments to raise capital in accordance with Basel III requirements. The examples of Tier I instruments include *muḍārabah ṣukūk* issued by Abu Dhabi Islamic Bank in 2012 and Dubai Islamic Bank in 2015, worth US\$1bn each (Haneef, 2018). Likewise, Hong Leong Islamic Bank Berhad issued MYR 400m *ijārah ṣukūk* and Maybank Islamic Berhad issued MYR 20bn *murābahah ṣukūk* to meet Tier II capital requirements. An SCCB needs to provide support to Islamic banks to issue such instruments and also work in liaison with securities commissions to promote secondary trading of these instruments.

Monetary policy framework

Like capitalistic economies, monetary policy carries extreme importance in an Islamic economy; however, the objectives and tools are quite different. As Chapra (1983) argues, unlike conventional economic thought, monetary policy in an Islamic economic system is not confined to stability in the value of money, economic growth and full employment. It also extends to the pursuit of distributive justice and the adoption of sustainable practices. To materialize these goals, a value-oriented system should be designed to regulate aggregate demand and production through an appropriate mix of fiscal, monetary and income policies to avoid both inflation and unemployment. Furthermore, Askari *et al.* (2014) emphasize that the primary goal of monetary policy in an Islamic economy is to achieve price-level stability and a sustainable balance of payments position to ensure macroeconomic stability and to boost savings, investments and the inflow of foreign funds. Effective monetary policy should ensure full employment, low inflation, preservation of the purchasing power of money, suppression of poverty, reduction of income inequality and the existence of adequate social safety nets.

In addition to the difference of objectives between the two systems, the instruments of monetary policy significantly differ because of the prohibition of *ribā* in Islam. In this regard, the existing literature offers various suggestions on how to perform monetary actions without using impermissible instruments.

Chapra (1983, 1985) argues that in an Islamic economy, as shown in Figure 2, the demand for money will originate from transactions and precautionary needs – factors that are largely determined by the pattern of income and distribution. In the absence of interest rates, savers will have no option but to hold cash or make investments. Therefore, rational investors will prefer using their savings in investment opportunities. It is the responsibility of the SCCB to instruct IFIs to provide investors with investment products of multiple

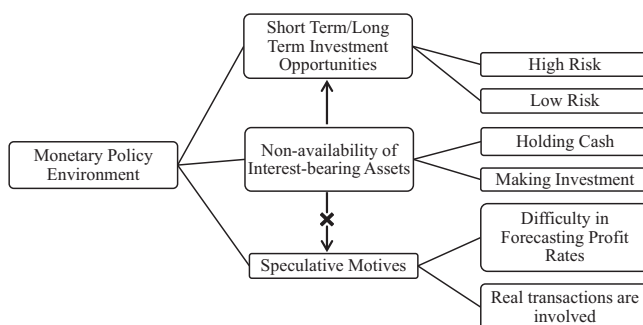


Figure 2.
Adaptation of
monetary policy
environment as
envisaged by Chapra
(1983, 1985)

durations and risk-expected return combinations. As the rate of profit is determined ex post, as compared to interest rates that are fixed ex ante, the expectations regarding the rate of return will not fluctuate on a daily or weekly basis. Therefore, the surplus money cannot be used for speculative motives and, instead, will contribute to economic growth by boosting output and creating employment. The SCCB should target the stock of money instead of the interest rate and estimate the demand for money by considering factors such as price stability, the capacity of the economy and expected surplus/deficit of production. However, the state is required to formulate cohesive fiscal, monetary and income policies, remove structural rigidities and suppress monopolistic practices to design the proposed monetary policy framework.

The SCCB would face a major challenge in achieving the objectives of monetary policy in an interest-free environment. Chapra (1983) evaluates how three broad sources of monetary expansion, namely, fiscal deficits, commercial credit and balance of payments – which are extensively used in contemporary settings could be exercised under these conditions. Firstly, the framework of fiscal deficits could be used if it could be ensured that the deficits are permitted only to achieve broad-based objectives and stable prices instead of making wasteful expenditures. Moreover, governments would be required to restructure the financial system and devise Sharī'ah-compliant contracts to fund these fiscal deficits. Secondly, commercial banking credit could be used as a monetary policy tool by effectively regulating deposits. Finally, the balance of payments could be used to affect the money supply if the country possesses strong foreign trade fundamentals.

Chapra (1983) proposes various distinguished instruments that SCCBs can use to achieve the broad monetary policy objectives in an interest-free paradigm. For example, *high-powered money Mo* comprising currency in circulation and deposits of commercial banks could be diverted to the government (in the form of interest-free loans) and IFIs (in the form of *muḍarābah* advances) to achieve economic goals and regulate the money supply. The government could start welfare projects with this money while IFIs could use these funds to boost entrepreneurial projects. Similarly, extracting a *public share of demand deposits* could serve as an effective monetary tool to create full employment by using idle resources of society. A public share of demand deposits entails diverting a maximum of 25 per cent of total demand deposits of commercial banks to government, in addition to the money diverted to the government from *Mo* to invest in projects that are socially feasible where profit sharing is not viable in the near future. The government would not be required to make profit payments as demand deposits are non-remunerative but it may be asked to pay fees to cover the administrative costs of deposit mobilization. Also, if these deposits are insured in a Sharī'ah-compliant manner, public money would not be at risk. Moving forward, the SCCB may set *statutory reserve requirements* against demand deposits only, as *muḍarābah* deposits are equity-based and constitute a part of banks' equity. These funds could be used by the SCCB to effectively play its role of lender of last resort. To perform this function, the SCCB should determine the flow of reserves and monitor credit expansion. It could use *credit ceilings* to maintain smoothness in the market, imposing separate ceiling limits for each bank based on their track records and liquidity positions. Finally, as the deposits are contributed by the general public, the SCCB should perform *value-oriented credit allocation* to realize objectives such as social welfare and equitable distribution of resources. The SCCB should prepare value-oriented plans and encourage commercial banks to extend credit to priority sectors of the economy. The government can incentivize risky loans provided to small and medium enterprises by introducing credit guarantee schemes and reimbursing administrative costs on small loans.

Siddiqi (1982) proposes several innovative tools like the refinance ratio that would move in the opposite direction of the cash reserve ratio. In case the central bank intends to reduce the expansion of credit, it would lower the refinance ratio; and in case the central bank intends to increase the supply of credit, it can target this ratio. In a similar manner, to manipulate short term credit in the desired direction, the SCCB can introduce appropriate changes in the lending ratio.

Al-Jarhi (1983) floats the concept of *central deposits*, the investment accounts opened by the SCCB in member banks to control the money supply either by depositing the newly created money (expansion) or withdrawing the retired money (contraction). These funds would be used by member banks for the purpose of investment in the real sector and could also be sold to the public in the form of *central deposit certificates* (CDCs) for subsequent investment. The profits earned on these investments would be shared, and the SCCB and members could use their respective shares in the profits to offset administrative costs.

Zangeneh and Salam (1993) advocate the idea of introducing modifications to existing monetary policy tools to practice them in an Islamic framework, instead of adopting new and lesser-known instruments. For example, instead of employing discount rates as policy tools, they propose using *weighted average rates of return* of different sectors of the economy plus/minus a discretionary premium. Similarly, they suggest using *composite stock* of central bank's shares in government and private corporations, instead of treasury bills, to conduct open market operations. In terms of the *required reserve ratio*, they support variable reserve requirements, which can vary in relation to economic conditions and government policies. They also recommend *refinance ratio* as a policy tool to affect liquidity. The SCCB could refinance loans of commercial banks up to the desirable extent with a view to increase/decrease the capacity of commercial banks to extend financing.

Choudhry and Mirakhor (1997) propose *equity-based government securities* as a replacement of treasury bills to conduct open market operations having yields in the form of the budget surplus to be quoted initially as "expected dividends".

Askari *et al.* (2014) introduce a framework of monetary policy in which the central bank directly affects private portfolios by trading in risk-sharing securities and indirectly affects the financial sector through financial signals. They envisage a 100 per cent reserve system coupled with no deposit guarantee. In this framework, to cover budget deficits, governments could borrow through asset-backed or asset-based *ṣukūk* instruments to finance development projects while refraining from interest-based instruments. Governments could also promote *private-public partnerships*. To control liquidity in the economy, *equity partnership shares* or *asset-linked securities* may be issued by the SCCB to provide investors with an opportunity to participate in government projects. The reference rate to calculate the rate of return on these papers would be based on real sector economic returns. Some examples include the average return of stock markets or business sectors or securitized assets. Additionally, the state could issue various kinds of *ṣukūk* including *murābahah ṣukūk* (based upon ownership in a deferred payment sale), *istiṣna ṣukūk* (participation in a project), *ijārah ṣukūk* (ownership in the lease), *Istithmar ṣukūk* (participation in an investment) or *mushārahah ṣukūk* (stake in a partnership). The commercial banking in this system mimics the *investment banking model* where banks channel investible funds to diverse investments (possessing variant risk, dividend/rent, tenor, etc.) and issue equity shares (traded in the market). In this framework, the SCCB conducts *open market operations* by buying/selling equity securities directly from/to investors (including banks and the public). Moreover, it sets the *reserve requirements of investments* to influence the attractiveness of investments. The role of the SCCB is very important in forming market expectations and affecting saving/investment decisions. In this pursuit, the SCCB is required

to create an environment that can help IFIs in introducing competitive products and becoming a commercial success. It should also improve access to finance and foster competition through the integration of organized and unorganized markets.

Selim (2018) shows, with the help of empirical evidence, that *qard hasan* (benevolent loans) can be used as an effective monetary policy tool that positively influences real sectors of the economy, increases output and helps the economy in achieving full employment owing to the lowest possible borrowing costs attached with this instrument.

Dolgun *et al.* (2019) assert that the Basel III liquidity framework can pose challenges to Islamic banks owing to the limited availability of high-quality liquid assets and difficulties in shaping the structure to suit the practices of Islamic banks. They propose a new “liquidity coverage ratio” for Islamic banks, devising minimum and maximum thresholds for each liquid asset to mitigate risks and protect the interests of investment account holders.

The above review suggests that although various propositions of SCCB practices have been made in the existing literature and different monetary tools have been proposed, there is no work that evaluates the actual experience of central banks belonging to Muslim-majority countries. The present study fills in this gap.

Research methodology

The primary objective of this research is to document how a central bank can perform its primary and secondary functions in a Sharī‘ah-compliant manner. It also seeks to investigate the outcomes of the experiments of Muslim-majority countries in this regard. Our motivation in selecting Iran, Sudan and Pakistan stems from the fact that these countries aimed at making their banking systems fully compliant to Sharī‘ah guidelines. To achieve the research objectives, a multi-fold strategy is adopted.

Step 1, a detailed literature review is performed, mainly in chronological order and books/journal articles are consulted that discuss topics such as Islamic economics, Islamic monetary policy and Islamic central banks. The purpose of this exercise is to explore Sharī‘ah-compliant monetary policy instruments suggested by researchers. Step 2, the salient features of central banking models implemented by sampled countries in their respective jurisdictions are discussed in detail. In Step 3, the study compares whether the practices of these central banks are in line with the principles of Sharī‘ah based on relevant discussions by scholars. This evaluation is performed with the help of insights obtained from the review of the existing literature by asking the following questions:

- Q1. Do these central banks use the same tools, which they used before the Islamization of the banking system or have modifications been made to meet Sharī‘ah requirements?
- Q2. What are the newly introduced modifications and innovations?
- Q3. Do these new techniques achieve the goals of Sharī‘ah-compliant monetary policy?

Case studies of Sharī‘ah-compliant central banks

This section discusses the case studies of Iran, Sudan and Pakistan, which have sought to align their financial systems with Sharī‘ah (Islamic law) principles since the 1980s. The aim is to examine the experiences of the regulators in the respective jurisdictions as the time the objective of establishing a Sharī‘ah-compliant financial system was set until their current evolution.

Iran

It is important to highlight the Iranian viewpoint on *ribā* and related issues before sharing Iran's experience of Shari'ah-compliant central banking. As per the Iranian definition given by Najmabadi (1999):

ribā is termed as the receipt of any extra amount in excess of the principal amount of a loan, if and only if, such receipt has been pre-conditioned and, in the absence of at least one of the following factors, the extra amount received is not considered *ribā*:

- existence of indebtedness;
- existence of debtor independent from the creditor or vice versa
- existence of a pre-condition for receipt of the extra amount over the principal of the debt; and
- receipt of the said extra amount.

It is important to note that, except for the broader interpretation of Condition 2, the remaining conditions are in line with the majority view. Condition 2, as explained by Al-Sadr (2003), states that if the borrower and lender are interdependent like son and father, *ribā* would not be created if any excess amount is paid on the loans. For example, if one branch of a business firm extends a loan to its other branch, the debtor and creditor cannot be considered independent of each other (Najmabadi, 1999). Similarly, if one company grants loans to another while both companies belong to common shareholders, the lender and borrower will be deemed as interdependent. Likewise, in the event of inter-branch loans of a specific bank, the parties are not independent of each other. Hence, in all these cases, loan contracts do not constitute real indebtedness. Banks in Iran have taken advantage of this idea and solved the financial needs of the government and 100 per cent government-owned agencies by declaring that interest on public debt and monetary instruments is not *ribā* as the central bank, government and nationalized banks are considered interdependent. Similarly, by virtue of Condition 3, a reward or bonus can be given to *qard ḥasan* deposit holders.

Sadr (2016), however, argues that the Islamic system of property rights is applicable to the activities of the central bank and financial intermediaries; and in a Shari'ah-compliant framework, this relationship should be based on legitimate contractual agreements, which have to be backed by real assets. The SCCB should act as a "financer of last resort" and provide financial capital to banks through fixed or variable rates of return contracts, instead of a lending-borrowing relationship, and should not lend any money to the banks except through *qard ḥasan*.

Islamic banking in Iran is greatly influenced by pre-revolution economic conditions and internal and external political developments after the revolution (Khan and Mirakhor, 1990). The Iranian economy was highly dependent on oil revenue, and the industrial sector was organized without developing forward or backward linkages and possessed no comparative advantage. The economy was hugely reliant on imports to fulfill the needs of foods, raw materials and intermediate goods. In the period after the late 1960s, the agricultural sector was contracting and farmers were migrating to cities. Additionally, Iran always had difficulties in conducting an active monetary policy owing to the dominance of fiscal issues in the financial markets. In addition to the amount and quality of the government budget, several factors were responsible for ineffective liquidity management. For example, the exposure limits were never implemented effectively as banks usually abided by the approved limits at the beginning of the fiscal year and then petitioned authorities for

relaxations. In some cases, the policymakers tried to address the issue of inflation by creating monetary discipline but these efforts could never bring the desired results because of fiscal dominance. The private sector availed cheap credit on lending rates lower than inflation in various cases. The revolution resulted in massive capital flight, leading to a complete breakdown of the financial system. In that scenario, the revolutionary government assigned two core tasks to Bank Markazi Iran (Iranian Central Bank): the restructuring of the economy and Islamization of the economic system. The initiation of the interest-free financial system proceeded in three distinct phases as follows: nationalization, restructuring and reorganization of the entire banking system.

Phase 1, lasting from 1979 to 1982, the policymakers could not formulate a coherent plan for introducing the Shari'ah-compliant banking system because of various internal and external challenges. As the first step, in 1980, the supreme council of Iran asked the central bank to drop the term "interest" from banking transactions and instructed the banks to recover service charges on banking services (Valibeigi, 1992). Moreover, minimum profit rates were set on savings accounts. Nevertheless, these measures were termed as superficial by radical elements and resultantly, in 1982, a new Islamization programme was initiated.

Phase 2, dating from 1983 to 1986, various legislative and administrative steps were taken to implement a comprehensive model of Islamic banking. The first Islamic banking law was passed in 1983, forbidding usury-based transactions and allowing only traditional Islamic finance modes to carry out monetary policy functions.

Phase 3, beginning in 1987 and continuing until today, the role of Islamic banking was redefined to make it a part of governmental objectives, and it became instrumental in policymaking and development initiatives. Bank Markazi Iran was mandated to divert financial resources from consumption and services towards the production sector. Bank Markazi adopted a multi-fold strategy to achieve this task:

- The size of financing to the service sector was drastically reduced;
- To revive the agriculture sector, farmers were provided with bank credit using Islamic modes of finance, and subsidies were offered on seeds, agricultural equipment and crop insurance;
- Various incentives were created, using Islamic banking principles, to develop the cooperative sector; and
- Investments in social overhead capital and large industrial projects were made, using public-private partnership schemes. Therefore, in 1990 the central bank for the first time used the profit rate as a monetary policy tool to contract excess liquidity from the system and announced a 25 per cent rise in the profit rate. This was claimed to be a result of increased profits for the banks, and hence, consistent with *musharakah* principles.

The Law for Usury (interest) Free Banking clearly stipulates the duties of the SCCB. The central bank is required to fix a minimum and/or maximum rate of profit for banks in joint ventures and *muqarabah* activities and to designate fields for investment and partnership in line with approved economic policies. It is also required to fix a minimum prospective rate of profit for these projects, which can vary with respect to different areas of activity. It also determines the types of commission for banking services, the fees charged by the banks and the bonuses paid to the customers. Bank Markazi is using several direct and indirect instruments to perform monetary actions (CBI, 2019). The direct instruments include *qard hasan*, banking profit rates (determined by the money and banking council) and credit ceiling. The indirect instruments include reserve requirement ratio (from 10 to 30 per cent

depending upon the composition of the bank's liabilities and its field of activity), Central Bank of Iran participation papers (based on Shari'ah-compliant contracts) and open deposit accounts (investment accounts maintained with the central bank).

Sudan

Sudan enacted the Islamic Shari'ah Act of Banking in 1984, which bind banks and other financial institutions to adhere to Islamic principles. The law came about in the aftermath of the successful operations of Faisal Islamic Bank and the entry of five other Islamic banks in the arena (Khan and Bhatti, 2008b). In 1990, Islamic financial products were brought into the application, especially to handle inflationary pressure and excessive government expenditure. In 1991, the government introduced contractionary monetary policy and restricted credit expansion by increasing the reserve ratio to achieve stabilization of the financial system along with economic growth (Elhiraika, 2004). At that time, Sudan was experiencing inflationary pressure because of the excessive printing of currency notes by the government to support budget deficits. The central bank of Sudan has used several monetary policy instruments to perform monetary actions since 1990.

In terms of the direct instruments, firstly, PLS ratios were used instead of interest rates to stipulate the disbursement of realized profits among bank depositors and borrowers. In line with Shari'ah rulings, the ex ante profit rate was not determined. To use both qualitative and quantitative monetary policy instruments, the central bank issued directives related to PLS sharing ratios, minimum customers' shares under *musharakah* and mark-up rate under *murabahah*. The *musharakah* ratios reflected economic reality and ranged as low as 25 per cent to as high as 80 per cent. While designing monetary policy, a key consideration was paid to priority sectors and their rate ranged from 10 to 45 per cent. However, owing to the complications in the design and implementation of *murabahah* mark-up rates and *musharakah* ratios, it was felt that these tools could not be effective in conducting monetary policy. Therefore, from 1999 onwards, *musharakah* rate determination has been left to the commercial banks.

Secondly, the credit ceiling remained one of the powerful tools of monetary policy as, out of a total stipulation of 80 per cent, a ceiling of 40 per cent was prioritized towards the agricultural sector. In 1993, the credit ceiling was further increased to 90 per cent, and the share of the agricultural sector was increased to 50 per cent. The policy of a credit ceiling was subsequently relaxed from 1994 onwards.

Thirdly, additional tools were put in place, like rate of profit margins on letters of credit, interbank lending rate, foreign exchange transactions and others. Additionally, some other instruments like "liquidity financing window" were introduced to play the role of lender of last resort by using *qard hasan*, allowing commercial banks to avail up to two weeks of interest-free loans, to the extent of 10 per cent of their demand deposits. In the case of more than two weeks of financing, Bank of Sudan would be entitled to claim a share in commercial banks' profits. Commercial banks were also allowed to ask for priority financing on the basis of restricted *muḍarabah*.

In terms of indirect instruments, the central bank extensively used reserve requirements, and from 1989 to 2001, these were changed several times to affect the liquidity position. However, this instrument could not bring the desired results in the Sudanese economy. To perform open market operations, the central bank introduced the following Shari'ah-compliant instruments (Sarker, 2015):

- *Central bank musharakah certificates (CMCs)* are medium-term participation certificates (shares) that are issued by the Sudan Financial Services (SFS) Company on the basis of government ownership in nine commercial banks. The value of

individual shares changes with variation in the value of the assets of the banks involved. The return of these banks depends on the difference between the buying and selling price. They bear low risk owing to their diverse asset base. As they are negotiable, they are considered highly liquid, and the Bank of Sudan (BOS) undertakes to repurchase them. To perform their trading, BOS invites bids from commercial banks for buying/selling of CMCs, and the value of CMCs is market-determined.

- *Government musharakah certificates (GMCs)* are short term asset-based securities that are managed by the SFS, and the underlying assets are nine highly profitable government-owned corporations. The holders are entitled to a fixed nominal value of GMCs and share the profits realized by the corporations concerned. The corporations are required to submit quarterly audited accounts, and the securities have a fixed one-year maturity. GMCs are used to mobilize non-inflationary finance to fund government deficits and manage liquidity. Their price is market-determined, and the government guarantees their purchase at the fixed nominal values plus a profit share.
- *Government investment certificates* are asset-based securities issued against a number of contracts, including *murābahah*, *ijārah*, *salam* and *istiṣnāʾ* having maturity profiles ranging from two to six years. The expected return is equivalent to rental income on *ijārah* plus the income from the sale of *murābahah*, *salam* and *istiṣnāʾ* contracts.
- *Central Bank (or Government) Ijarah Certificates* are issued against partial ownership of the assets leased to the central bank (or government) including buildings and/or other assets that it might acquire and sell to a special purpose vehicle, which subsequently issues the securities. The expected return is equivalent to the fixed rental income from the *ijārah*.

Pakistan

The abolition of interest and establishment of an economic system compatible with Islamic principles has always remained a priority of the State Bank of Pakistan (SBP)[1]. Article 37 of the 1973 Constitution of Pakistan stipulates that the state shall take all possible measures to eliminate *ribā*. Despite some conceptual differences, Shariʿah scholars generally believe that, in all kinds of money lending transactions, anything recovered in excess of the principal comes under the purview of *ribā* and is deemed prohibited. Therefore, Section 2(k) of the Baluchistan/N.W.F.P/Punjab/Sindh Moneylenders Ordinance, 1960, provides the following legal definition of the term “interest”:

‘Interest’ includes the return to be made over and above what was actually lent, whether the same is charged or sought to be recovered specifically by way of interest or otherwise, but does not include any sum lawfully charged for or on account of costs or expenses.

In 1977, the Council of Islamic Ideology (CII), which advises the government on measures for bringing the laws of the country in conformity with the injunctions of Islam, was tasked to prepare a blueprint for a gradual elimination of interest from the economy. In 1978, an interim report was submitted by the panel of economists and bankers appointed by CII. To perform the management of public finance, several suggestions were presented:

- All government transactions should be interest-free, and the issuance of treasury bills and other types of savings certificates should be discontinued. The government

may invest small savings in the units of the National Investment Trust – a government-owned group of open-ended mutual funds – and other interest-free investment avenues;

- Government's borrowings from commercial banks for commodity operations should be made without interest and subject to a service charge. The SBP could provide an interest-free refinance facility to the commercial banks; and
- Deposits of government organizations and employee provident funds should be placed with commercial banks on a profit/loss sharing basis.

The panel also recommended various steps to conduct monetary policy in a Sharī'ah-compliant manner:

- Most of the instruments of credit control that were available to SBP, including minimum cash reserve requirements, liquidity ratio, overall credit ceilings for banks, mandatory credit targets, selective credit controls, issue of directions (except those relating to fixation of interest and deposit rates) and moral suasion should remain unchanged;
- The policy rate should be replaced by a device that would not be *ribā*-based and would help in influencing the demand and supply of loanable funds. It was envisaged that in the new system, after complete elimination of interest rates, the policy rate instrument and the power to give directions to banks in respect of interest rates on credit and bank deposits would become redundant. Furthermore, the open market operations through the purchase or sale of securities should be discarded;
- As cash reserves of commercial banks (held with SBP) were interest-free, there was no need to introduce any regulations in this respect. The existing provision for penal interest charged in case of shortfall in the minimum required reserves should be replaced by a provision not involving interest such as the power to impose fines per day related to the amount and the period of the default;
- SBP should instruct banks to replace their holdings of interest-bearing government securities and other approved securities with Sharī'ah-compliant instruments. To meet the liquidity ratio requirements, the banks could increase their cash holdings and also purchase participation term certificates. The central bank's power to impose penal interest charges, in case of default, should be replaced by the power to impose a fine;
- To influence the demand and supply of loanable funds, the SBP could prescribe maximum and minimum profit-sharing ratios for banks and provide interest-free loans/refinancing to any institution or sector or purpose;
- SBP's power to use selective or qualitative credit control measures should not involve any element of interest;
- SBP would remain lender of last resort, but the system of charging interest on loans should be replaced by profit/loss sharing arrangements and the profit/loss sharing ratio, to be announced from time to time by SBP (as in the case of the discount rate), should apply in these operations. SBP could consider extending interest-free export refinance and financing to priority sectors and financial institutions;
- Open market operations should be replaced by variable dividend securities, issued on a profit/loss sharing basis;

- All the lending to the government should be made on an interest-free basis, and SBP should avoid excessive borrowing by the government through exercising strict control; and
- Note issuance should be backed by gold bullion, foreign exchange reserves and government securities.

However, SBP and policymakers ignored the crucial recommendations of CII ([Khan and Bhatti, 2008a](#)). To begin with, the government continued using the banking channel to fund its budget deficit through interest-based loans. Also, SBP did not offer advice to CII in respect to the transformation of the economy. On the other hand, it successfully managed the status quo by merely changing the terminologies, (for example, “mark-up” instead of “interest” and “financing” instead of “advances”). In 1991, the Federal Shariat Court of Pakistan (FSC) declared all the existing conventional banking practices to be *ḥarām* (impermissible) and instructed the government to eliminate interest from the economy by 30 June 1992. The government and financial institutions approached the Supreme Court of Pakistan (SC) against this verdict; however, on 23 December 1999, the SC unanimously affirmed the FSC’s declaration and directed the government to abolish interest from the economy by 30 June 2001. It is deemed important to quote the definition of *ribā* as observed by SC:

Any amount, big or small, in excess of the principal, in a contract of loan or debt, is “riba”, prohibited by the holy Quran, regardless of whether the loan is taken for the purpose of consumption or for some production activity.

On 24 June 2002, in response to an appeal by the government, the SC set aside its previous judgement and returned the *ribā* case to the FSC for re-examination, in the light of certain points. In the meantime, SBP has instituted a dual banking system in Pakistan and claims to partially establish a Sharī‘ah-compliant financial system. Nonetheless, the central banking practices are still conventional, and no practical effort has been made to change this state of affairs.

Results and discussions

In the present analysis, a detailed literature review has been performed to identify the role of an SCCB in an Islamic economy and list the choices available to this institution to effectively perform its functions.

In terms of research questions, it is found that Sudan and Iran introduced a mixture of new and modified instruments of monetary policy, after the Islamization of the banking system. The central bank of Iran played an effective role in pursuing the broader objectives of monetary policy such as the achievement of economic growth and reduction of income inequality by setting priorities for credit allocation and assisting the government in reducing expenses. However, in respect of instruments, the experience of Iran seems limited to the rebranding of conventional products ([Ayub, 1994](#)). The Iranian definition of *ribā* provides the basis for the rebranding of conventional instruments. The government, central bank and financial sector are using debt-based instruments under new names such as prizes and bonuses. The return on the principal amount for all the deposits is guaranteed by the law. Interest is paid on statutory reserves by the central bank, and any receipt/payment of excess amounts on financing products (deposits and loans) granted by the central bank to the government, government organizations and the wholly state-owned companies, is not recognized as *ribā*. Moreover, the tool of discounting and rediscounting is applicable on a wide level as in the case of traditional banking. Therefore, as [Hassani \(2010\)](#) argues, the

benefits of the Usury Free law are exaggerated and even the most prevalent mode of finance (installment sales) resembles conventional lease. It is worth mentioning here that the definition of *ribā* (mainly the concept of interdependence) used by the Iranian central bank is not endorsed by mainstream Islamic finance circles, as is evident from the definitions listed above in the case of Pakistan. Nevertheless, this definition has significantly contributed to shaping the prevailing financial structure of Iran.

The Sudanese experience appears to be closer to the proposed model of an SCCB as envisaged in the existing literature. It has not only used monetary policy to effectively curb inflation but also introduced various indirect instruments, in line with the proposal of [Khan and Mirakhor \(1989\)](#).

In the case of Pakistan, CII presented a comprehensive framework of SCCB practices that unfortunately could never be implemented owing to several reasons. [Khan and Bhatti \(2008a\)](#) document various reasons behind this failure. They argue that without addressing the issues like the maldistribution of wealth and the monopoly of certain groups over the production and distribution hubs of Pakistan, it is not possible to abolish interest. They cite several reasons to explain the failure to implement CII's recommendations for the establishment of an SCCB and the abolishment of interest from the system. These are, most notably: lack of political will; the reluctance of SBP itself; a dearth of skilled industry practitioners; a high amount of non-performing loans; risk-averse depositors; a cold shoulder from business people; the risk of misrepresentation of accounting figures and the high probability of fraud behind such misrepresentation; the weak legal system; and the exploitative socio-economic setup.

Consequently, although these countries tried to introduce traditional Islamic finance modes to perform conventional monetary actions, and these instruments fulfill legal requirements of Shari'ah, there is still a long way to go to design effective instruments to achieve the objectives of Shari'ah. The role of the SCCB is very important in this respect.

Conclusions and policy recommendations

The present study discusses the tools and practices that are used by central banks of three Muslim-majority countries to regulate the commercial banking system in an interest-free environment. As Iran, Sudan and Pakistan claimed to incorporate Shari'ah-compliant central banking practices in their banking system, they have been selected as the sampled countries to analyse if their experiences were in line with the proposed theoretical structure of an SCCB.

It is found that Iran and Sudan have introduced a mixture of new and modified instruments of monetary policy. Nonetheless, there is still a need to do a lot more to constitute an effective SCCB. The case of Pakistan is different. CII in Pakistan made some valuable recommendations to introduce supervisory regulations and monetary policy tools in a bid to achieve the objective of an ideal Islamic financial system, but this objective could not be achieved because of various factors. First and foremost, the successive governments lacked the political will to introduce and implement Shari'ah-compliant monetary policy tools. Additionally, the country suffered from huge foreign debt and was bound to pay fixed interest on that debt. The business community was unhappy over tax regulations, and misrepresenting accounting figures became a norm. In such conditions, governments generally refrain from new experiments on the economic front.

In practice, Muslim countries are plagued with several issues that restrict the constitution of an SCCB and efficient execution of supervisory and control tasks:

- Political influence and nepotism in Muslim countries is a big hurdle to setting the desired priorities for credit, as powerful lobbies use their influence to stop any effort to divert credit to the needy areas;
- The weak property rights system and unfavourable investment climate hamper the monetary policy transmission mechanism in these countries;
- Volatile political conditions restrict the ability of capital markets to contribute to the growth of the country by encouraging new equity offerings;
- The rich Muslim countries are afflicted with “resource curse” and do not invest in research and development. As a result, their productivity levels are very low and they are lagging behind in exports; and
- Most Muslim countries are heavily indebted to foreign lenders. As they need to make regular interest payments, it is a mammoth task for them to remove interest from their financial system.

Evidently, Sharī‘ah-compliant central banking practices call for heterodox monetary policy tools, especially in respect of the choice of unconventional assets to change the composition of the central bank’s balance sheet. The existing literature suggests a range of such instruments such as CDCs, equity partnership shares and asset-linked securities (as elaborated in the literature review), and the SCCB can choose suitable instruments to perform monetary actions. Similarly, the trading in these instruments requires various counterparties (other than regulated institutions), which can be carefully selected by the SCCB and securities commission. Credit creation through the use of these “real market-based” instruments is expected to considerably ease financing conditions.

To promote Sharī‘ah-compliant central banking practices, this study proposes several steps. To begin with, there is a need for scholarly research to explore the implications of existing suggestions related to Sharī‘ah-compliant central banking. For example, the implications of 100 per cent reserve requirements should be assessed by using simulated or real data. Similarly, the confusion regarding the permissibility of “lender of last resort facility” for IFIs should be carefully addressed. Moreover, the SCCB should be empowered to work in liaison with securities commissions for the strengthening of capital markets. It is worth mentioning here that it is not possible to introduce equity-based monetary instruments in the absence of secondary markets. In this regard, central banks of Muslim countries can work towards the establishment of integrated financial markets of Muslim countries for the trading of policy instruments like participatory shares and *ṣukūk*.

Note

1. This discussion is based on [SBP \(2004\)](#), “Islamization of the economy – measures taken up to 1988”, *SBP History Vol- IV (1988-2003)* SBP, Karachi.

References

- Akkizidis, I. and Khandelwal, S. (2007), *Financial Risk Management for Islamic Banking and Finance*, 1st ed., Palgrave Macmillan, New York, NY.
- Al-Jarhi, M.A. (1983), “A monetary and financial structure for an interest-free economy”, in Ziauddin, I.M. and Ahmed, M.F.K. (Eds), *Money and Banking in Islam*, 1st ed., International Centre for Research in Islamic Economics, King Abdul Aziz University, Jeddah.
- Al-Sadr, M.B. (2003), *Lessons in Islamic Jurisprudence*, 1st ed., Oneworld Publications, Oxford.

- Askari, H., Iqbal, Z. and Mirakhor, A. (2014), *Introduction to Islamic Economics: Theory and Application*, 1st ed., John Wiley and Sons, Singapore.
- Ayub, M. (1994), "Usury-free banking in Iran", *Journal of the Institute of Bankers Pakistan*, No. 16, pp. 25-37.
- Blancheton, B. (2016), "Central bank independence in a historical perspective: myth, lessons and a new model", *Economic Modelling*, Vol. 52, pp. 101-107.
- Blinder, A.S. (1999), *Central Banking in Theory and Practice*, 1st ed., MIT Press, Cambridge MA.
- CBI (2019), "Monetary policy instruments in Iran", available at: www.cbi.ir/page/1465.aspx (accessed 1 July 2019).
- Chapra, M.U. (1983), "Monetary policy in an Islamic economy", in Ziauddin, I. M. and Ahmed, M.F.K. (Eds), *Money and Banking in Islam*, 1st ed., International Centre for Research in Islamic Economics, King Abdul Aziz University, Jeddah.
- Chapra, M.U. (1985), *Towards a Just Monetary System*, 1st ed., The Islamic Foundation, Leicester.
- Choudhry, N. and Mirakhor, A. (1997), "Indirect instruments of monetary control in an Islamic financial system", *Islamic Economic Studies*, Vol. 4 No. 2, pp. 27-65.
- Cukierman, A. (1992), "Central bank strategy", *Credibility, and Independence: Theory and Evidence*, 1st ed., MIT Press, Cambridge MA.
- Dolgun, M.H., Mirakhor, A. and Ng, A. (2019), "A proposal designed for calibrating the liquidity coverage ratio for Islamic banks", *ISRA International Journal of Islamic Finance*, Vol. 11 No. 1, pp. 82-97.
- Elhiraika, A.B. (2004), *On the Design and Effects of Monetary Policy in an Islamic Framework: The Experience of Sudan*, 1st ed., Islamic Research and Training Institute, Jeddah.
- Haneef, R. (2018), "Regulatory aspects of the Islamic capital market and Basel III requirements – Shari'ah-compliant bank capital instruments", in Archer, S. and Karim, R.A.A. (Eds), *Islamic Capital Markets and Products: Managing Capital and Liquidity Requirements under Basel III*, 1st ed., John Wiley and Sons, Chichester.
- Hasan, Z. (2014), "The Basel accords, financial turmoil and Islamic banks", *ISRA International Journal of Islamic Finance*, Vol. 6 No. 2, pp. 21-48.
- Hassani, M. (2010), "Islamic banking and monetary policy: experience of Iran", *International Review of Business Research Papers*, Vol. 6 No. 4, pp. 430-443.
- IFSB (2005), *Guiding Principles of Risk Management for Institutions (Other than Insurance Institutions) Offering Only Islamic Financial Services*, 1st ed., Islamic Financial Services Board, Kuala Lumpur.
- Khan, M. and Bhatti, M. (2008a), *Developments in Islamic Banking: The Case of Pakistan*, 1st ed., Springer, Hampshire.
- Khan, M.M. and Bhatti, M.I. (2008b), "Islamic banking and finance: on its way to globalization", *Managerial Finance*, Vol. 34 No. 10, pp. 708-725.
- Khan, M. and Mirakhor, A. (1989), "The financial system and monetary policy in an Islamic economy", *Journal of King Abdulaziz University-Islamic Economics*, Vol. 1 No. 1, pp. 39-57.
- Khan, M.S. and Mirakhor, A. (1990), "Islamic banking: experiences in the Islamic Republic of Iran and in Pakistan", *Economic Development and Cultural Change*, Vol. 38 No. 2, pp. 353-375.
- Lenza, M., Pill, H. and Reichlin, L. (2010), "Monetary policy in exceptional times", *Economic Policy*, Vol. 25 No. 62, pp. 295-339.
- Mishkin, F.S. (2007), *The Economics of Money, Banking, and Financial Markets*, 7th ed., Pearson Education, New York, NY.
- Najmabadi, H.M. (1999), "Proposal for a modified model of *musharakah* financing, with emphasis on Iran", *Arab Law Quarterly*, Vol. 14 No. 3, pp. 282-301.

- Sadr, S.K. (2016), "Money, Capital and the Islamic property rights paradigm", *Journal of Islamic Economics Banking and Finance*, Vol. 12 No. 1, pp. 13-32.
- Sarker, M.A.A. (2015), "Islamic monetary policy instruments", IRTI Working Paper Series, No. 1436-04.
- SBP (2004), "Islamization of the economy – measures taken up to 1988", *SBP History Vol-IV (1988-2003)*, State Bank of Pakistan, Karachi.
- Selim, M. (2018), "The effectiveness of *qard-al-hasan* (interest-free loan) as a tool of monetary policy", *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. 12 No. 1, pp. 130-151.
- Siddiqi, M.N. (1982), "Islamic approaches to money, banking and monetary policy: a review", in Ariff, M. (Ed.), *Monetary and Fiscal Economics of Islam III*, 1st ed., International Centre for Research in Islamic Economics King Abdulaziz University, Jeddah.
- Siddiqi, M.N. (1983), *Banking without Interest*, 1st ed., The Islamic Foundation, Leicester.
- Uzair, M. (1978), *Interest-Free Banking*, 1st ed., Royal Book Company, Karachi.
- Valibeigi, M. (1992), "Banking and credit rationing under the Islamic Republic of Iran", *Iranian Studies*, Vol. 25 No. 3/4, pp. 51-65.
- Zangeneh, H. and Salam, A. (1993), "Central banking in an interest-free banking system", *Journal of King Abdulaziz University-Islamic Economics*, Vol. 5, pp. 25-36.

About the authors

Zaheer Anwer earned his PhD in Islamic finance from the International Centre of Education in Islamic Finance (INCEIF), Malaysia and is presently Associate Professor at School of Business and Economics, University of Management and Technology, Lahore, Pakistan. His research interests include Islamic Corporate Finance, Portfolio Management and Economic Growth. Zaheer Anwer is the corresponding author and can be contacted at: zmanwar@gmail.com

Shabeer Khan obtained his PhD in Islamic Finance from INCEIF, Malaysia and is presently Assistant Professor at the Department of Business Administration, Sukkur IBA University, Sukkur, Sindh, Pakistan. His research areas include *ṣukūk*, Islamic microfinancing, Islamic economics and the informal economy.

Muhammad Abu Bakar holds a Master in Islamic Finance from INCEIF, Malaysia.