Bank Indonesia continued to strengthen its policies on financial market deepening in order to support the sustainability of financing and economic growth. Working through the Coordination Forum on Development Financing by Means of the Financial Market, Bank Indonesia, the Financial Services Authority and the Ministry of Finance are committed to accelerating financial market deepening. This is regulated by the National Financial Market Development and Deepening Strategy (SN-PPPK) and a range of subsidiary policies.
Chapter 6
Financial Market Deepening Policy

The aim of the financial market deepening policy is to expand the role of financial markets in supporting sustainable economic growth. If a financial market is deep, liquid, efficient, inclusive and secure, its role in supporting economic activity will be maximized. A deep and liquid financial market will enable more efficient allocation of capital, and will serve as a basis for new sources of economic financing. And if financial markets are also inclusive and secure, this will cushion them against shocks in the event of upheavals. A greater variety of market instruments for financing and risk management in long-term financing, in addition to greater diversity of investors, will contribute positively to the provision of economic financing alternatives.

Working through the Coordination Forum on Development Financing by Means of the Financial Market (FK–PPPK), Bank Indonesia, the Financial Services Authority (OJK) and Ministry of Finance have developed National Financial Market Development and Deepening Strategy (SN-PPPK) to accelerate the pace of financial market deepening. The national strategy represents a joint commitment by the three authorities to optimize the role of financial markets as a source of development financing. Consistent with the strategy, Bank Indonesia’s policy for financial market deepening in 2018 focused on efficiency improvements on the money and forex markets to help promote long-term financing instruments as a source of economic financing. Bank Indonesia developed instruments to expand hedging, manage liquidity/sources of short-term funds and strengthen market credibility. The policy was also introduced to support expansion in long-term investment on the capital market. A further measure for reinforcing the role of financial markets involves more extensive innovation of instruments for financing infrastructure projects. These Bank Indonesia strategies are coordinated on an ongoing basis with OJK and the Ministry of Finance, within the FK–PPPK.

The actions taken under the financial market deepening policy had a positive impact on market developments in 2018. On the forex market, the various efforts to educate market actors have contributed to a rising volume of derivative transactions for hedging against exchange rate risk. The positive performance on the forex market was also accompanied by a steady level of forex market efficiency, reflected in the low level of the bid-ask spread on spot US dollar transactions against the rupiah, and in sizable transaction volume. And on the money market, growth in the repo market provided support for management of rupiah liquidity over the longer term. In relation to infrastructure financing, the FK–PPPK forum coordination by Bank Indonesia with the Ministry of State-Owned Enterprises succeeded in October 2018 in finalizing financing agreements for strategic infrastructure projects worth USD13.6 billion.

6.1. Preparing a National Strategy

Bank Indonesia, OJK and the Ministry of Finance, working together in the FK–PPPK, drew up the SN–PPPK, the national strategy for expanding the role of financial markets as a source of economic financing. The national strategy represents a joint commitment of the three authorities to create a deep, liquid, efficient, inclusive and secure financial market. As well as enhancing the role of financial markets as a source of development financing, the strategy also contributes to the establishment of market structures that are able to support financial system stability. It is envisaged that these market structures will bring about: (i) financial markets with the capacity to provide financing and investment alternatives for business and the public; (ii) financial markets operating efficiently and securely; and (iii) financial markets that are able to facilitate mitigation of risks for market actors.

The strategy is needed because of an existing lack of depth in domestic financial markets, as evidenced by the limited sources and volume of funds for financing. According to data for the five years from 2014 to 2018, about 70% of economic financing is sourced from bank credit or financing (Chart 6.1). However, the volume of funds for financing through financial markets, a measurement of financial market deepening, is insufficient for the domestic economy. The level of financial market depth in Indonesia is below that of peer countries (Chart 6.2). This constrains availability of
funds for investment financing, including for financing of the infrastructure projects that are now a key focus of Indonesia's economic development.

The financial market deepening strategy consists of three development pillars, six market pillars and seven ecosystem elements (Figure 6.1). The first development pillar is development of sources of economic financing and risk management. To reinforce these goals, Indonesia will target initiatives to stimulate demand and supply of financial instruments. On the demand side, initiatives are aimed at expanding the investor base, while on the supply side, initiatives are focused on expanding the diversity of instruments for financing, liquidity management and risk mitigation. Demand and supply will interact in a healthy and dynamic way through robust intermediation institutions. The second pillar, development of reliable market infrastructure to support price discovery, is about building a stronger market structure. The quality improvements in financial market infrastructure that will be undertaken to ensure efficiency and security will refer to international standards related to the global financial reforms introduced following the 2008 crisis. The third pillar, that of reinforcing market structures, involves the establishment of an integrated and coordinated regulatory framework that promotes a keen understanding of financial products by market actors,

Figure 6.1. National Financial Market Development and Deepening Strategy Framework

Chart 6.1. Indonesia's Economic Financing

Chart 6.2. Comparison of Financial Market Deepening

2 Market infrastructure that provides access to information, and quick, secure and efficient settlement of transactions.
and with regulations issued by one institution supporting those of other institutions.

The national strategy is divided into three phases that are envisaged for completion by 2024. The first stage, that of strengthening foundations, is being carried out in 2018 and 2019. The second stage, that of acceleration, is scheduled to take place from 2020 to 2022. The third stage, which involves deepening, will take place in 2023 and 2024. The three development stages have progress targets that will be monitored by the FK–PPPK. The priorities are: (i) increasing the level of borrower and lender participation, the role of intermediary institutions and the alternatives for financial instruments; (ii) improving market efficiency, involving financial market infrastructure; and (iii) refining the legal or regulatory framework and the competency of market actors.

6.2. Promoting Financing Through Efficiency

In 2018, Bank Indonesia’s financial market deepening policy focused on efforts to improve efficiency on the money and forex markets. Efficient markets will create favorable conditions for market actors and business to obtain and/or manage short-term funds or liquidity and to exchange foreign currency funds. Efficient money and forex markets can also expedite business transactions. For market actors and business, the efficiency of these markets can also be supportive of risk management – not only for corporate liquidity risk, but also market risks, in particular interest rate risk and exchange rate risk. In other words, efficient price formation on the financial markets, supported by well-managed risks, will stimulate market and business interest in long-term investments. In turn, the creation of these conditions can strengthen efficiency in financing.

Bank Indonesia launched this policy by employing a strategy of developing instruments to expand hedging activity, manage liquidity and sources of short-term funds, and strengthen market credibility. Within the context of promoting hedging, Bank Indonesia sought to create a more sophisticated range of hedging instruments through development of the interest rate and exchange rate derivatives markets. Complementing this, the strengthening of market credibility took place through measures to reinforce the credibility of benchmark rates and an overhaul of the market code of conduct.

Developing the interest rate derivatives market will support a more transparent price discovery in the formation of yield curve on the money market and capital market. To develop the interest rate derivatives market, a regulation was issued for conducting rupiah interest rate derivative transactions on the money market, including the use of overnight index swaps (OIS) and interest rate swaps (IRS). The purpose of this regulation is to ensure clarity about the operation of interest rate derivatives on the rupiah money market, while providing space for the operation of market mechanisms. Under this regulation, banks conducting rupiah interest rate derivative transactions with customers and/or foreigners are required to perform a needs analysis for rupiah interest rate derivatives as part of their banking prudence. This analysis will be evaluated at least once a year. In addition to issuing provisions to regulate interest rate derivatives, Bank Indonesia also contributed to strengthening the credibility of the money market benchmark rates to be used as a reference in interest rate derivative transactions.

The objective of developing a forex derivatives market is to provide efficient instrument alternatives for market actors in hedging against exchange rate risk, and to bolster the resilience of market actors in the financial and real sectors. In practical and technical terms, the strengthening of the derivatives market will increase the liquidity of existing hedging instruments. It will be achieved in part by developing new instruments.

In implementing the strategy to develop the forex derivatives market, Bank Indonesia issued a new instrument, domestic non-deliverable forwards (DNDF), to expand the range of available hedging tools. The launch of the regulation on DNDF instruments on 21 September 2018 aimed to boost confidence among exporters, importers and investors to engage in economic activity and investment. DNDF instruments offer greater flexibility in hedging against rupiah exchange rate risk. Further, settlement of transactions is conducted on a netting basis and this permits greater efficiency in hedging costs (Box 6.2 Provisions for Domestic Non-deliverable Forward Transactions). However, the expanding DNDF market provides an alternative hedging instrument, particularly for foreign investors, most of whom previously used non-deliverable forward (NDF) transactions on foreign markets to hedge their rupiah asset holdings. With the DNDF instrument, foreign investors are able to hedge on

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3 Bank Indonesia Regulation No. 20/13/PBI/2018 concerning Rupiah Interest Rate Derivative Transactions, issued on 9 November 2018.
the domestic forex market and benefit from improved price efficiency and the fact that transactions are well monitored. This in turn helps to maintain rupiah stability.

Bank Indonesia also continued to promote the development of call spread options (CSOs) as an instrument for hedging against rupiah exchange rate risk. CSOs are a combination of buying and selling call options, which are exercised simultaneously in a transaction contract at different strike prices for equal transaction amounts, as stipulated in Bank Indonesia Regulation Nos. 18/18/PBI/2016 and 18/19/PBI/2016 concerning foreign currency transactions against the rupiah conducted between banks and domestic and foreign parties. CSOs are one of a number of hedging instrument alternatives offering a reasonably efficient level of hedging costs. To promote the development of hedging instruments for rupiah exchange rate risk, Bank Indonesia engaged in intensive and sustained awareness raising with various stakeholders, with a focus on non-bank corporates. The development of CSO and DNDF instruments is envisaged as paving the way for growth in hedging activity by providing for the multivariate hedging needs of market actors.

To strengthen policy effectiveness and expand the range of hedging instruments, Bank Indonesia will also continue to encourage market actors, in this case the banking system and bank customers, to become more active in hedging. Under the previous regulation, banks and customers who conducted structured product transactions in the form of combinations of derivatives were required to put up cash collateral at 10% of the transaction amount. Bank Indonesia, in coordination with OJK, has now eliminated the requirement for cash collateral for structured product transactions that meet certain requirements. This was set out in OJK Regulation No. 6/POJK.03/2018 dated 22 April 2018 concerning Amendment to Regulation of the Financial Services Authority Number 7/POJK.03/2016 concerning Prudential Principles for Commercial Banks in Conducting Structured Product Activities. Under the new provisions, banks and customers are incentivized to hedge, as they are no longer required to maintain cash collateral of 10% of the transaction value.

To develop more robust management of short-term liquidity, the financial market deepening policy also covers the strengthening of the repo market. In the past, unsecured lending instruments on the interbank money market were the dominant instruments employed by banks to manage short-term liquidity, while repo instruments played only a minor role (Chart 6.3). However, the repo market is secure by nature, and offers potential for further development as it can support long-term liquidity management. Therefore, Bank Indonesia will continue to raise awareness, educate and develop the competency of market actors, which in turn will encourage participation in the repo market.

Further strengthening of liquidity management or short-term funding sources also involved the introduction of more robust regulation of short-term securities issued by the private sector. In 2017, stronger regulations were introduced for certificates of deposit, a money market instrument issued by banks, that governed certificate of deposit transactions on the secondary market. Similarly, in 2018, regulation surrounding commercial paper was strengthened. Commercial paper is an alternative money market instrument that can be employed by non-bank corporates to meet short-term funding or liquidity needs, such as for working capital or bridging financing. In this regard, Bank Indonesia issued an implementing regulation for issuance of and transactions in commercial paper on the money market. This was the Board of Governors Regulation No. 20/1/PADG/2018. It is expected that commercial paper and certificates of deposit will

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4 Hedging transactions by customers must be substantiated by documents proving the underlying transaction and/or supporting documents, in accordance with the legal and regulatory provisions concerning forex transactions against the rupiah.

5 CSO transactions are one example of this.

6 Repos are backed by collateral.

7 Entered into force on 2 January 2018.
enrich the existing range of money market instruments, particularly in the longer term (Chart 6.4 and Chart 6.5). To promote the development of the commercial paper market, Bank Indonesia worked intensively to raise awareness and provide education to institutions supporting the money market and to potential issuers of commercial paper.\(^8\)

To strengthen market credibility, Bank Indonesia issued new regulations stipulating how benchmark rates are formed on the money market. These form part of efforts to build stronger credibility into the benchmark rates.\(^9\)

Strengthening the credibility of money market benchmark rates formed part of the development of the market for interest rate derivatives, which requires money market benchmark rates commanding good credibility. In broad terms, regulation was strengthened through a twofold approach of: (i) establishment of the overnight tenor money market benchmark rate (Indonesia overnight index average, or IndONIA), which is derived directly from transactions on the interbank money market, to replace the quotation-based overnight tenor benchmark rate (Jakarta Interbank Offered Rate, or JIBOR); and (ii) strengthening of the JIBOR in longer-than-overnight tenors by improving governance and applying a ranking order for data input that prioritizes transactions over quotations (Box 6.1 Improvements to Money Market Benchmark Rates [IndONIA and JIBOR]). The IndONIA was launched on 1 August 2018, while the new framework for formation of the JIBOR entered into force on 2 January 2019. It is envisaged that the linking of benchmark rates to transaction data and to interest rate determination practices that are subject to good governance will strengthen the credibility of money market benchmark rates. In addition, this will encourage broader use of money market benchmark rates as a reference in various financial transactions (Figure 6.2).

Other efforts to strengthen financial market credibility included updating of the market code of conduct to bring it into line with international standards. In early 2018, the market association (Indonesia Foreign Exchange Market Committee) made improvements to the market code of conduct for the domestic financial market with support from Bank Indonesia. Indonesia has now adopted the FX Global Code of Conduct issued by the Bank for International Settlements. The market code of conduct was also brought into application to regulate conduct both among market actors, and also between market actors and Bank Indonesia in monetary operations, in tandem with a requirement for certification of market actors in treasury activities.\(^10\)

Aside from the new provisions for the conventional financial market, regulatory provisions were also introduced to strengthen the sharia financial market. Bank Indonesia introduced sharia certificates of deposit and Bank Indonesia sukuk (SukBI), enabling transactions

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8 Institutions that support money markets are those institutions that play a role in the issuance of commercial paper and are registered with Bank Indonesia.

9 Bank Indonesia Regulation No. 20/23/PBI/2018 concerning IndONIA and JIBOR, dated 24 July 2018.

10 Bank Indonesia Regulation No. 20/5/PBI/2018 and Board of Governors Regulation No. 20/7/PADG/2018 stipulate that the board of directors and employees responsible for and/or carrying out treasury activities must possess the adequate competences, attested by treasury certification, and understand and apply the market code of conduct, as demonstrated by the bank’s internal procedures.
To be conducted with sharia-compliant certificates of deposit on the money market as early as August 2018.\(^\text{11}\) Through this, sharia certificates of deposit have become a liquid instrument on the market. These developments support structural improvements in sharia bank funding by providing longer-term funding and greater potential for increasing deposits. They also promote funding efficiency and will become a source of financing for the national economy. Furthermore, the SukBI instruments auctioned in an initial offering in December 2018 provide another alternative sharia-compliant money market instrument for banks. Now that SukBI are tradeable on the secondary market, it is expected that they will also serve as a liquid instrument.\(^\text{12}\)

To support exchange rate stability in tandem with the deepening of the sharia financial market, Bank Indonesia worked steadily to promote the development of sharia-compliant hedging instruments. Previously, sharia-compliant hedging instruments were regulated in Bank Indonesia Regulation No. 18/2/PBI/2016 dated 24 February 2016 concerning Hedging Based on Sharia Principles. Sharia hedging transactions may be conducted only if there is a concrete need to reduce the inevitable exchange rate risk at a future date against a foreign currency. Accordingly, these transactions must be supported by underlying transactions. To promote the development of this instrument, Bank Indonesia carried out sustained awareness raising among various stakeholders, including sharia and conventional banks, the Hajj Pilgrimage Financial Management Agency and others. Awareness-raising campaigns were carried out in various areas of Indonesia for broader outreach to market actors.

The financial market deepening policy has had a positive impact on financial market developments. On the money market, the expansion of the repo market continues to support management of rupiah liquidity in longer tenors. The proportion of repo transaction volume in 1-month and longer tenors to total transactions widened to 18.7% (2018) from 12.5% (2017), though there was a contraction in overall repo transaction volume during 2018 (Chart 6.6). On the forex market, the various awareness-raising measures helped improve liquidity of DNDF transactions and promote growth in the CSO position (Charts 6.7 and 6.8).\(^\text{13}\) The increase in transaction volume on the CSO and DNDF markets involved not only banks, but also participation from non-bank corporates and foreign investors. This is indicative of brisker hedging activity among market actors outside the banking system. In 2018, the increase in derivative transaction volume was reflected across nearly all types of forex derivative instruments.\(^\text{14}\)

Positive developments were also visible in the continued efficiency of the forex market, which has helped to ease pressure on the rupiah. Reflecting this is the low level of

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\(^{11}\) Pursuant to Bank Indonesia Regulation No. 20/9/PBI/2018 concerning Sharia Certificate of Deposit Transactions on the Money Market.

\(^{12}\) See Chapter 5: Monetary Policy, and Box 5.2 Bank Indonesia Sukuk as an Instrument for Monetary Operations and the Sharia Money Market.

\(^{13}\) For further information on CSOs, DNDFs and other derivative instruments, see Chapter 4: Inflation and the Exchange Rate.

\(^{14}\) For the overall volume of forex derivative transactions see Chapter 4: Inflation and the Exchange Rate.
the bid-ask spread for rupiah spot transactions, which moved to 7 rupiah to the US dollar in 2018 from the previous 5 rupiah per US dollar in 2017, alongside the sustained relatively high volume of spot transactions.\(^{15}\)

Efforts to reduce the concentration of domestic demand for US dollar currency also demonstrated positive progress, reflected in the increased use of local currencies in settlement of trade transactions under the local currency settlement (LCS) scheme. The LCS scheme is already in use in Indonesia, with settlements made with the two partner nations that have LCS agreements with Indonesia, namely Malaysia and Thailand.

6.3. Accelerated Deepening of the Capital Market

The policy for accelerated deepening of the capital market involved actions for deepening of the government securities and corporate bonds markets, in combination with efficiency improvements to the stock market. To deepen the government securities market, measures were taken to build the domestic investor base by increasing the liquidity of government securities, thereby supporting the formation of a risk-free yield curve. Deepening of the corporate bonds market took place by strengthening the professional investor segment of the market. In other developments, improvements were made to efficiency on the stock market by accelerating the transaction settlement cycle.

To deepen the government securities market, the Government took measures to diversify the types of investors dealing in government securities, and to increase the liquidity of these instruments. To achieve greater diversification of investors, the domestic investor base was expanded through issues of government securities targeting domestic retail investors and offering attractive features.\(^ {16,17}\) The strengthening of the domestic investor base is expected to help Indonesia become self-reliant in development financing, while also contributing

\(^{15}\) For volume of spot transactions, see Chapter 4: Inflation and the Exchange Rate.

\(^{16}\) These securities are divided into two types: conventional and sharia-compliant. The conventional debt securities are the retail Indonesian government bonds (ORI) and retail savings bonds (SBR), while the sharia-compliant securities are the retail government sukuk and government savings sukuk (ST).

\(^{17}\) The attractive features include an affordable minimum sum for investment, competitive returns, the possibility of early redemption and the ability to purchase online through distributing partners (banks and non-bank financial institutions).
to ongoing financial system stability. To this end, in 2018 the Government issued more retail Indonesian government bonds (ORI), retail savings bonds (SBR), retail government sukuk and government savings sukuk (ST), representing a total issue value of about 46 trillion rupiah, or approximately 7% of total rupiah-denominated Indonesian government securities. The Government also continued to issue a benchmark series of government bonds to boost liquidity on the government bonds market. This policy encouraged formation of a risk-free yield curve on government securities, supporting price formation for various financial products.

To deepen the corporate bonds market, efforts were pursued for stronger development of the professional investor segment of the market. In this regard, OJK simplified the process for public offerings of debt securities. Under this simplification, corporations intending to float securities consisting of debt or sukuk (Islamic bonds) are not required to obtain a securities rating if they are conducting their public offering on a non-continuous basis. This means that the process for issuing debt securities can be completed faster compared to issues offered to the general public. This is very beneficial for companies that are in the early stages of operation, but that have strong prospects. It is expected that the policy will provide financing alternatives for corporate issuers and will also serve as an investment instrument for professional investors.

Lastly, deepening of the capital market was carried out with improvements in the settlement efficiency of stock exchange transactions, or faster settlement times. The purpose of faster settlement times is to increase liquidity through more rapid reinvestment, as securities bought by investors can be resold within a shorter time. This will also enable funds to be reinvested in other investment instruments. The more rapid turnover of funds and securities is expected to create a more active and liquid stock market. Another objective is to bring settlement times into line with stock markets elsewhere in the world. It is also envisaged that shortened settlement times will assist in reducing risk on the Indonesian capital market.

18 Settlement time was reduced from T+3 to T+2.

6.4. Expanding Innovations for Infrastructure Financing

The policy for expanding innovations for infrastructure financing is focused on promoting the private sector role in financing, broadening the range of innovative financing instruments and accelerating the process of funding through a mentoring and facilitation program. An increased private sector role is necessary in view of the need for large-scale funding for infrastructure construction, amounting to about IDR5,519 trillion.19 The Government is expected to provide financing from the state budget and regional budgets at about 50% of this figure. At the same time, the banking system is limited by capacity and depth in its ability to provide loans. For this, there is an urgent need to develop private sector financing. Efforts to increase private sector participation need to be coupled with the introduction of a broader variety of financing instruments to enable private investment funds to be matched to the desired investment objective and risk profile. In this regard, the mentoring and facilitation program is intended to speed up the financing process for infrastructure construction.

The need for financing on this very large scale has prompted the Government to play an active role in promoting private sector participation in financing. The Government has two schemes for private sector financing for infrastructure: (i) public-private partnerships (PPP); and (ii) non-budget financing of infrastructure. The PPP scheme focuses primarily on infrastructure projects that are economically viable but financially marginal. Infrastructure projects that are economically and financially viable will be encouraged to source their financing from the private sector (Figure 6.3).

To expand the range of financing innovations, regulation has been introduced for some financing instruments, while others are still in the advanced study stage. Under SN–PPPK, there are nine financing instruments that offer potential for infrastructure financing, including securitization of asset-backed securities, mandatory convertible bonds and green bonds, and sharia-based financing instruments such as waqf-linked sukuk (Box 6.3 Promoting the Private Sector Role in Infrastructure Financing). To boost financing for infrastructure projects, while ensuring a balance between economic, social and environmental factors, OJK has introduced

regulatory provisions for green bond issues. The type of infrastructure projects commonly funded through issuance of green bonds or sukuk include clean water supply and development of transportation that creates minimum pollution.

In line with the drive to accelerate infrastructure financing, Bank Indonesia, OJK and the Ministry of Finance, working jointly in the FK–PPPK, are supporting efforts to expand the role of the financial market. This is taking place in a mentoring and facilitation program, which uses focus group discussions to identify financing issues and simultaneously obtain clarity on the implementation of regulations relating to the existing financing instruments. If the identified problems are matters for the FK–PPPK, the FK–PPPK will seek a solution that will accelerate the financing, while also complying with the regulatory limits that uphold prudence as the foremost consideration. The FK–PPPK will also coordinate with the relevant ministries to optimize infrastructure financing on financial markets.

The various efforts to promote infrastructure financing have had a positive impact. In October 2018, financing agreements were signed for strategic infrastructure projects worth USD13.6 billion. These strategic projects include toll roads, tourism and manufacturing, and they were achieved with varied types of financing. The inclusion of new infrastructure financing instruments in the agreements attests to the progress achieved in infrastructure financing innovations (Box 6.3 Promoting the Private Sector Role in Infrastructure Financing). In other developments, a private business raised financing in a green bonds issue for the first time in 2018. In July 2018, PT Sarana Multi Infrastruktur (Persero) became the first private sector entity to issue green bonds; the issue was worth IDR500 billion. The Government of Indonesia pioneered green bonds in Southeast Asia, having issued the Green Sukuk for USD1.25 billion in March 2018. It is envisaged that the green bonds will expand the available infrastructure financing alternatives for issuers, while stimulating investor interest by offering a more diversified product selection.

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20 Green bonds are long-term debt securities issued for financing environmentally friendly infrastructure projects.
Box 6.1.

Improvements to Money Market Benchmark Rates (IndONIA and JIBOR)

The LIBOR manipulation in the aftermath of the 2008 global financial crisis set the stage for efforts by global authorities and agencies to establish credible benchmark rates for money markets.¹ In 2013, the International Organization of Securities Commissions (IOSCO) issued – with support from the G-20 Financial Stability Board (FSB) – the principles for establishing financial benchmarks on global financial markets. The IOSCO principles have been implemented by many countries in setting their interbank offered rate (IBOR).² To improve the credibility of benchmark rates, some advanced nations have adopted benchmark rates formed directly from overnight market transactions and have explored the potential for also converting longer-tenor interest rates into transaction-based to replace quotation-based IBORs.

In Indonesia, despite the absence of attempted manipulation of the JIBOR, a domestic benchmark rate, work does need to continue on strengthening domestic benchmark rates. The need for this is threefold: (i) to promote development of an interest rate derivatives market, which will mitigate risks from interest rate movements; (ii) transparent benchmark rates are needed for setting variable interest rates for a wide range of financial products, including bank deposits and credit; and (iii) to be in line with international standards, with adoption of IOSCO principles. Credible and transparent benchmark rates will pave the way for market actors in managing interest rate expectations and risk exposures. Market actors are therefore expected to make greater use of benchmark rates across a range of financial products.

The use of benchmark rates will reduce the complexity of carrying out transactions and will promote transaction efficiency. This efficiency is expected to bolster transaction volume and thus promote financial market deepening. If market actors have referenced the same benchmark rate, a standardization will take place in the use of the benchmark rate in various transactions and financial instruments. Examples of the use of benchmark rates include the following: (i) setting of interest rates for debt securities and/or loans carrying variable interest rates; (ii) use as reference for interest rate derivatives, such as IRS and OIS; and (iii) uses for financial instrument valuation.

For example, Corporation A takes out an IDR2 trillion loan from Bank B with a term of five years (Figure 1). Interest payments are made every three months and the interest rate is set according to the 3-month JIBOR + 50 basis points. To hedge against any increases in interest expense on the loan, Corporation A takes out a hedging transaction with Bank C. Corporation A will then receive funds from Bank C every three months according to the 3-month JIBOR + 50 basis points, but in return Corporation A will pay funds to Bank C every month at a fixed rate. As a result, Corporation A will be able to cover the higher interest payments to Bank B using the earnings received from Bank C, but at a fixed cost paid by Corporation A to Bank C.

The revamping of domestic benchmark rates broadly consists of: (i) establishment of benchmark rates comprising IndONIA (transaction-based) for the overnight tenor and JIBOR (quotation-based) for the 1-week to 12-month tenors; (ii) strengthening JIBOR in a formulation that is linked as closely as possible to transaction data, and improving governance; and (iii) extension of the transactable mechanism in the JIBOR to the 6-month tenor.³ Extending the transactable mechanism to the 6-month tenor will improve the credibility of this long-tenor benchmark rate, which currently sees thin liquidity only.

At this time, the only benchmark rate that can be formed directly from market transactions under the present structure of the domestic money market is the overnight tenor, the IndONIA. Transaction activity for the unsecured overnight tenor is liquid and is accompanied by competitive price formation due to the large number of participating banks. This encourages the formation

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¹ A benchmark rate is a reference rate that can be used by market actors and business in financial transactions.

² IBORs represent the offered rates on unsecured borrowing transactions in tenors varying from overnight to 12 months. They are determined on the basis of interest rate quotations deemed representative by contributor banks.

³ A transactable mechanism is a mechanism requiring a contributor bank (quoting bank) to accept requests for transactions placed by other contributor banks (asking banks) at the interest rate offered by the quoting bank, as long as they meet certain criteria.
of a robust and resilient benchmark rate. However, the formation of benchmark rates for 1-week and longer tenors cannot be based immediately on market transactions only, because of the comparatively low liquidity of transactions on the money market in these tenors. This is why the formation of benchmark rates for 1-week and longer tenors is still based on quotations.

Formation of the JIBOR takes place through efforts to use transaction data in a process managed with good governance. In determining quotations for the JIBOR, contributor banks must input data according to the prescribed ranking order. The ranking order is determined by the current micro-structures of the money market, applying the principle that higher priority shall be given to data requiring the fewest possible adjustments to fit the JIBOR definition. The ranking order for data input consists of: (i) unsecured transactions conducted by contributor banks; (ii) executable bids and offers for unsecured transactions; (iii) other money market transactions or quotations; and (iv) expert judgment. The governance improvements include a validation function, management of data and information relating to making quotations, and a requirement that information on how to make quotations and manage information and data is set out in internal bank guidelines.

The extension of the transactable mechanism in the JIBOR to the 6-month tenor was made while ensuring that prudence remains the foremost consideration. To achieve this, an upper limit has been imposed on transaction amounts in the transactable mechanism in the 6-month tenor at a level below that applicable to 1-week to 3-month tenors. This is because the longer the tenor, the higher the risk of the unsecured transactions on which the JIBOR is based. By restricting transaction amounts to a lower level, it is expected that sound management of bank objectives and risks will continue.

Introduction of the improved domestic benchmark rates was preceded by a transition period.\(^4\) The JIBOR under the new, improved framework became effective on 2 January 2019. However, the IndONIA was first issued on 1 August 2018 and replaced the overnight JIBOR on 2 January 2019. During the transition period, market actors were expected to become acquainted with the formation of the new overnight benchmark rate and the setting of the JIBOR under the new framework. Once this understanding was in place, the process for adopting the improved benchmark rates could then move ahead.

\(^4\) Full information on the changes introduced for benchmark rates is published in Bank Indonesia Regulation No. 20/7/PBI/2018 and Board of Governors Regulation No. 20/19/PADG/2018 concerning the IndONIA and JIBOR.
Box 6.2.
Provisions for Domestic Non-deliverable Forward Transactions

Domestic non-deliverable forward transactions (DNDF) are forward foreign exchange transactions with settlement conducted without full movement of funds. The sum due on settlement of the DNDF transaction is based on the differential between the DNDF price and the Jakarta Interbank Spot Dollar Rate (JISDOR) on the fixing date (two days before settlement). Calculations are made on a netting basis.

Importer companies requiring funds in foreign currency to pay for imports have two alternatives for hedging against the exchange rate: forward buying or DNDF transactions. If a company hedges using the DNDF, it will still have to buy foreign currency funds on the spot market to pay for the imported goods. For example, Importer A needs to buy USD100,000 six months in the future using a forward rate and the DNDF rate is assumed to be equal to that rate at IDR14,500 to the US dollar. Six months in the future, the actual JISDOR exchange rate is IDR15,200 to the US dollar (Figure 1).

DNDF transactions offer considerable flexibility in hedging if exchange rate movement is highly uncertain. By using the DNDF, hedging against exchange rate risk can be conducted in a tenor that is adjustable to future expectations without having to extend the hedging period to the time at which the payment of funds must be made. This flexibility enables users of hedging to benefit from greater cost efficiency in the fees they incur for hedging.

For example, Importer A plans to import raw materials six months in the future. In an internal assessment for the first half of 2018, the company forecasts that the rupiah exchange rate will be stable. In the outcome over time, the rupiah suffers steep depreciation in January 2018 and this trend continues to the end of February 2018 (Figure 2). The company is confident that the depreciation is only temporary, and that the rupiah will return to a level consistent with its forecast by the end of June. However, because of the risk that the rupiah exchange rate may not return to that level, in early March 2018 the company takes out a DNDF transaction in a 1-month tenor and awaits the outcome of further movement in the exchange rate. In mid-March 2018, the exchange rate begins to recover, and this movement continues until the DNDF reaches maturity in early April 2018. Consistent with its forecast that the rupiah will appreciate, the company does not take out another DNDF transaction and instead decides to perform a spot purchase at the end of June 2018. The costs of hedging incurred in this way are less than had the company immediately hedged in a forward transaction in early March 2018 with a 4-month tenor, at the time that the rupiah came under pressure.

Figure 1. Examples of Hedging Transactions Settlement with Forward and DNDF

<table>
<thead>
<tr>
<th>Transaction Date: 5 April 2018</th>
<th>Settlement Date: 5 October 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate A buys forward USD / IDR 6 month tenor from Bank B for USD 100,000 @ JISDOR 14,500</td>
<td>Spot: IDR14,255/USD</td>
</tr>
<tr>
<td>Transaction settlement based on fixing:</td>
<td>Spot: IDR15.100/USD</td>
</tr>
<tr>
<td>Spot: IDR14,250/USD</td>
<td>Forward rate 6 months: 105</td>
</tr>
<tr>
<td>On 2 April:</td>
<td>Spot: IDR15.400/USD</td>
</tr>
<tr>
<td>Corp A buys USD 100,000 @ JISDOR rate of IDR 15,400</td>
<td>Forward rate 6 months: 105</td>
</tr>
<tr>
<td>Forward rate and DNDF rate are assumed to be similar</td>
<td></td>
</tr>
</tbody>
</table>

Figure 2. Rupiah Exchange Rate Movement Simulation and Hedging Flexibility Using DNDF

Source: Bank Indonesia
The DNDF not only provides flexibility in hedging, but also serves as a hedging alternative for foreign investors who hold rupiah assets but do not want to be subject to the exposure of non-deliverable forward transactions (NDFs) conducted on offshore markets. NDFs on offshore markets have become one of the hedging instruments used by foreign investors in hedging their rupiah-denominated assets. However, NDF prices may be more volatile, with transactions conducted for many different purposes without the requirement of an underlying transaction. The higher volatility increases the difficulty of hedging. With the new DNDF instrument, however, foreign investors have another alternative for hedging. Volatility in DNDF prices will be less because DNDF deals require an underlying transaction, and because of the Bank Indonesia role in curbing rupiah volatility.

Bank Indonesia regulates DNDF transactions in Bank Indonesia Regulation No. 20/10/PBI/2018 dated 21 September 2018 concerning DNDF Transactions. DNDFs were introduced for two reasons: (i) the need for hedging instrument alternatives amid global uncertainties; and (ii) efforts to rein in fluctuating pressures on the rupiah exchange rate caused by hedging activities conducted offshore. If investors are exposed to offshore NDF rates, movement in NDF rates may be a trigger should they need to dispose of rupiah assets, with the cost of hedging weighing against the return on the assets. Situations such as this increase the vulnerability of the rupiah to disposal of rupiah-denominated assets. To reduce this vulnerability, Bank Indonesia facilitates hedging using the similar domestic instrument, the DNDF.

The regulation of DNDF transactions is aimed at increasing market activity in hedging transactions and thereby supporting rupiah stability. The availability of various hedging instrument alternatives on the domestic market is expected to strengthen the confidence of business actors and investors. The regulation of DNDF transactions is aimed at domestic banks, with an overarching requirement to uphold prudential principles in conducting transactions. The rules regulate: (i) the parties conducting transactions; (ii) obligations and requirements relating to underlying transactions; and (iii) settlement of transactions and transfer of rupiah.

In upholding prudence as a foremost consideration, Bank Indonesia established obligations and requirements relating to the underlying transaction of a DNDF deal. The requirement for existence of an underlying transaction applies to bank DNDF transactions with customers, but not for transactions conducted between banks. Settlement of DNDF transactions must take place in rupiah. Where DNDF transactions are conducted by foreigners, the rupiah proceeds from settlement of DNDF transactions may only be transferred out of Indonesia in foreign currency after a spot or forward transaction is carried out, backed by documents pertaining to the underlying transaction – the DNDF contract and proof of transfer of the settlement proceeds.
Box 6.3.

Promoting the Private Sector Role in Infrastructure Financing

The signing of infrastructure funding contracts in Bali in October 2018 is a statement of investor support and confidence in Indonesia’s infrastructure projects. The varied forms of financing agreements that were signed also attest to Indonesia’s progress in developing innovative forms of infrastructure financing. One such innovation was the launch by OJK of an infrastructure investment fund in the form of a collective investment contract. Similarly, there was also the signing of a sharia-compliant hedging facility, the first sharia hedging offered on the domestic sharia financial market.

The Government, Bank Indonesia and OJK, under the auspices of the FK–PPPK, contributed to efforts to promote the role of the private sector in infrastructure financing. On 11 October 2018, with support from the Ministry of State-Owned Enterprises and the FK–PPPK, financing agreements were signed by 12 state-owned enterprises on infrastructure projects worth a total of USD13.6 billion (Table 1). The agreements are for construction of infrastructure in nine sectors, and involve a variety of financing methods. This level of financing reflects the keenness of both domestic and foreign investors to invest in government infrastructure projects.

To promote the private sector role in infrastructure financing, the Government has adopted strategies, of which five are particularly pertinent. These strategies cover the phase for securing financing, the construction period and the point at which the infrastructure is completed and commences operation. In broad outline, the five strategies are:

The Government will provide funding assistance for infrastructure projects that are economically feasible but financially marginal in order to increase the project internal rate of return (IRR);

The project contractor will handle the land expropriation, with the Government reimbursing costs related to negotiation;

The Government will establish agencies to promote infrastructure development, including an agency to monitor national strategic projects (NSP) and accelerate construction of priority projects, the Center for Non-State-Budget Infrastructure Funding (PINA Center), the Public-Private Partnership Office and the Indonesia Infrastructure Guarantee Fund (IIGF);

Flexibility in managing cash flow during the concession period (for the limited concession scheme); and

The Government will improve regulatory procedures, including one-stop licensing for foreign investors.

The greatest challenge in infrastructure construction concerns identifying and improving bankability of a project so that it attracts private investors. The Government will continue to strive to prepare projects to international standards. This preparation will be thorough, and accurate feasibility studies will facilitate decisions about the financing model – whether it should be a public-private partnership or funded completely by the private sector. A project with a well-prepared

Table 1. Signing of Infrastructure Project Financing on 11 October 2018

<table>
<thead>
<tr>
<th>No.</th>
<th>Sector</th>
<th>Number of Project</th>
<th>Total Financing (USD million)</th>
<th>Type of Financing Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Aviation</td>
<td>2</td>
<td>900</td>
<td>partnership</td>
</tr>
<tr>
<td>2</td>
<td>Tourism</td>
<td>3</td>
<td>756.4</td>
<td>• partnership • loan</td>
</tr>
<tr>
<td>3</td>
<td>Highway</td>
<td>5</td>
<td>2,657</td>
<td>• DINFRA* - OJK’s effective statement • RDPT** Equity • loan</td>
</tr>
<tr>
<td>4</td>
<td>Manufacturing</td>
<td>2</td>
<td>285</td>
<td>partnership</td>
</tr>
<tr>
<td>5</td>
<td>Mining</td>
<td>2</td>
<td>1,170</td>
<td>partnership</td>
</tr>
<tr>
<td>6</td>
<td>Electricity</td>
<td>1</td>
<td>175</td>
<td>loan</td>
</tr>
<tr>
<td>7</td>
<td>Train</td>
<td>1</td>
<td>500</td>
<td>partnership</td>
</tr>
<tr>
<td>8</td>
<td>Energy</td>
<td>1</td>
<td>6,500</td>
<td>partnership</td>
</tr>
<tr>
<td>9</td>
<td>Airport</td>
<td>1</td>
<td>500</td>
<td>partnership</td>
</tr>
</tbody>
</table>

Source: Book of Signing, Indonesia Investment Forum 2018
Description: On October 11, 2018, a currency hedging transaction was also signed (FX hedging) of sharia worth USD 128 million.

* DINFRA stands for Infrastructure Investment Funds
** RDPT stands for Limited Participation Mutual Funds

1 This collective investment contract will be used to raise funds from the investing public. It will be predominantly invested in infrastructure assets (OJK Regulation No. 52/POJK.04/2017).
### Figure 1  
**Instrument Variations to Support Infrastructure Financing**

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Description</th>
<th>Advantages</th>
<th>Prerequisites for Development</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Asset-Backed Securities</strong></td>
<td>Strengthened special purpose vehicle (SPV) and tax regulatory harmonisation</td>
<td>Ease infrastructure companies balance sheet leverage burden</td>
<td></td>
</tr>
<tr>
<td><strong>2. Project Bonds</strong></td>
<td>Promote financing flexibility that accommodate infrastructure profile, for instance longer tenor and cash flow that accrued from project</td>
<td>- Lower coupon payments that commensurate characteristic of project cash flow while still provide return to investor - Debt to equity conversion precipitate lower leverage profile - Investors get return in early phase of project investment</td>
<td>Strengthened special purpose vehicle (SPV) and tax regulatory harmonisation</td>
</tr>
<tr>
<td><strong>3. Mandatory Convertible Bonds</strong></td>
<td>Refined regulation on project bonds issuance and strengthened credit enhancement scheme</td>
<td>- Convertible bonds provide a funding repayment structure adapted to project cash flow; (iv) accommodate any reluctance to carry exposure to exchange rate risk during repayment; and (v) allow for use of waqf funds for infrastructure project financing</td>
<td>Tax scheme enhancement and government support</td>
</tr>
<tr>
<td><strong>4. IDR-Linked Bonds</strong></td>
<td>Expand the global investor base without exchange rate risk exposure for issuers.</td>
<td>Robust tax scheme</td>
<td>Robust tax scheme and government support</td>
</tr>
<tr>
<td><strong>5. Infrastructure Investment and Real Estate Funds</strong></td>
<td>Provide flexibility to project originators to commission and rent infrastructure assets under construction.</td>
<td>- Lower coupon payments that commensurate characteristic of project cash flow while still provide return to investor - Debt to equity conversion precipitate lower leverage profile - Investors get return in early phase of project investment</td>
<td>Harmonisation of the tax regulations and education for the investors</td>
</tr>
<tr>
<td><strong>6. Green Bonds</strong></td>
<td>Target investors with a particular mandate seeking exposure to environmentally friendly (green) infrastructure projects.</td>
<td>- Lower interest rates on infrastructure financing from waqf funds.</td>
<td>Identification of green infrastructure projects and education for the investors</td>
</tr>
<tr>
<td><strong>7. Waqf-Linked Sukuk</strong></td>
<td>Optimize unproductive assets, e.g. waqf lands, as underlying sukuk assets.</td>
<td>- Coordinating collecting of waqf funds - Education for the public and Nadir on proper use of waqf funds in sukuk - Regulatory amendments.</td>
<td>Inventory of waqf assets and public education</td>
</tr>
<tr>
<td><strong>8. Sukuk-Linked Waqf</strong></td>
<td>Lower interest rates on infrastructure financing from waqf funds.</td>
<td>- Coordinating collecting of waqf funds - Education for the public and Nadir on proper use of waqf funds in sukuk - Regulatory amendments.</td>
<td>Inventory of waqf assets and public education</td>
</tr>
<tr>
<td><strong>9. Ijarah Asset to be Leased Sukuk</strong></td>
<td>Provides flexibility to project originators to commission and rent infrastructure assets under construction.</td>
<td>- Lower interest rates on infrastructure financing from waqf funds.</td>
<td>- Coordinating collecting of waqf funds - Education for the public and Nadir on proper use of waqf funds in sukuk - Regulatory amendments.</td>
</tr>
</tbody>
</table>

Bankability study will prove attractive to investors and will make it easier for them to carry out their own assessments on the financial outlook of an infrastructure financing arrangement. Measures will be taken to strengthen project bankability analysis, including measures on feasibility studies and standards for contracts and documents.

The future will bring further development of infrastructure financing innovations to meet the wide range of needs of issuers and investors. To support the financing of development that requires large-scale funding, Bank Indonesia, OJK and the Ministry of Finance, working together in the FK–PPPK, are developing financing instruments. Nine instruments offer the potential to support financing of infrastructure construction, among them sharia-compliant instruments (Figure 1).

The nine financing instruments have been prepared to accommodate the varied needs of issuers and investors. For issuers, innovations in financing instruments will: (i) reduce pressure from increased leverage on the company balance sheet; (ii) accommodate the tenor profile and cash flow of the company in the early stages of the project; (iii) provide a funding repayment structure adapted to project cash flow; (iv) accommodate any reluctance to carry exposure to exchange rate risk during repayment; and (v) allow for use of waqf funds for infrastructure project financing. For investors, innovations in financing instruments will accommodate their specific requirements for infrastructure assets, including for investors wanting exposure to environmentally-friendly infrastructure projects. The development of these nine potential instruments needs to be backed up with an efficient tax scheme and tax rates.

The outlook for infrastructure construction is one of steady improvement, given the efforts underway to innovate in sustainable financing. Awareness raising and education are also key in promoting the use of financing instruments. However, this is not only needed for investors; it is also important to raise the awareness of prospective issuers of financing instruments in order to promote the supply side. Given the improvements made in various areas that are preconditions for pursuing development of financing instruments, the financing instruments are now expected to accelerate the pace of infrastructure construction.