MOHAMAD FADHIL HASAN
Supervisory Board of Bank Indonesia, Indonesia

ACHMAD NUR HIDAYAT
Supervisory Board of Bank Indonesia, Indonesia

TUTUT DEWANTO
Supervisory Bank of Indonesia, Indonesia

STRENGTHENING THE ROLE OF MACROPRUDENTIAL POLICIES TO SUPPORT A SUSTAINABLE DEVELOPMENT. THE CASE OF INDONESIA

Abstract:

The external pressures on the domestic economic stability has prompted Bank Indonesia to focus on its monetary policy on the exchange rate measures. However, as part of the policy mix, the stance of monetary policy has been balanced with accommodative macroprudential policies to continue providing its support for the economic growth. Even though they have different targets and in their implementation there are potential conflicts that may occur when we try to achieve the objectives of both policies, the central bank deems a monetary policy and macroprudential policies to be complementary policies. This situation will provide a space for the macroprudential policies to encourage some kind of bank intermediation and to spur a credit growth. A policy support is needed to accelerate the credit growth to achieve its economic financing targets in the next 5 years, namely at 16% yoy.

This study was aimed at identifying proper recommendations on the macroprudential policies such as encouraging a credit growth that included easing Loan to Value (LTV) ratios, targeting sectoral credit, easing the Macroprudential Intermediation Ratio (MIR), decreasing the Macroprudential Liquidity Buffer (MLB) ratios, easing the counter cyclical capital buffer (CCB) requirements, and strengthening coordination with other government agencies.

Keywords:

Macroprudential policy, monetary policy, credit growth, loan to value ratio, coordination, sustainable economic growth, targeted sectoral lending

JEL Classification: E02, E00, E58

1. INTRODUCTION

Macroprudential policies put forward the principle of prudence (Nier, 2013). Macroprudential policy is a policy designed to mitigate a systemic risk in the financial system deriving from both pro-cyclical behaviors and the interconnection among actors in the financial system (Lim, 2011).

A macroprudential policy prioritizes prudence aspects against economic actors' recent excessive behaviors that may endanger the financial system stability. The timing selection of policy implementation is one of the key factors for the successful implementation of such policy. Academicians and policy makers place macroprudential policies and monetary policy as complementary policies. Even though they have different targets and in their implementation there are potential conflicts in achieving the objectives of both policy, the central bank places monetary policy and macroprudential policies as interdependent policies.

Indonesian Central Bankers have introduced the concept of policy mix. It is a policy perspective on the linkages between the monetary stability and financial stability, including its dynamic interactions, source of pressures, policy strategy, and institutional implication. Bank Indonesia's policy mix is carried out through a mixed combination of monetary policy, macroprudential policy, payment system policy and financial market deepening policies.

Macroprudential policies in this policy mix play such a strategic role in supporting a sustainable economic growth. On the one hand, macroprudential policies are aimed at maintaining the financial system stability. On the other hand, accommodative macroprudential policies may be employed to boost an under-capacity of the financial condition. For instance, by March 2019, the business cycles and credit cycles were still below the optimum level. These facts show us that intermediation banking may still be improved without disrupting the financial system stability.

In the long run, there is potential occurrence of the middle income trap in Indonesia's economy. It is necessary to ensure that Indonesia may get out of the trap. Implementations of structural of economic reforms are expected to accelerate Indonesia's economic growth, so Indonesia will have been expected to become a high-income country by 2040.

This study was aimed at identifying proper recommendations to strengthen the roles of macroprudential policies in the context of policy mix to support a sustainable economic growth. Firstly, this paper identified the current situation of Indonesia's business and financial cycles related to the macroprudential policies including the development of intermediation banking industry, credit growth, banking performance and liquidity situations.

Secondly, this paper analyzed alternative macroprudential policy tools aligned with the tools used by the monetary policy, system policy payment and financial market deepening policies such as easing Loan to Value (LTV) ratios, targeting sectorial credit, easing Macroprudential Intermediation Ratio (MIR), decreasing Macroprudential Liquidity Buffer (MLB) ratios, easing counter cyclical capital buffer (CCB) requirements, strengthening the coordination with other government agencies. The analysis employed a well-related literature method of macroprudential policies and those related to the central bank's policy mix. The integration approach was intended in order that the ultimate objectives of the policy options were maintaining the price stability and financial stability and continued to achieve a sustainable economy growth.

## 2. ROLES OF MACROPRUDENTIAL POLICY TO SUPPORT A SUSTAINABLE ECONOMIC GROWTH

The 2008 global financial crisis emphasized the importance of macroprudential policies. That financial crisis gave us a lesson in regards to the importance of the relations between macroeconomics and the interlink financial sectors. At the policy level, the G20's leaders asked Financial Stability Board (FSB), IMF, and Bank for International Settlements (BIS) to develop a macroprudential policy framework to prevent systemic risk from occurring in the financial sector (FSB, IMF, BIS, 2011).

Macroprudential policies are closely related to systemic risk. Various international institutions have defined the term macroprudential policies. The International Monetary Fund (IMF) defines macroprudential policy as a policy that utilizes prudential instruments to limit systemic risk (Nier and Osinski, 2013). Lim, and Columba (2011) stated that macroprudential instru-

ments are typically introduced with the objective of reducing systemic risk, either over time or across institutions and markets.

Furthermore, Gelati and Moessner (2011) define policy macroprudential as a policy that aims to limit risk and systemic crisis costs. European Systemic Risk Board or ESRB (2013) defines macroprudential policy as a policy intended to maintain the overall financial system stability, including by strengthening financial system resilience and reducing accumulation of systemic risk, thus ensuring continued contribution financial sector in economic growth.

Chart 1. US Business and Financial Cycles. How does one instrument target two cycles?
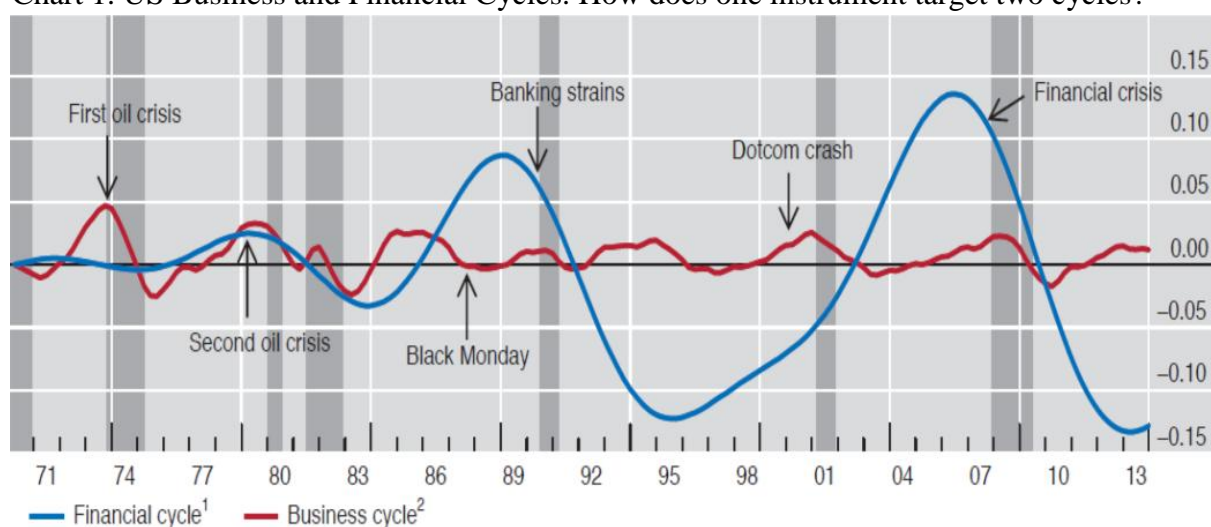
Sources: BIS Annual Report (2014) and Borio (2010). The financial cycle in US as measured by frequency-based (bandpass) filters capturing medium-term cycles in real credit, the credit-to-GDP ratio and real house prices. The business cycle in US as measured by a frequency-based (bandpass) filter capturing fluctuations in real GDP over a priode from one to eight years.

There are both business cycle and financial cycle that have their own dynamics. However, once the double-whammy of a financial crisis and a business cycle recession has hit simultaneously, It seems that conventional policy responses may not work well (Borio, 2012). The peaks of the financial cycle are correlated with financial crises. When a business cycle recession happens at the same time as the contraction part of a financial cycle, the recession is about 50% deeper (chart 1). It is easy to point to financial crises, but it is harder to show convincingly that an earlier financial boom is the cause of the crisis.

The main element of macroprudential policy is systemic risk. Various literature refers to macroprudential policies as policies intended to mitigate systemic risk. In this case, systemic risk is defined as the risk of disruption to the provision of financial services caused by the malfunction of all or part of the financial system, and can have a negative impact on the economy.

Macroprudential policies are aimed at addressing systemic risk which comes from the time dimension and cross section. Nier's and Osinski's (2013) formulating goals from macroprudential policies are as follows: (1) increasing the resilience of the financial system to aggregate shocks, by building buffer that can absorb the impact of shocks and help maintain ability of financial system to provide credit to the economy under adverse conditions; (ii) to contain the build-up of systemic vulnerabilities of financial system by reducing the procyclical feedback between credit and assets prices and containing unsustainable increases in leverage and volatile funding; (ii) mitigating fertilization in vulnerability of financial system due to the relationship between financial institutions (chart 2).

Char 2. Macroprudential Policy Tools and Transmission

Sources.
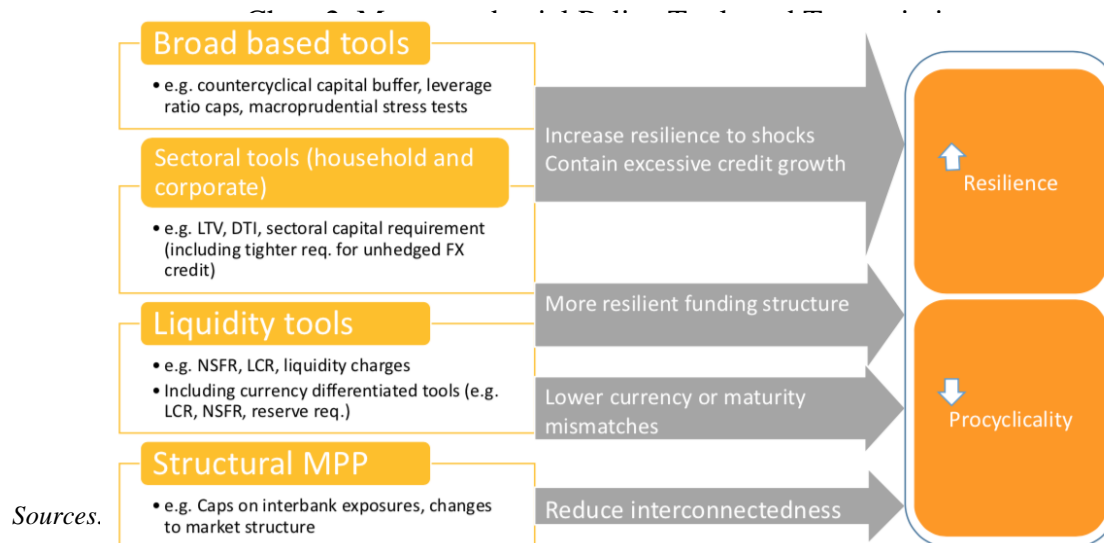
In Indonesia, the central bank is authorized to make macroprudential policies.. The macroprudential authority is explicitly stated in Law Number 21 of 2011 concerning the Financial Services Authority (OJK Law). According to that Law, Bank Indonesia's macroprudential authority is regulated in explanation of Article 7 of the OJK Law stating the scope of macropru-

dential regulation and supervision, constituting the duties and authorities of Bank Indonesia, while the micro-prudential regulation and supervision are OJK's main responsibilities.

Macroprudential policies in Indonesia have broader objectives.

Bank Indonesia published Bank Indonesia Regulations (PBI) No.16/11/PBI/2014 dated July 1st, 2014 concerning the Macroprudential Regulation and Supervision. Based on that Regulation, the objectives of the arrangement and Macroprudential supervision includes 3 (three) goals.

The first goal is to prevent and reduce systemic risk. In this case, systemic risk may create potential instability due to contagion in part or all of the financial system, as well as behavioral tendencies excessive procyclicality of financial actors or institutions (behavior to follow the business cycle). The second goal is to support the effective and balanced intermediation function. This is reflected in the creation of the optimal credit growth taking into account the business and financial cycles, so they will be able to support a sustainable economic growth. The third goal is to increase the efficiency of the financial system and financial access. Expansion of financial services for all levels of society and increasing fair competition will result in reducing intermediation costs and improving people's welfare (Harun and Rachmanira, 2015).

The operational framework for macroprudential policies is a reference in the exercise of authority. The existence of an effective framework for monitoring systemic risk is the key to the success of operations macroprudential policy (Nier and Osinski, 2013). In carrying out macroprudential field, Bank Indonesia has a framework focused on efforts to create the financial system stability. That matter is manifested through 4 (four) pillars, namely: (i) identifying the early warning indicator of systemic risks and mitigated them; (ii) minimizing the financial imbalances so that supporting a balanced and effective intermediation function; (iii) more efficient financial system and (iv) increasing financial access to population and MSMEs. In the macroprudential context, increasing access to population and MSMEs is needed in relation to systemic risk mitigation since the Indonesian financial system is still concentrated among corporate sectors and middle-high income societies.The effectiveness of such macroprudential policies is influenced by the instrument design, timing, communication and policy evaluation (Harun and Rahmanira, 2015).

First, timing of formulation and implementation macroprudential policy. The timing depends on the ability to identify and measure the sources of systemic risk properly, which is adjusted to the financial cycle and the results of the stress test. CGFS (2012) estimates the impact of implementation of macroprudential policy which can be too fast or too slow causing unnecessary regulatory costs, reducing the impact policies that are intended consequences, and potentially give wrong signal to economic entities (Table 1).

Table 1. High-Level Scenarios for the Activation and Release of Macroprudential Policy Instrument

		Financial cycle		
		Boom	Bust	
			With crisis	Without crisis
Other macroeconomic conditions	Strong	Tighten (Scenario 1)		Leave unchanged or release (Scenario 4)
	Weak	Leave unchanged or tighten (Scenario 2)	Release[2] (Scenario 3)	Release (Scenario 5)

Sources: CGFS (2012)

Table 2. Impact of Timing on the Implementation of Macroprudential Policy Instrument

Activation MPI	Too Early	• raises unnecessary regulatory costs • reduce the effectiveness of intended consequences
	Delay	• reduce effectiveness • initiate the disorderly unwinding of imbalances
Deactivation MPI	Too Early	gives a wrong signal to the markets
	Delay	Amplifying procyclicality impacts

Sources: CGFS (2012)

In general, macroprudential policy instruments (MPI) work through strengthening resistance to the exposure restrictions. ESRB (2013) recommends that in the macroprudential context, it is possible to make some adjustment above micro-prudential instruments, such as macroprudential adjustment to liquidity ratio (LCR), macroprudential restrictions on funding sources (NSFR), and macroprudential aspects of unweighted limits to less stable funding (LDR) (table 3). In relation to this matter, coordination between the Central Bank and the Financial Services Authority needs to be established to strengthen the effectiveness of interventions.

Table 3. The time and cross-sectional dimensions

Sources: Carreras, 2016

Instruments of macroprudential policy could be classified into 3 (three) groups according to the time dimension and cross-sectional dimension. First, instruments employed to manage capital resilience and prevent excessive leverage. In this case, such instruments are counter-cyclical capital buffers, dynamic provisioning, sectorial capital arrangements and macpropru-dential leverage ratio. Second, instruments employed to manage asset resilience, intermedia-tion function and controlling credit, liquidity risk, exchange rate risk, and other risks that have the potential to be systemic risks. these instruments include loan to value ratio (LTV), loan to income ratio (LTI) and debt to income intermediation ratio. Third, instruments employed to manage liquidity resilience such as Macroprudential Liquidity Buffer (MLB), macroprudential aspects of liquidity coverage ratio (LCR) and net stable funding ratio (NSFR), as well as macroprudential aspects against foreign loans, and hedging loan.

Lim et al (2011) cited 10 macroprudential instruments for the management of procyclicality and systemic risks relating to exposures of credit, liquidity and capital. For procyclicality in credit, the instruments included loan-to-value (LTV) ratios, debt- to-income (DTI) ratios and limits on credit growth in certain sectors. For foreign exchange exposures, instruments such as net open positions (NOP), limits on foreign exchange credits, or regulations on hedging and maturity of foreign exchange debts could be adopted. For liquidity, reserve requirements were generally chosen and calibrated according to the evolving liquidity condition. Mean-while, instruments to strengthen capital in withstanding procyclicality and systemic risks in-cluded countercyclical capital buffers, regulations on allowances for non-performing loans according to credit procyclicality risk dynamics, and regulations on remuneration and profit distribution.

Galati and Moessner (2014) classified macroprudential instruments according to the types of risks, such as leverage/credit boom/asset bubbles risks, liquidity/market risks, and intercon-nectedness/market structure risks, and according to risk dimensions, such as whether dynami-cally across time or statically across sectors. The first type of risk was generally addressed by dynamic across-time instruments to mitigate emerging procyclicality, for instance LTV ratios and countercyclical capital buffers. For liquidity/market risks, dynamic instruments coud be applied, such as loan-to-deposit ratios (LDR) and additional liquidity requirements for sys-temic banks, or static instruments such as additional capital for derivatives and levies on non-

core liabilities. Meanwhile, for interconnectedness and market structure risks, cross-sectional static instruments were applied, such as higher liquidity and capital requirements for systemic banks or surcharges on deposit insurance premiums for systemic risks.

Table 4. Macroprudential Instruments Implemented in Indonesia

No	Tool	Objectives	Description
1	Limit on **Loan to Value/LTV** and Financing to Value/**FTV** for Mortgage Lending	To contain excessive credit growth in the mortgage lending segment, and to dampen excessive housing price increase. However, in order to support economic growth by promoting more credit intermediation (in line with maintaining financial stability), BI has relaxed the limit since 2015.	Set the limit on LTV/FTV for consumer loan on residential properties (mortgage lending) at 85%–90% for the first mortgage lending facility, 80%–90% for the second mortgage lending facility, and 75%–85% for the third onward mortgage lending facility. The regulation is only applicable to banks with net NPLs for total loan and gross NPLs for property loan/financing below 5%, respectively. The measure excluded mortgage lending for properties used as home office/shop house and properties under the government housing program. Since it was introduced in 2012, BI has already changed the formulation of the LTV/FTV for mortgage lending 3 (three) times, either tightening/easing.
2	Limit on Down Payment (DP) for Automotive Loan	To contain excessive credit growth in the auto loan segment. However, to stimulate domestic demand in order to drive domestic economic growth momentum, BI has relaxed the DP since 2015.	Set the minimum level of down payment (DP) for auto loans/financing: (i) 20% for two-wheeled vehicles, (ii) 25% for three or more-wheeled vehicles for non-productive use, and (iii) 20% for three or more-wheeled vehicles for productive use. The measure is only applicable to banks with NPLs total and NPLs for auto loan/financing below 5 (gross), respectively. Since it was introduced in 2012, BI has already changed the formulation of the DP for automotive loan 3 (three) times, either tightening/easing.

3	**Loan to Funding Ratio (LFR)** linked Reserve Requirements	To support economic growth by promoting more credit intermediation and to expand the source of bank's funding and the deepening of financial market. Previously, BI used loan to deposit ratio (LDR) linked RR. It was expanded to LFR by including limited Bond Issuance as part of bank funding	Set the LFR-linked RR range: 78%–92%. Banks with a LFR below the lower limit will face an additional 0.1 RR from rupiah funding for each 1% short of the target, and an additional 0.2 RR from rupiah funding for each 1% above of the target with CAR below 14%. However, incentives upper limit of 94% were applied for banks that fulfil certain criteria: (i) allocation of loans to Micro Small Medium Enterprises (MSMEs) per BI Regulation no 14/22/PBI/2012; (ii) total NPLs below 5% of total loans; and (iii) NPLs to MSMEs below 5% of loans to MSMEs. BI raised the floor on the RR-LFR from 78% to 80%, with the ceiling maintained at 92%. (LFR range: 80%–92%).
4	**Countercyclical Capital Buffer (CCB)**	Preventing systemic risk arises from excessive credit growth (procyclicality).	Implementation of CCB policy effective from January 1 2016 with initial rate 0% which will be evaluated at least every 6 months. During 2016, evaluation had been done on May and November. Both evaluations determine CCB rate remained 0%.
5	**Macroprudential Intermediation Ratio (MIR)**	The arrangement instrument for managing the intermediation function and controlling credit, liquidity risk, exchange rate risk, and other risks that have the potential to be systemic risk	Since being implemented in July 2018, banks have consistently been able to meet MIR's requirements. In April 2019, MIR the banking industry reached 92.44%, an increase compared to December 2018 which was recorded at 90.16%. However, if viewed individually, there are 41 banks or around 36% of banks that cannot meet the requirements. now all Bank have MIR was below the lower limit of the MIR's provisions, which is 84%.
6	**Macroprudential Liquidity Buffer (MLB)**	the arrangement instrument for managing the intermediation function and controlling credit, liquidity risk, exchange rate risk, and other risks that have the potential to be systemic risk	In November 2018, Bank Indonesia has tighted the MLB flexibility options from 2% to 4%. In other words, all Marketable securities (SSB) used to fulfill MLB can be repurchased to Bank Indonesia
7	**Targeted Sectoral Credit**	Maintaining performance of MSMEs credit growth	Instruments to improve efficiency of finance system and financial access for population, including regulation of requirements transparency (disclosure) of credit base rates and MSMEs credit ratio.

Macroprudential and Monetary Policies Have Different Targets

Monetary policies are aimed maintaining the price stability, while macroprudential policies are aimed at maintaining the financial system stability. In this case, the implementations of monetary policy at Bank Indonesia are still based on the framework of the inflation targeting framework (ITF) to achieve the predetermined inflation target.

Furthermore, policies maintaining the exchange rate stability are consistently carried out to support the achievement of the inflation target and the overall macroeconomic stability, including the management of foreign capital flows and current transactions (Warjiyo and Juhro, 2016).

On the other hand, macroprudential policies are aimed at achieving stability of financial system, which is defined as the condition in which the financial system can function well in the economy, and possess self-resilience to various shocks that may occur (Mishkin, 1999).

Bank Indonesia's Macroprudential policy is defined as a condition that allows the national financial system to function effectively and efficiently and to be able to withstand internal and external vulnerabilities, so the allocation of funding or sources of funding can contribute to the economic growth and stability. The ultimate objectives of macroprudential policies according to Bank Indonesia are (i) to prevent and reduce systemic risk; (ii) to support a balanced and effective intermediation function; and (iii) to increase efficiency and financial access to population.

4. OVERVIEW OF BANK INDONESIA'S POLICY MIX AND INDONESIAN FINANCIAL CYCLES

The conceptual dimensions of Bank Indonesia's policy mix

Bank Indonesia's policy mix is a concept of the central bank's policies including the integration of price stability and financial system stability, the mix of policy instruments used and the transmission mechanisms.

The 2007-2008 global financial crisis (GFC) have shown us that monetary policy alone is insufficient to maintain macroeconomic stability. The GFC posed challenges for the monetary authority to pay closer attention not only to price stability but also financial system stability.

This implies that, in order to achieve adequate preconditions, monetary policy should be accompanied by macroprudential policies and other policy measures, known as the "policy mix". This new kind of a central bank's policy strategy has, thus far, effectively mitigated the risks triggered by dynamics in the external and domestic financial sectors in order to maintain the macroeconomic and financial stability (Warjiyo, 2017). The effectiveness degree of this new kind of policy, however, depends on the central bank's ability to respond appropriately without neglecting domestic and external circumstances, such as domestic economic characteristics, the depth of financial markets, exchange rate and foreign-exchange regimes, global economic and financial development and the outlook. Such concept was instituted by Bank Indonesia as a new paradigm initiated in 2010, encompassing the targets and instruments, formulation of the interest rate, exchange rate and macroprudential policy along with foreign capital flow management as well as strengthening institutional arrangements and coordination with the Government and other relevant authorities.

Table 5. Policy Mix: Relationship between risk on Price and Financial System Stability

Policy Mix (Rule of Thumb)		Risk on Price Stability	
		Low	High
Risk on Financial System Stability	High	**Quadrant II**	**Quadrant IV**
		• Monetary Neutral/Leaning	• Monetary Tight
		• Macroprudential Tight	• Macroprudential Tight
	Low	**Quadrant 1**	**Quadrant III**
		• Monetary Neural/loose	• Monetary Tight
		• Macroprudential Neu-	• Macroprudential Neu-

Source: Warjiyo and Juhro (2017)

It is necessary when Bank Indonesia formulates a policy mix to consider risk assessment on the price and financial system stability. Warjiyo and Juhro (2017) have suggested that there are four combination possibilities of risk of the price stability and financial system stability, which could be a general guideline for implementing the policy mix.

In a condition where the price stability is stable (inflation is in the band's target) and has a low credit growth (Quadrant I), policy makers can be accommodative and accommodate macroprudential and monetary policies. In this condition, the implementation of monetary policies initiating the decreased interest rates may be accompanied with easing a macroprudential credit-based policy, such as LTV. There are situations where the inflation rate is low, while the credit growth is high (Quadrant II); therefore, the policy response should be mitigating the negative impacts of the credit procyclicality on macroeconomics. The central bank may tighten macroprudential policies, for example, by reducing the LTV's cap. Meanwhile, monetary policy should be neutral or accommodative, through a fixed or down interest rate. This is aimed at balancing the macroprudential policy tending to be tight. In the case of a high inflation pressure, for example, due to the pressure from the increase of administered prices, while at the same time there are low credit growths (Quadrant III), the central bank may conduct an accommodative macroprudential policy to support growth such as by easing the LTV policy,

and from the side of monetary policy, there should be a tight monetary policy such as by applying high interest rates. Quadrant IV, the tightening of both the monetary and macroprudential stances, is implemented during a high price stability pressure, for instance, when the inflation rate exceeds the set target, while in line with the credit growth accelerates (Table 5).

Overview of Bank Indonesia's Policy Mix since 2010

Since 2010, Indonesia's experience has shown us that the current central bank's policy mix has been superior to the standard inflation targeting framework relying solely on interest rates. Since the global crisis, three episodes have provided evidence to support this case. They are as follows: First, from 2010 to the Fed tantrum in May 2013. Second, from the Fed taper tantrum to mid 2015s.Third, from mid 2015s onwards. During the first period, Indonesia benefited from favorable global spillovers, particularly high commodity prices and a surge in capital inflows (Warjiyo (2013b)). The economic growth peaked at 6.5% in 2011 and slightly moderated to 6.3% in 2012. The inflation reached a historical low of 3.8% in 2011, below even the lower bound of the 5%±1% target at that time. Indonesia also received large capital inflows, driven by global excess liquidity and the promising economic outlook. This lifted the exchange rate, which was also supported by the favorable current account surplus from high commodity prices. The challenge was how to mitigate the build-up in systemic risk as bank lending growth reached 23% annually during the 2010–2012 period (Warjiyo, 2017). This is the case of QUADRANT II in Table 5, where the risks to price stability are low, while those to financial stability are high.

Consistent with the inflation targeting framework, the central bank conducted a monetary leaning by cutting the policy rate by 75 bps from 6.5% in 2010 to 5.75% in 2012 (table 5). The situation was then reversed. Large capital reversals immediately followed the surprise Fed taper announcement, running over the months of May to August of 2013. The sudden reversals from both government bonds and equity markets in such a short period created herding behavior that put both monetary and financial stability at risk. The problem was aggravated by the widening current account deficit, which peaked at 4.4% of GDP as exports fell due to plunging global commodity prices while imports continued to increase on strong domestic demands. Inflation surged to 8.4% in 2013 as the government raised the fuel price in

July 2013 and to 8.3% in 2014 as the fuel subsidy was removed in October 2014. Meanwhile, bank lending growth was still high at 21.4% in 2013. This is the case of the QUADRANT IV, where risks to both price and financial stability are high. The central bank swiftly responded to stabilize the situation, raising the policy rate and tightening macroprudential measures. Indonesia was among the first central banks to raise its policy rate in the aftermath of the taper tantrum. The Bank increased its policy rate by 25 bp in June 2013, and then aggressively raised it consecutively in the following months for a total of 175 bp to 7.50% within the six months to November 2013. The primary objective was to pre-emptively contain the inflation pressures stemming from the fuel price hike. The aggressive move also served to slow down domestic demands to reign in the current account deficit. The timing of the decisions reflected the need to respond to the capital reversals. The bold and aggressive response sent a strong and clear signal to the market on monetary policy credibility.

The bold monetary policy adjustments paid off. Market confidence was quickly restored, and capital inflows resumed from the end of 2013 and continued throughout 2014. Macroeconomic and financial stability remained intact. In fact, inflation came down from 8.3% following the subsidy reform in 2014 to 3.3% in 2015 and the current account deficit quickly narrowed from 3.3% to 2.0% of GDP during the same period. This is the case of the first quadrant, in which the risks to both price and financial stability are low. Nonetheless, the economic growth slowed from 5.2% in 2014 to 4.9% in 2015, and bank lending growth was tight at about 10%. With stability assured, the central bank was able to cut the policy rate six times by a total of 150 bp during 2016 to its current 4.75%, following the successful reformulation of the policy rate from the 12-month BI-Rate to the seven-day (reverse) repo rate. Reserve requirements were also lowered by 50 bp in November 2015 and again by 100 bp to 6.5% in February 2016. We believe that the monetary easing will reinforce the fiscal stimulus, supporting the economic growth with inflation contained at 3.0% in 2016 or at the lower bound of the target range of 4±1%. Together with accelerated structural reforms, Indonesia's economic growth will be around 5.0% in 2016 and should increase to 5.1–5.4% in 2017.

In Macroprudential approach, by comparing optimal versus actual lending growth, BI may determine where excessive lending occurs and assess the build-up of systemic risks. Analysis of the procyclicality of bank lending is helpful in determining the timing of countercyclical measures. This is the approach that we applied when introducing LTV ratios averaging about

70% to auto and property lending in 2012. As discussed above, while price stability remained under control, we faced a build-up of risks to financial stability as bank lending growth was rapid during this period. To strengthen the adjustment needed to ensure macroeconomic and financial stability following the Fed taper tantrum, we then tightened the LTV ratio on property lending in 2013, especially on mortgages for second or subsequent homes, or on purchases of certain types of housing and apartment. The measures were also complemented by supervisory actions vis-à-vis banks that we viewed as exhibiting excessive lending behaviors. We note that the formulation and implementation of macroprudential measures require detailed and complex analysis and calibration, as well as the need for clear communication to the banks and business community. BI's experience shows that the macroprudential measures and supervisory actions have helped to reinforce the effectiveness of the monetary transmission mechanism and to support financial system stability (Purnawan and Nasir (2015), Wimanda et al, (2012, 2014)). Even though lending growth increased in the period prior to the implementation of these measures, probably because banks and their customers wanted to utilize the interim period, it fell substantially in a relatively short period subsequently (Graph 1). Subsequently, we relaxed our macroprudential measures by raising the LTV ratio by an average of 10% in June 2015 and again in August 2016 by an average of 5%, 10% and 15% for the first, second and third mortgages.

Chart 3. LTV and Property Credit Growth 2011-2016
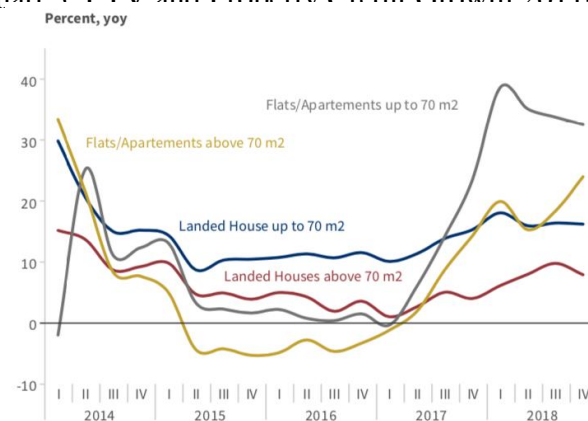
Source: Bank Indonesia, 2019

Chart 4. Indonesian Financial Cycles (1993-2018)
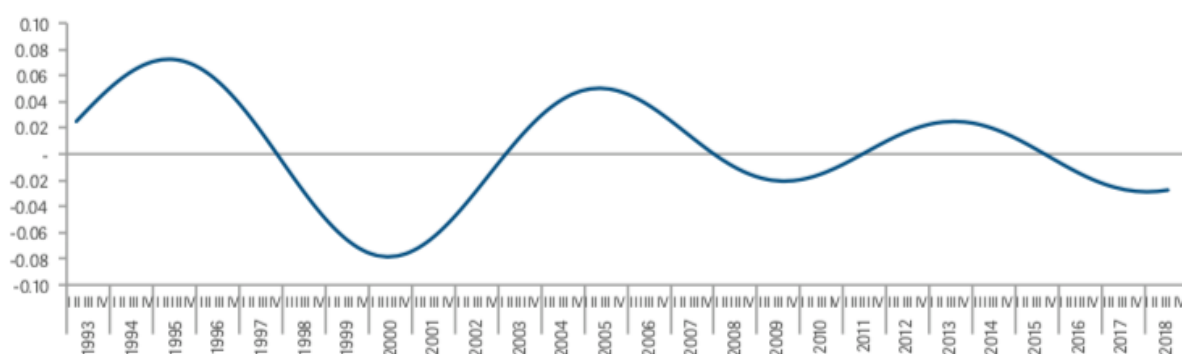
Source: Bank Indonesia, 2019

As discussed above, our assessment on risks to both price and financial stability were low, lying in the QUADRANT I. Nonetheless, the use of interest rate policy was constrained during that time due to uncertainty about the federal fund rate increase. Accordingly, we started our easing policy stance by relaxing macroprudential measures in June 2015, only then followed with policy rate cuts from January 2016.

The strategic policy mix until the end of 2016 included rate cuts policy, lower reserve requirements, and relaxed macroprudential measures, together with an accelerated fiscal stimulus and structural reforms. Such policy mix was aimed at reinforcing one another to deliver better economic prospects for Indonesia, in terms of both higher economic growth and enhanced macroeconomic and financial stability. BI's experience since 2010 to 2016 has shown us that the new approach has proven superior to the standard inflation targeting framework. Closer coordination with the government and its related agencies has also been strengthened, not only to promote financial system stability, but also to further macroeconomic policy and structural reforms.

Current Indonesian Financial Sectors

Macroprudential policies to facilitate intermediation functions need to consider what kind of design's instrument is required and when will be the timing of policy implementation. In this case, the financial cycle phase is a factor mainly taken into consideration in the activation or de-activation of the macroprudential policy instruments. In accordance with the financial cycle, the current Indonesia's financial situation has entered an expansion phase; however, it is still below the optimum balance point. Therefore, there is space for macroprudential policies to increase a bank's intermediation.

In March 2019, the total financing of Indonesia's economy was Rp 6,743 Trillion; it grew for 10.7% (yoy). The sources of domestic financing were banks, financial institutions, and capital markets. The major contributor to financing the economy was banking sectors (72.8%). In same period, bank credits reached Rp 5.291,2 Trillion or accounting for 35.0% of GDP. Compared to that of the previous year, the rate of credit growth was 11.54% (yoy); it increased compared to the growths in December 2017 and December 2018 each of which was recorded at 11.75% (yoy) and 8.24% (yoy) respectively (Table 6).

Table 6. Bank Credit Growth

Credit (all)	Dec 17	Apr 17	Dec 18	Apr 19
Nominal (IDR Trillion)	4738	4778	5295	5306
YOY (%)	8.24	8.94	11.75	11.05
YTD (%)		0.85		0.21
Contribution (%)	72.33	71.95	72.91	72.76

Sources: Bank Indonesia

In general, non-banking sectors, especially the capital markets, tends to play an increasing role despite the fact that their contribution was still quite small (13.26%). In February 2019, the capital markets in the forms of the issuance of shares (IPO and rights issues) were recorded at Rp 675 Trillion or accounting for 4.4% of GDP. Compared to that of the previous year, financing economy through IPO and rights issues recorded a 6.55-percent (yoy) growth in April 2019. In the midst of a depressed market condition due to the negative sentiment of the global economy in 2018, the growth rate of financing through the capital market showed a decline compared to that of 2017, which recorded a 14.86-percent annual growth (Table 8).

On the other hand, funds from the multi-finance company tends to decrease. Sources of funds from non-bank financial institutions, especially the State-owned finance company, Perusahaan Pembiayaan (PP) shows a trend of slowing growth. In April 2019, PP growth rate was 5.17% (yoy); it was lower than that of December 2017 amounting to 7.05% yoy (Table 8).

The growth of financial technology (*fintech*) start-up was rapidly increasing. In March 2019, the growth of financing through peer to peer lending was recorded higher than that of bank growth, which amounted to 54.37% (qtq). Even compared to the same period the previous year, financing through *fintech* was recorded to grow 5 (five) times as much (around 500%) (Table 8).

Table 7. Mortgage Growth

Credit (all)	Dec 17	Apr 17	Dec 18	Apr 19
Nominal (IDR Trillion)	89	92	98	102
YOY (%)	9.55	9.16	9.33	10.09
YTD (%)		3.90		4.56
Contribution (%)	1.48	1.52	1.46	1.51

Sources: Bank Indonesia

Tabel 8.Capital Market, Multifinance and Total Financing Economy

Capital Market	Dec 17	Apr 17	Dec 18	Apr 19
IPO (Initial Public Offering) & Right Issue				
Nominal (IDR Trillion)	631	653	668	675
YOY (%)	14.56	13.20	5.80	6.55
YTD (%)		0.27		0.98
Corporate Obligation				
Nominal (IDR Trillion)	160	167	175	180
YOY (%)	38.62	42.03	9.65	7.85
YTD (%)		4.65		2.95
Medium Term Notes (MTN)				
Nominal (IDR Trillion)	27	35	44	46
YOY (%)	106.58	125.01	64.84	29.16
YTD (%)		31.32		2.89
Total Capital Market				
Nominal (IDR Trillion)	818	836	888	901
Contribution (%)	13.51	13.63	13.21	13.26
Others (Fintech, Multifinance, Non-Finance Company (PP), Pawnshop)				
Nominal (IDR Trillion)	619	629	655	682
Contribution (%)	10.21	10.56	10.05	10.05
Total Financing Economy				
Nominal (IDR Trillion)	6055	6131	6720	5299
YOY (%)	9.79	10.27	10.97	10.46
YTD (%)		1.25		0.79

| Contribution (%) | 10.43 | 10.40 | 9.94 | 9.94 |

Sources: Bank Indonesia

5. POLICY ALTERNATIVE

Indonesia's financial cycle entered an expansion phase, but still has room for increased inter-mediation. In March 2019, Indonesia's financial cycle is estimated has passed the trough point and entered the expansion phase (Chart 4, 5 dan 6). This cyclewas in line with the in-creased development of credit growth, especially since the beginning of 2018. However, the Indonesia's financial cycles is still below its long-term trend, so that the strengthening of ma-croprudential policies is needed to support banking intermediationfunctions (Tabel 9).

The direction of accommodative macroprudential policyis expected to continue until 2021, before entering the built up macroprudential risk (stability).

Chart 5. Illustration Macroprudential Policy Activation/De-Activation
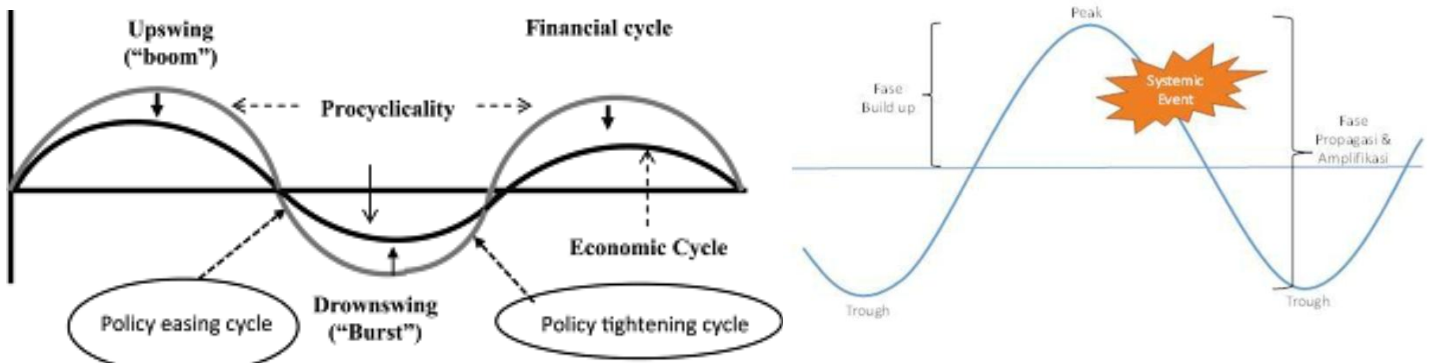

Sources: Harun and Rachmanira, 2015

Macroprudential Policy Options: Pre-requisite time and cross-sectional dimension

Macroprudential policy to support intermediation pre-requisites timing of implementation. In this case, the phase of the financial cycle is a factor main consideration in the activation and de-activation of instruments macroprudential instrument. With the financial cycle that has entered the expansion phase, but still below the optimum balance point, there is space for ma-croprudential policies to strengthen bank credit growth (Chart 6a and 6b).

Chart 6. Credit/GDP Ratio G...
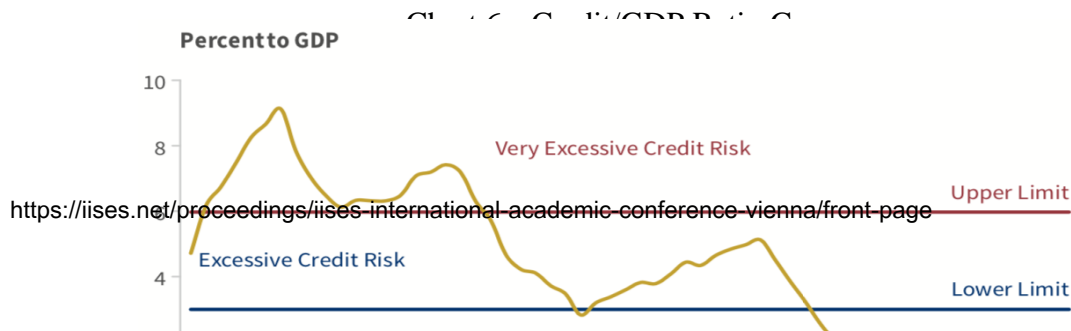
Sources: Bank Indonesia

Chart 6b. Index Indonesia's Financial System Stability
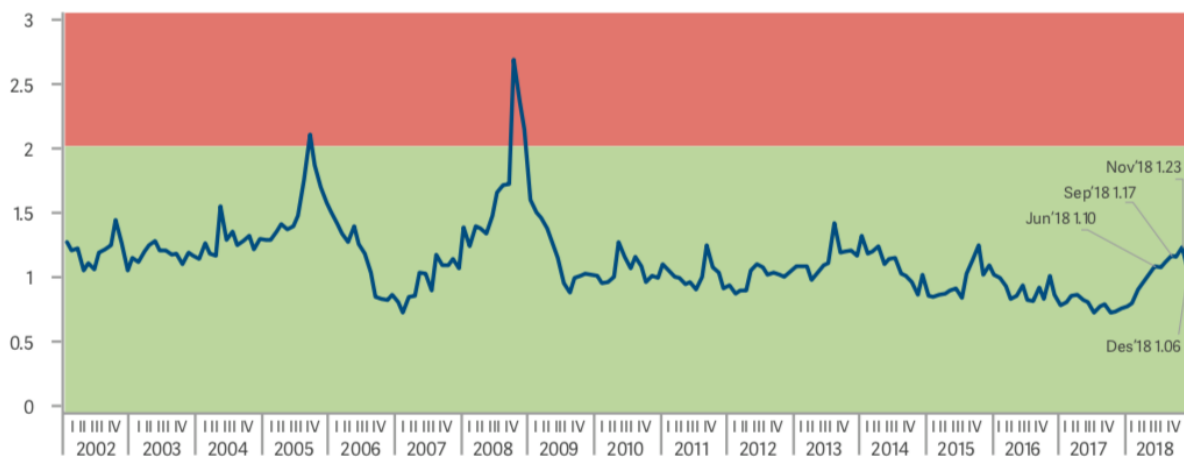
Sources: Bank Indonesia

Table 9. Growth of Finance to Domestic Economy

Growth (%)	Dec 17	Mar 18	Jun 18	Sep 18	Des 18
Credit Bank	8.21	8.61	10.84	12.75	11.60
Foreign Debt	7.89	6.11	5.18	10.02	8.94
Capital Market	20.67	20.75	15.65	13.61	8.49
Non-Bank Institutions	6.93	5.56	5.60	7.97	6.94

Indonesia Economic Growth Target 2024 and Sources of Funds Problem

The level of economic growth targets 6.0% in 2024 according to National Development Planning Agency should be achieved if the household consumption grow in the ranges 5.1 percent to 5.3 percent.Then, investment rise at 7.3 percent to 8.0 percent, exports 5.3 percent to 7.7 percent, imports 5.3 percent to 7.7 percent, and government spending is 4.8 percent to 5.8 percent (Illustration 1).

There are some challenges in financing Indonesian economy. A sustainable domestic economy requires adequate sources of funds. Indonesia has three challenges when it comes to financing its economy. First, limited domestic sources of funds. In April 2019, the growth of domestic savings tended to slow down. Deposits recorded low a 6.03-percent (yoy) growth; it was lower than that of December 2018 and December 2017, respectivelyof 6.45% (yoy) and 9.36% (yoy) (Chart 7). A slowing growth occurred in all groups of banks.Second, a foreign debt hike. In March 2019, foreign corporation loans grew by 8.63% (yoy), amounting to IDR 2,071.18 Trillion. Compared to bank loans recorded to make a 14.98-percent (yoy) growth in the same period (Chart 8). Third, the shallow domestic financial markets. The financing of Indonesia's economy is still dominated by formal bank, with a share of more than 70% of total financing. Data The World Bank shows that the depth of the domestic financial market, which is consists of credit, stock market, Government bond and corporate bonds, still far below peer countries (Chart 9). This condition restrains the availability of funds to finance the domestic economy.
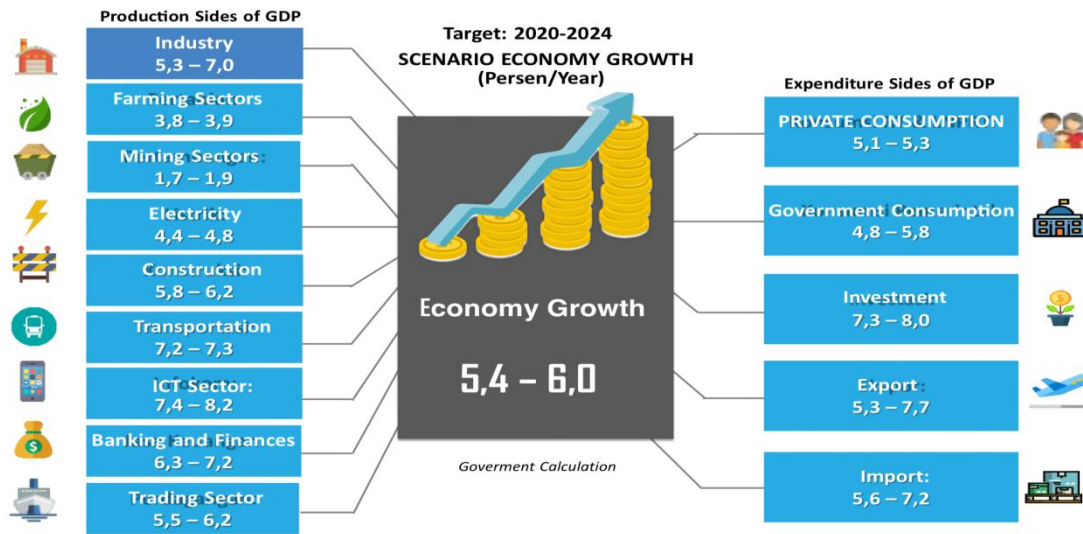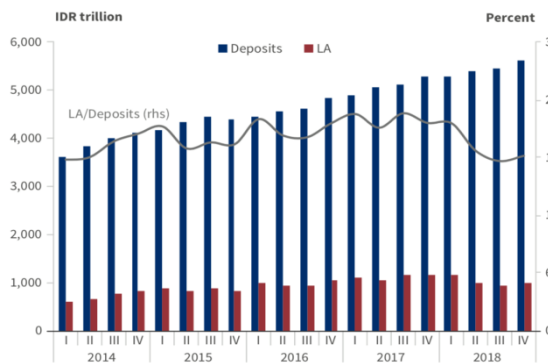
Illustration 1. Indonesian Economy Target 2024

Sources: National Planning Development Agency, 2019

Chart 7. Composition Deposits in Banking System (yoy)   Chart 8.Foreign Debt (yoy)

Sources: Bank Indonesia
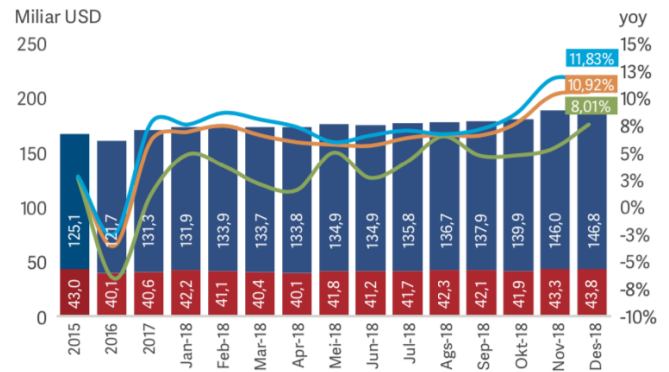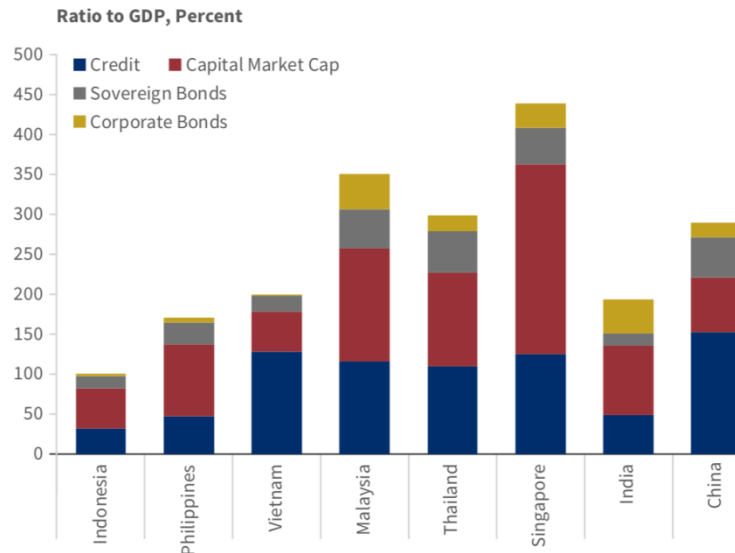
Chart 9. Shallow Domestic Financial Market compare peers

Source: World Bank, Asian Development Bank

Macroprudential Policy Objectives (2020-2024)

In order to achieve the economic growth target of 6.0% in 2024, a financing growth of 16.92% is required (Table 10). In the medium term, credit is expected to grow high in line with projected economic growth. In the next 5 (five) years, economic financing growth is estimated at 12-16% (yoy). The forecast is supported by projected economic growth estimated at 6.1% (yoy). The finance gap cannot rely entirely on traditional bank credit, because in 2022 an estimated gap credit to GDP as reached the threshold of excessive credit growth (table 10). If it is only filled with traditional bank credit, it has the potential to cause excessive credit growth in 2022. It is necessary to strengthen non-traditional lending institutions (such as non bank institutions, capital market and fintech startup). Based on the such financial cycle, in 2022 and so, the direction of macroprudential policy will be estimated begin to shift for stability goals.

This has implications for the need for financial support from non-banking sectors to reach the target of 16% in 2024. The credit growth in March 2019 was 11% that is still below the targetted credit growth, it is necessary to tackle the problem use the optimum macroprudential tools. The potential demand of bank credit still exists, in line with the positive of corporate performances. In 2018, the performance of corporates shows increase to 5.77%, from 5.18% in previous year.

Table 10. Credit Growth and Credit/GDP Gap Projection 2020-2024

Growth (%)	2018	2019	2020	2021	2022	2023	2024
Targeted Credit Growth (Policy Option)	10.10	11.17	12.26	14.07	15.59	16.46	16.92
Targeted Traditional Lending Growth (baseline scenario)	10.10	11.17	12.27	12.39	12.48	13.30	13.95
FINANCE GAP	0	0	-0.01	1.68	3.11	3.16	2.97
Nominal FINANCE GAP (IDR Trillion)	0	0	-0.58	108.72	353.24	671.47	1062.04
Targetted Gap credit/GDP	-2.14	-1.72	-0.32	2.73	7.40	13.05	19.46

Source: Monetary Departement, Bank Indonesia, DKEM Forstra Material, 2018

Chart 10. The Development of Non Performance Lending (NPL)
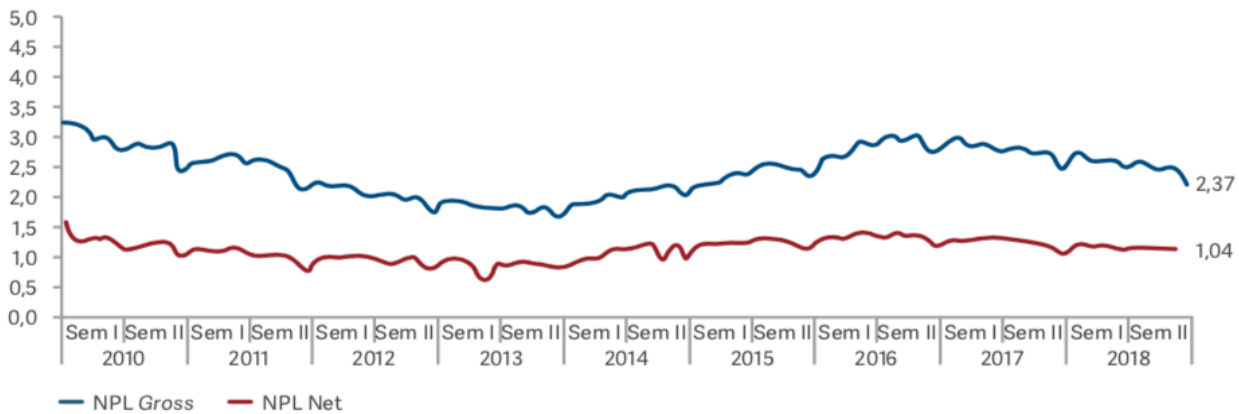
Sources: Bank Indonesia

Macroprudential responses are aimed at accelerating credit growth should consider the conditions of credit risk and banking liquidity. The indicator of bank's credit risk, which is reflected by non performing loans (NPL), until March 2019 relatively stable, ie stable at level of 2.4% - 2.6%. The level of credit risk is far below the NPL threshold set by the authority is 5%. But it is necessary to be alert on credit risk especially in the infrastructure and trade sector that be observed tend to increase (Chart 10).

On the liquidity side, even though during 2018, the liquidity of banking ratio shows a decline due to the funding gap widening, banking liquidity risk is seen as stable. In March 2019 the liquidity ratio was high at 19.85%, or far away above the minimum threshold of liquidity set by the authority which is 8.5% (Chart 11).

Chart 11. Indicator of Liquidity in Banking System
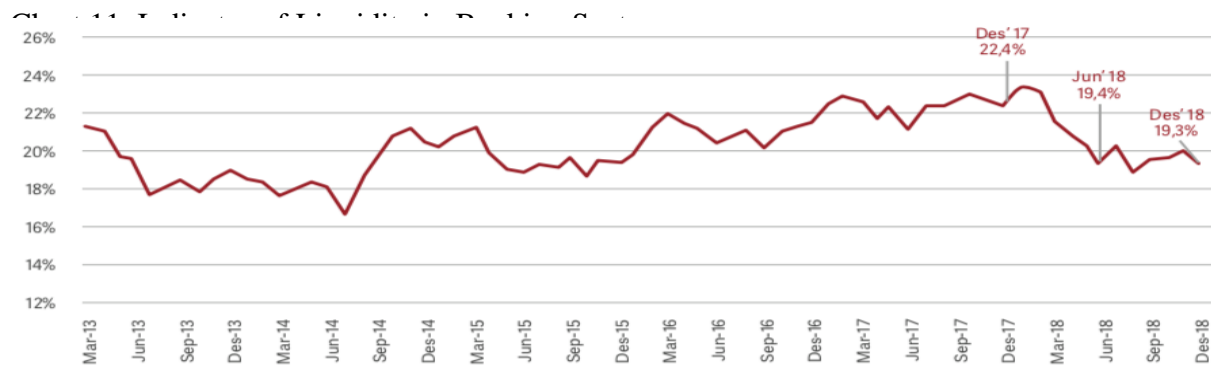
Sources: Bank Indonesia

Macroprudential Instrument:

Option 1: Easing of Loan to Value Ratio (LTV)
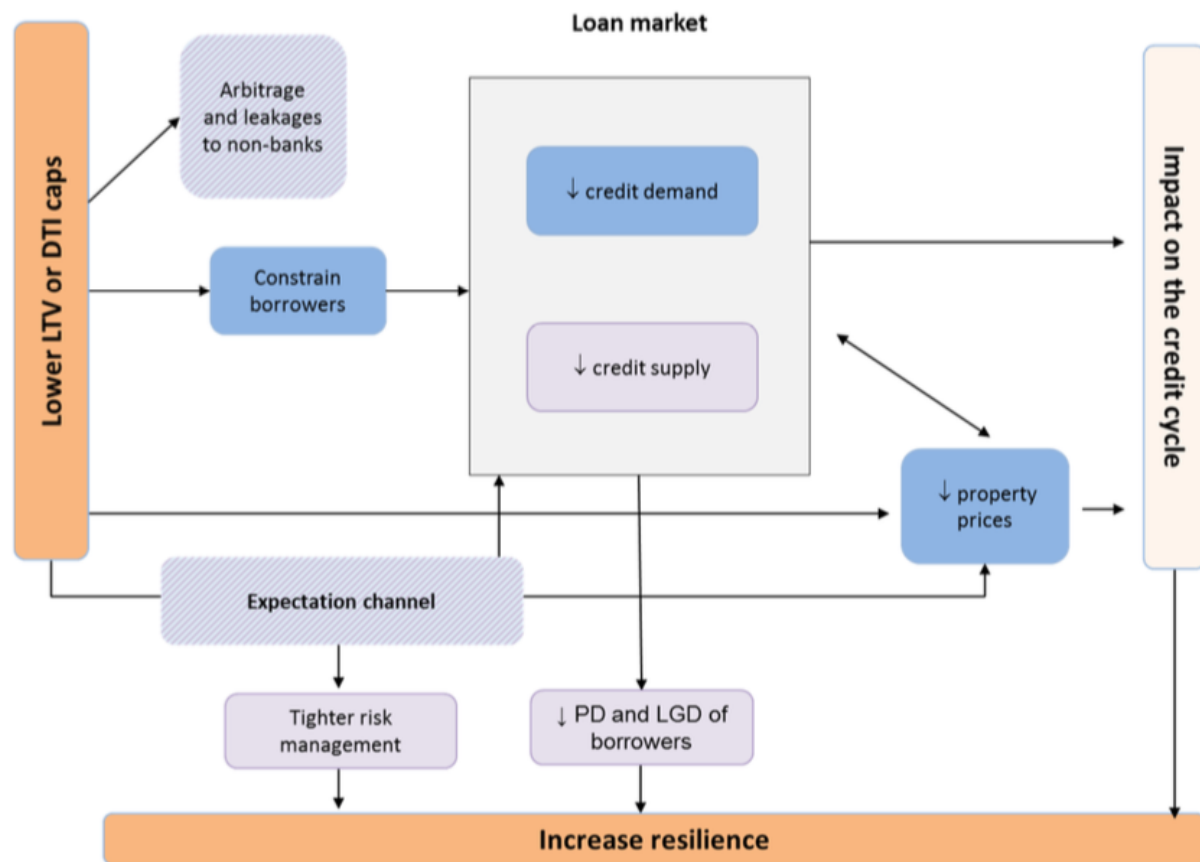
Purple cells = possible bank reactions; blue cells = possible market reactions.

Source: CGFS (2012)

Tighter LTV and DTI ratio caps restrict the quantity of credit by limiting the funding available for certain borrowers, reducing housing demand and increasing savings. In principle, house prices will tend to ease, reducing households' ability to obtain credit and withdraw equity more generally. The demand for credit is therefore likely to fall more broadly. The strength of these transmission channels may be moderated by the fact that LTV or DTI caps do not directly affect the cost of borrowing – they simply restrict the ability of a specific group to borrow. While this may constrain some households, it is also possible that the demand from others with sufficient wealth might continue to drive house price growth.

The ultimate impact (including second-round effects) of any change in LTV ratio caps may be quite sensitive to its initial impact on house prices, in particular when house price growth is disconnected from fundamentals.

Impact on the mortgage credit growth in 2018 and further easing LTV in 2019-2022 with fiscal reform.

Bank Indonesia has loosened LTV / FTV for mortgage loan in 2018. There are several factors considered its decision. First, the property sector has significant backward and forward linkages to other sectors. The property sector requires inputs from many sectors and also generates output for many others. Second, the property sector still has room to grow further given the rosy outlook for demand, particularly the strong demand for housing and household equipment from Indonesia's burgeoning middle class. Third, risks in the property sector remain under control.

Relaxation of the LTV/FTV for home ownership loans had three facets: reducing the LTV/FTV ratio for people buying homes with a credit facility for the first time; the loosening of indent facilities for buying homes off-plan; and easing payment terms. In regard to the first factor, the level of the LTV/FTV ratio for the first loans facility, which was previously set at85% to 90%, is left to each individual bank to determine – while keeping in mindthe principle of prudence. The indent facilities, which previously were only given to the first and second loans facility, can newly be given to a maximum of five loansor financing facilities without considering the order. Regarding the easing payment terms, the period and size of the loans or financing disbursement for indent/off-plan property is readjusted. In general, however-er, prudence and risk mitigation continue to underlie the relaxation of the LTV/FTV for home ownership loans and, to that end, this easing only applies to banks with a net NPL ratio below 5% and a gross non-performing property loans ratio below 5%. The LTV/FTV provisions for home ownership loans eased in August 2018 and home ownership loans growth remained high. Home ownership loans grew 12.7% in 2018, driven mainly by brisker growth of loans for flats and apartments above 70m^2.

Even though mortgage loan growth seem positively grew, but in this paper, it is important to note that the implementation of relaxing the LTV ratio need to be accompanied by tax reform policies. In conducting property transactions, the parties transacting are subject to 6 (six) types of taxes, both to the seller and the buyer. On the seller's side, in each transaction the

property sale will be subject to Income Tax (PPh Ps 22), Sales Tax on Luxury Goods (PPnBM) and Value Added Tax (PPn). Meanwhile, on the buyer's side, VAT, Tax on Transfer of Fees (BBN), and Fees for Acquisition and Rights on Land/ Buildings (BPHTB) will be imposed.

Option 2: Targeted Sectoral Lending

These instruments mean that the macroprudential policies are directed to encourage credit growth in certain sectors. In accordance to the Bank Indonesia Regulation concerning macroprudential policies, the purpose of macroprudential policies are to prevent and reduce systemic risk, encouraging the intermediation function, as well as increasing the efficiency of the financial system and financial access. So, as an effort to support economy growth, macroprudential policies in the context of credit can be implemented.

The targeted sectoral lending needs to be based on a number of considerations related to the source engine of growth, a major driver and contributor to economic growth, improving CAD defisit and prudentially. The selection of sectors based on these considerations is expected accelerating economic growth. But on the side others, such instrument encourage an increasingly concentrated economy in certain sectors, and lack of support for potential economic sectors that have not yet optimally grown.

Based on the aforementioned considerations, the economic sectors that have the potential to be classified as priority sectors include the tourism sector, and the manufacturing industries of the automotive, garment and footwear product and food and beverage industries. In the medium to long term, the classification of priority sectors can be expanded in accordance with the identification of sectors by Bank Indonesia, namely the electronics industry, iron-steel and chemical industry (Table 11). Keep in mind, Bank Indonesia has imposed to banking Industri to 20% share credit to MSMEs. The role of MSMEs as an economic buffer has been proven during the economic crisis, where the performance of MSMEs was relatively not significantly affected due to economic turmoil. The important role of MSMEs in the economy is also reflected in the size of employment. Statistics data showed that the number of MSME units reached 62.9 million units or 99.99% of the total business units in Indonesia, with employment of 96% of the labor. But the development of SMEs is still face a number of obstacles

such as the use of technology and innovation products, expanding product access, and financing access. On the policy side macroprudential, lending MSMEs can reduce concentration risk, where a number of banks have a very high concentration of credit to a large number of debtors, even exceeding 90% of total loans.

Table 11. Priority Sector

Sectors	Growth Contribution		Improving CAD Defisit		Prudentially
	Share GDP (%)	Share Credit (%)	Share Export (%)	Share Import (%)	NPL Ratio
Tourism	4.25	1.38	7.2	4.1	6.75
Food and Beverage Industry	6.51	3.00	7.4	9.5	3.17
Garment	1.25	1.33	8.4	6.5	3.10
Footwear	0.28	0.18	3.1	0.5	0.49
Chemical Industry	1.74	2.10	4.8	10.4	1.26
Electronics Industry	1.95	0.34	6.6	14.4	2.39
Steel	0.91	1.10	4.5	9.4	2.76
Automotif	1.99	0.55	4.6	5.4	2.30
Fishery	2.32	0.08	2.8	0.2	13.56
Palm Oil and Rubber based Industry	3.23	4.04	17.0	1.7	0.57
Coffee and Cocoa based Industry		0.0042	2.1	0.8	0.52

Source: Authors

Option 3: *easing the Macroprudential Intermediation Ratio (MIR)*

Since being implemented in July 2018, banks have consistently been able to meet MIR's requirements. In April 2019, MIR the banking industry reached 92.44%, an increase compared to December 2018 which was recorded at 90.16%. However, if viewed individually, there are 41 banks or around 36% of banks that cannot meet the requirements. now all Bank have MIR was below the lower limit of the MIR's provisions, which is 84%.

Bank Indonesia should implemented MIR instrument to support the banking intermediation function. MIR is a instrument of the loan to finanding ratio (LFR) statutory based on reserve requirement policy (GWM) which requires banks to have a intermediation ratio of 80% to 92%.

The easing of MIR provisions were proposed by expanding the intermediation component, namely adding themarketable securities(SSB) owned by banks as a component of financing other than credit. However, only marketable securities (SSB) with certain requirements can be calculated as a component of MIR, namely marketable securities (SSB) issued by non-financial corporations and has an investment grade rating. In line with this formula, MIR also aims to enhance the role of banks in supporting efforts to deepen financial markets.

The room for supoorting intermediation through MIR's instrument still needs to be supported by strong capital conditions. Banks can have an intermediation level above the required upper limit, as long as that supported by adequate capital ratio or CAR above 14%. Bank Indonesia shuold periodically evaluate the amount of MIR and the effectiveness of the policies adopted. The evaluation is conducted by considering economic conditions and the development of bank risk taking behavior towards the financial cycle in conducting intermediation.

Option 4: D*ecreasing the Macroprudential Liquidity Buffer (MLB) ratios*

Bank Indonesia should applies more relaxing MLB provisions to increase the flexibility of managing bank liquidity and strengthen its resilience so that it can support the intermediation function. The MLB was macroprudential instrument as a refinement of tof its previous policy on the secondary reserves requirement. They also fulfill the liquidity adequacy ratio from the

microprudential side, namely the liquidity coverage ratio (LCR).MLB requires banks to have a liquidity buffer in the form of marketable securities (SSB)of 4% of saving in denomination Rupiah.MLB also features the flexibility option for banks to repo a certain number of Marketable securities (SSB) that they have to fulfill MLB to Bank Indonesia.

The implementation of MLB is regularly evaluated by Bank Indonesia by considering the development of the financial cycle at least once in six months. In November 2018, Bank Indonesia has tighted the MLB flexibility options from 2% to 4%. In other words, all Marketable securities (SSB) used to fulfill MLB can be repurchased to Bank Indonesia. In addition, Bank Indonesia also added Bank Indonesia's shariah sertificate (SukBI) as marketable securities (SSB) that can be used to fulfill MLB obligations, in line with the issuance of SukBI.

Bank Indonesia should implement more relaxing MLB ratios from 4% to 2% in the medium term. The evaluation of MLB's instrument results show that the implementation of MLB supports the resilience of bank liquidity but causing the lack of liquidity to further credit growth to business sectors. The easing the flexibility of MLB is needed by banks in managing more liquidity.

Option 5: Easing the counter cyclical capital buffer (CCB) requirements

CCB is a macroprudential policy instrument aimed at balancing efforts to encourage intermediation and mitigating risk. Based on the results of the 2018 evaluation, Bank Indonesia has set the CCB rate of 0%. This decision was taken by considering the results of the assessment which showed no indication of excessive credit growth. Although the main indicator of the credit to GDP gap is in an upward trend, the ratio has not yet exceeded the credit distribution limit which is considered excessive.

The decision is in line with the accommodative direction of macroprudential policy. CCB 0% means that there is no obligation for banks to form additional capital as a buffer that can be used if there is a loss due to excessive credit growth. In the end, the regulation provides space for banks to increase their lending capacity and contribute to driving the momentum of economic growth.

Option 6: strengthening coordination with other government agencies.

Complementing a set of macroprudential policies, Bank Indonesia continues to strengthen supervision to identify potential financial system instabilities that can create systemic risk. Macroprudential supervision is carried out with a comprehensive risk measurement metho-dology, accompanied by complete data and accurate information.

Bank Indonesia should built up its coordination and cooperation with other financial authori-ties to safeguard financial system stability. Bilaterally, the focus is on synergizing macropru-dential and microprudential policies between Bank Indonesia and the Financial Services Au-thority (OJK), and between Bank Indonesia and the Deposits Insurance Corporation (LPS). The latter body handles troubled banks, as mandated by the PPKSK law on the prevention and handling of financial system crisis. Further, Bank Indonesia should strengthen its multila-teral coordination under the framework of the Financial System Stability Committee (KSSK) for the prevention and handling of crises, and should strengthen coordination within the KSSK to improve the effectiveness of the implementation of MSME development policy. Bank Indonesia should continued to play an active role in international financial forums; through its membership of the FSB, Bank Indonesia should actively participates in reform of the global financial sector. Synergy in the formulation of macroprudential and micropruden-tial policies was also strengthened from a technical level to a high level. Bank Indonesia and the OJK should work together to formulate macroprudential and microprudential regulatory instruments.

6. CONCLUSION

External pressures on the domestic economic stability has prompted Bank Indonesia to focus on its monetary policy on the exchange rate measures. However, as part of the policy mix, the stance of monetary policy has been balanced with accommodative macroprudential policies to continue providing its support for the economic growth. Even though they have different tar-gets and in their implementation there are potential conflicts that may occur when we try to

achieve the objectives of both policies, the central bank deems a monetary policy and macroprudential policies to be complementary policies.

The financial cycle, which has entered an expansion phase but is still below the optimum balance point, provides space for macroprudential policy to encourage banking intermediation. In 2018, Bank Indonesia has imposed macroprudential policies. These policies include: (i) relaxing the loan to value (LTV) ratio, (ii) issuing the Macroprudential Intermediation Ratio (MIR), (iii) strengthening the flexibility of banking liquidity management through the provisions of Macroprudential Liquidity Buffer (MLB) which is an improvement Secondary GWM, (iv) and Countercyclical Capital Buffer (CCB) at a level of 0%. Accommodative microprudential policies are also adopted to strengthen banking intermediation in supporting the development of Micro, Small and Medium Enterprises (MSMEs) and priority sectors through improvement of MSME financing ratios and the development of priority sector financing ratios. All these instrument should implemented effectively in the next 5 years to achieve economic target 2024. Policy support is needed to accelerate credit growth to achieve the economic financing target in the next 5 (five) years by 16% (yoy).This situation will provide a space for the macroprudential policies to encourage some kind of bank intermediation and to spur a credit growth. A relaxing macroprudential instruments needed to accelerate the credit growth in order to achieve financing economic targets in the next 5 years, namely at 16% yoy.

Policy recommendations based on the results of an analysis of the potential use of countercyclical macroprudential policy instruments to encourage 16% of credit growth in next 5 years are as follows: (1) LTV ratio: need for further relaxation. However, the effectiveness of policies can be strengthened by providing fiscal incentives. (2) Targeted sectoral credit is recommended. (3) MIR: not recommended for further easing. (4) MLB: recommended to be reduced to 2%. (5) CCB: not recommended, currently 0%. CCB 0% in line with the policy of encouraging intermediation, where there is no additional capital so that it does not become a barrier for banks to conduct intermediation.

The timing the application of macroprudential policies should consider the phase of the financial cycle. The short term (2020-2022) period which is the expansion phase, still in the phase of "not excessive credit" so that Bank Indonesia should implement some provisions of targeted priority sector credit and MLB's further reduction. The medium-term (2022-2024) pe-

riod which is in the expansion phase where entering of excessive lending phase so that the responds should implement the tightening the LTV ratio, the increasing of MLB and the activating of CCB. Coordination and synergy in the formulation of macroprudential and microprudential policies was also strengthened from a technical level to a high level. Bank Indonesia and the OJK should work together to formulate macroprudential and microprudential regulatory instruments.

7. BIBLIOGRAPHY

1. Alamsyah, H, J Adamanti, D Yumanita and R Astuti (2014): "Financial cycles in Indonesia", *Bank Indonesia Working Paper*, no WP/8/2014, December.

2. Alamsyah, Halim, Justina Adamanti, Diana Yumanita and Rieska Indah Astuti. Indonesian Financial Cycle. Bank Indonesia Research Paper, 2014

3. Borio, Claudio (2012), The Financial Cycle and Macroeconomics: What Have We Learnt?. BIS working paper No.395. Bank for International Settlement- Monetary and Economic Department.

4. Carreras, Oriol. E Philip DAvis and Rebecca Piggott. Macroprudential Tools, Transmission and Modelling. National Institute of Economic and Social Research . Discussion Papaer No.470. 20 October 2016. Retrieved 18.08.2019 from https://www.niesr.ac.uk/sites/default/files/publications/DP470.pdf

5. Committee on the Global Financial System (CGFS). Operationalising the Selection and Application of Macroprudential Instruments. Desember 2012. CGFS Papers No.48 European Systemic Risk Board.

6. European Systemic Risk Board (ESRB). 2013. Recommendation of the European Systemic Risk Board on Intermediate Objectives and Instruments of Macroprudential Policy April 2013. Office Journal of the European Union.

7. Galati, G and R Moessner (2014): "What do we know about the effects of macroprudential policy?", *Netherlands Bank Working Pape*r, no 440, September.

8. Galati, Gabriele,. dan Moessner, Rich hild. Macroprudential Policy-a literature review. Februari 2011. BIS Working Papers No. 337. Bank for International Settlement- Monetary and Economic Department.

9. Harun, C and R Sagita (2013, 2015): "Indonesian macroprudential policy framework," *Bank Indonesia Working Paper*.

10.   Harun, Cicilia A., dan Rahmanira, Sagita. Framework of Macroprudential Policy (Kerangka Kebijakan Makroprudensial Indonesia). 2013.

11.   Lim, C, F Columba, A Costa, P Kongsamut, A Otani, M Saiyid, T Wezel and X Wu (2011): "Macroprudential policy: what instruments and how to use them?", *IMF Working Paper*, no WP/11/238, October.

12.   Lim, C., Columba, F., Costa, A. et all. Instruments and How to Use Them? Lesson from Country Experience. Oktober 2011. International Monetary Fund-Monetary and Capital Market Macroprudenial Policy: What Development.

13.   Nier, Erlend,. Dan Osinski, Jacek. Key Aspects of Macroprudential Policy. Juni 2013. International Monetary Fund.

14.   Purnawan, M and M Nasir (2015): "The role of macroprudential policy to manage exchange rate volatility, excess banking liquidity and credits", Bank Indonesia, *Bulletin of Monetary Economics and Banking*, vol 18, no 1, July.

15.   Tok, Yoke Wang (2018), Institutional Arrangement for Macroprudential. Bank Indonesia-IMF   Seminar.   Retrieved   18.08.2019   from https://www.bi.go.id/id/institute/kegiatan/Flagship/Contents/2%20-%20L03%20Institutional%20Arrangement%20Macroprudential%20-%20Yoke%20Wang.pdf

16.   Warjiyo, P, (2013b): "Indonesia's monetary policy: coping with volatile commodity prices and capital inflows", *BIS Papers*, no 70, January.

17.   Warjiyo, Perry 2017. Indonesia: the Macroprudential framework, implementation and relationship with other policies**. BIS Papers No.94. December 2017

18.   Warjiyo, Perry., And Juhro, Solikin M. Central Bank Policy: Theory and Practice. September 2017. PT Rajagrafindo Perkasa.

19.   Wimanda, R, M Permata, M Bathaludin and W Wibowo (2012): "Study on implementing macroprudential policy in Indonesia", *Bank Indonesia Working Paper*, no WP/11/2012, December.

20.   Wimanda, R, N Maryaningsih, L Nurliana, R Satyanugroho (2014): "Evaluating the transmission of policy mix in Indonesia", *Bank Indonesia Working Paper*, no WP/3/2014, December.