BANK INDONESIA
BANK SENTRAL REPUBLIK INDONESIA

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STRENGTHENING ACCOMMODATIVE MACROPRUDENTIAL POLICY SUPPORTING ECONOMIC FINANCING

Strengthening Accommodative

Macroprudential Policy

Supporting Economic Financing

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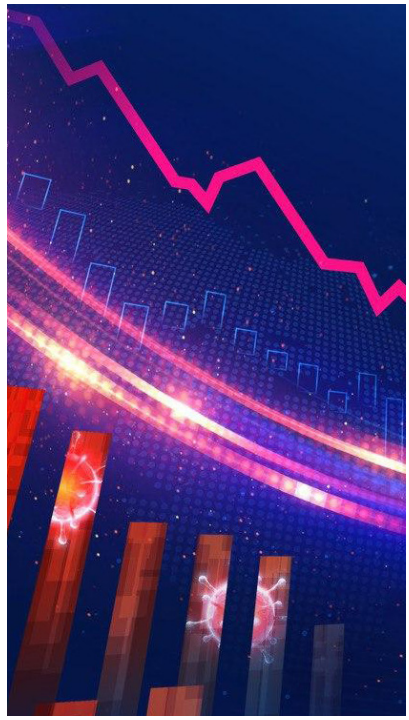

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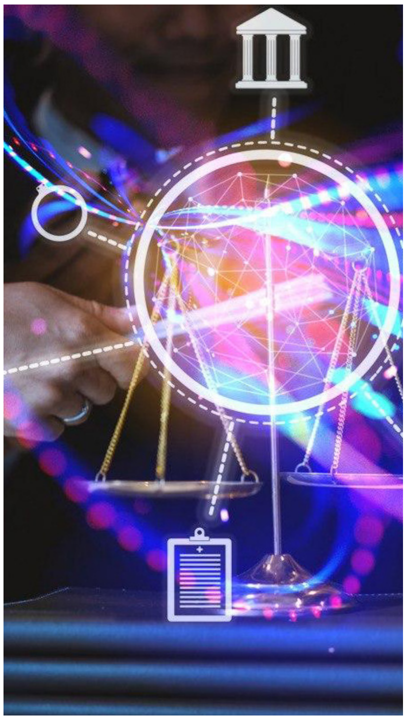

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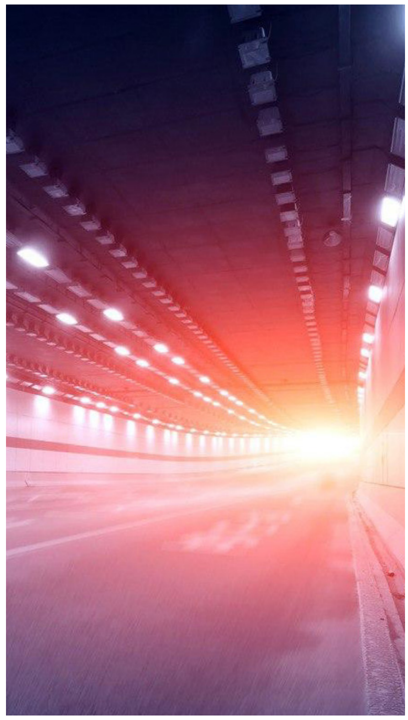

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GLOSSARY

AL : Liquid Assets
API : Application Program Interface
AS : United States
ATMR : Risk-Weighted Assets (RWA)
BAPPEBTI : Commodity Futures Trading Regulatory
BCBS : Basel Committee on Banking Supervision
BEI : Indonesia Stock Exchange (IDX)
BI-7DRR : BI 7-Day (Reverse) Repo Rate
Bps : Basis Point
BUK : Conventional Commercial Bank
BUMN : State-Owned Enterprise
BUS : Islamic Bank
CA : Current Assets
CAR : Capital Adequacy Ratio
CCyB : Countercyclical Capital Buffer
CCP : Central Counterparty
CDS : Credit Default Swap
CeBM : Central Bank Money
CFM : Capital Flow Management
CI : Concordance Index
CL : Current Liabilities
COVID-19 : Coronavirus Disease 2019
CPO : Crude Palm Oil
CPR : Country Peer Review
DAR : Debt at Risk
DNDF : Domestic Non-Deliverable Forwards
DPK : Deposits
DSR : Debt Service Ratio
DQM : Data Quality Management
ECB : European Central Bank
EM : Emerging Market
EPU : Economic Policy Uncertainty
EMEAP : Executives' Meeting in East Asia Pacific
ETP : Electronic Trading Platform
FASBI : Financial Account and Balance Sheet Indonesia
FFR : Federal Funds Rate
FMI : Financial Market Infrastructure
FKMM : Macroprudential and Microprudential Coordination Forum
FSAP : Financial Sector Assessment Program
FSB : Financial Stability Board
FTV : Financing-to-Value Ratio
GWM : Reserve Requirements
HPP : Cost of Goods Manufactured
ICR : Interest Coverage Ratio
IDMA : Inter-Dealer Market Association
IHPR : Residential Property Price Index (RPPI)
IHSG : Jakarta Composite Index (JCI)
IKK : Consumer Confidence Index (CCI)
IKNB : Nonbank Financial Institution
ILS : Lending Standard Index (LSI)
IMF : International Monetary Fund
IPO : Initial Public Offering
ISEI : Indonesian Economist Association (ISEI)
ISSK : Financial System Stability Index (FSSI)
JST : Joint Stress Test
KI : Investment Loan
KK : Consumer Loan
KKB : Automotive Loan
KMK : Working Capital Loan
KPPK : Application of Prudential Principles
KPR : Housing Loan
KP/PP : Property Loan/Financing
KSEI : Indonesian Central Securities Depository (KSEI)
KSK : Financial Stability Review (FSR)
KSSK : Financial System Stability Committee
LA : Long-Term Assets
LaR : Loan at Risk
LBU : Monthly Commercial Bank Report
LBBU : Periodic Commercial Bank Report
LBBUS : Periodic Islamic Bank Report
LBBPR : Monthly Rural Bank Report
LBBPRS : Monthly Islamic Rural Bank Report
LCR : Liquidity Coverage Ratio
LDR : Loan-to-Deposit Ratio
LGA : Electricity, Gas and Water
LHBU : Daily Commercial Bank Report
LN : Foreign
LPR : Loan Prime Rate
LPS : Deposit Insurance Corporation
LST : Environmental, Social and Governance
LTV : Loan-to-Value Ratio
MFT : Managed File Transfer
MLF : Medium-Term Lending Facility Rate

MTN	: Medium-Term Notes
NDC	: Nationally Determined Contribution
NFL	: Net Foreign Liabilities
NGFS	: Network for Greening the Financial System
NIM	: Net Interest Margin
NK	: Memorandum of Understanding (MoU)
NPL	: Non-Performing Loan
NSFR	: Net Stable Funding Ratio
OJK	: Indonesian Financial Services Authority
OM	: Monetary Operations
OTC	: Over the Counter
PACC	: Paris Agreement on Climate Change
PADG	: Board of Governors Regulation
PAPI	: Indonesian Banking Accounting Guidelines
PBI	: Bank Indonesia Regulation
PBoC	: People's Bank of China
PBR	: Plowback Ratio
PCA	: Principal Component Analysis
PCC	: Pair Copula Construction
PIC	: Person in Charge
PD	: Probability of Default
PDB	: Gross Domestic Product (GDP)
PJSP	: Payment System Service Providers
PLM	: Macroprudential Liquidity Buffer (MPLB)
PMI	: Purchasing Managers Index
PMK	: Crisis Management Protocol (CMP)
PNM	: Permodalan Nasional Madani (Persero)
PP	: Finance Company
PUT	: Limited Public Offering
QE	: Quantitative Easing
RIM	: Macroprudential Intermediation Ratio (MIR)
RSE	: Draft Circular Letter
RT	: Household
SAPIT	: Integrated Information Repository and Exchange
SBN	: Tradeable Government Security
SCSI	: Standing Committee on Standards Implementation
SDGs	: Sustainable Development Goals
SLF	: Standing Lending Facility
SimKrisNas	: National Crisis Simulation
SIP	: Banking Information System
SIPP	: Finance Company Reporting Information System
SKI	: Indonesia Financial Cycle
SPBI	: Bank Indonesia Noncash Payment System
SSK	: Financial System Stability
SNRT	: Household Balance Sheet Survey
Sulampua	: Sulawesi, Maluku and Papua
SUN	: Government Debt Security
TA	: Total Assets
TBS	: Fresh Fruit Bunches (FFB)
TD	: Term Deposit
TLTRO	: Target Longer-Term Refinancing Operation
UE	: European Union
ULN	: External Debt
UMKM	: Micro, Small and Medium Enterprises (MSME)
UNFCC	: United Nations Framework Convention on Climate Change
UU PPKSK	: Financial System Crisis Prevention and Mitigation Act
UUS	: Islamic Business Unit
VIX	: Volatility Index
WHO	: World Health Organisation
YOY	: Year on Year

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FOREWORD

GOVERNOR'S FOREWORD

The 34th edition of the Financial Stability Review (FSR), March 2020 presents Bank Indonesia's latest research and assessments as the macroprudential regulatory and supervisory authority conducted throughout 2019 and up to March 2020 as a signal of macrofinancial risks and a risk mitigation reference. FSR No. 34 has been published amidst challenging conditions affecting the national economy and financial system in Indonesia, as well as businesses and households, due to transmission of the Corona Virus Disease 2019 (COVID-19), which has been declared a global pandemic. Currently, the whole world is struggling to break the chain of transmission of COVID-19 as well as mitigate the impact on the economy and financial system. As a form of support for the government efforts to delay the transfer of COVID-19 in the community through various policy measures, Bank Indonesia has decided to launch FSR No. 34 virtually through Bank Indonesia's own YouTube channel as well as other online media.

FSR No. 34 is entitled "Strengthening Accommodative Macroprudential Policy, Supporting Economic Financing". Financial system stability was maintained in Indonesia throughout 2019 amidst global economic and financial dynamics. Anti-globalisation sentiment, increasing global financial market risk and the emergence of new unknown risks are the salient challenges facing Indonesia's financial system. Economic moderation caused by the trade war between the United States and China as well as geopolitical risks have suppressed corporate and household performance and, thus, intensified financing risks and undermined intermediation. Against a backdrop of heightened risk and a suboptimal financial cycle, Bank Indonesia directed macroprudential policy in 2019 towards stimulating economic financing, while complying with prudential principles as part of the Bank Indonesia policy mix.

Transmission of the COVID-19 pandemic around the world, including Indonesia, at the beginning of 2020 has impeded the global and domestic macrofinancial recovery. Global contagion from COVID-19 has impacted Indonesia primarily through tourism, trade/exports and investment. Meanwhile, efforts to break the COVID-19 chain of transmission have the potential to reduce domestic production and economic activity. If the COVID-19 pandemic continues, pressure on Indonesia's financial system will become more intense and prolonged.

Moving forward, the macroprudential policy stance of Bank Indonesia will be focused on efforts to maintain financial system stability by anticipating the potentially higher risk in a financial sector affected by the spread of COVID-19. Coordination with the Government and other relevant financial authorities will constantly be improved in terms of policy mix formulation and mitigating risk increases in the financial system.

The front cover of this edition illustrates current macrofinancial conditions. The dark sky-blue hues denote a global financial system characterised by moderation and uncertainty. The global COVID-19 pandemic, with its economic, financial and social impacts, is depicted by the warmer red and orange colours enveloping the globe. The circular gradation portrays the non-financial shocks that have materialised into a financial crisis threat, which has manifested as a global threat demanding cross-border synergy. The wave represents Indonesia's financial cycle, which is currently suboptimal, thus affording policy room for an accommodative stance. The icons surrounding the earth signify ongoing digital disruption around the world, which is influencing financial behavior and, on one hand, requires support due to its positive economic impact yet, on the other hand, necessitates strong regulation and supervision to ensure smooth and secure economic transactions. Finally, the bright flash is indicative of our joint optimism that macrofinancial conditions will improve after the COVID-19 pandemic has passed.

In closing, Bank Indonesia presents this book as a reference to strengthen our confidence in terms of maintaining financial system stability and supporting economic growth. May God Almighty always provide protection, health and blessings for each of our endeavours and prayers in maintaining financial system stability in Indonesia.

Jakarta, 28th April 2020

Governor of Bank Indonesia
Perry Warjiyo

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Financial system stability in Indonesia during the second semester of 2019 was maintained, despite persistent uncertainty due to declining globalization, increasing global financial market risk and the emergence of new unknown risks. Financial system stability was maintained on the back of solid banking industry resilience, supported by sustained profitability and contained liquidity risk, corporate and household sector resilience as well as strong policy synergy between Bank Indonesia, the Government and other relevant authorities to preserve economic growth momentum. Most corporations holding external debt have met their hedging obligations, thus helping to maintain corporate sector resilience. Trade tensions and escalating geopolitical risks have suppressed world trade volume and lowered commodity prices, leading to economic moderation in various countries. In response, central banks and government authorities have instituted an accommodative monetary policy stance, thus increasing the risk appetite of global investors towards emerging markets (EM), including Indonesia. The resultant capital inflows to Indonesia are in line with maintained domestic financial market stability as well as solid domestic economic resilience.

Global economic and financial dynamics have influenced domestic macrofinancial conditions. Decreasing world trade volume and lower international commodity prices have impaired corporate performance, yet corporate resilience in Indonesia has been maintained. Flatter sales performance has forced corporations to focus on comparative advantage, increasing efficiency and reducing debt burden in order to maintain prudential aspects. On the demand side, persistent uncertainty has prompted a wait-and-see attitude in the corporate sector, thus compressing demand for financing from domestic banks and external debt. On the supply side, risk perception in the banking industry concerning deteriorating corporate performance has increased. A bump in the Loan at Risk (LaR) ratio has triggered more cautious and selective bank lending, affecting new borrowers in particular. This combination of factors severely impaired growth of outstanding loans disbursed by the banking industry at the end of 2019 below initial predictions.

Cognisant of the domestic macrofinancial challenges in 2019, the risk build-up and suboptimal financial cycle, Bank Indonesia has strived to stimulate economic financing while complying with prudential principles. Bank Indonesia relaxed the (sharia) Macroprudential Intermediation Ratio (MIR) to 84-94% and prudently expanded bank funding, including foreign loans. Furthermore, Bank Indonesia also loosened the loan-to-value (LTV) ratio and financing-to-value (FTV) ratio by an average of 5-10% in order to drive house and vehicle ownership, including green buildings and vehicles. In addition to prudential aspects, policy to stimulate intermediation has been balanced with policy to maintain adequate capital and liquidity. Moreover, Bank Indonesia has also held the Countercyclical Buffer (CCB) and Macroprudential Liquidity Buffer (MPLB) at 0% and 4% respectively.

Moving forward, pressures on financial system stability are expected to intensify as the COVID-19 pandemic continues to spread around the world, including Indonesia, representing a grave threat to global and domestic macrofinancial stability. Global contagion from COVID-19 has impacted Indonesia primarily through tourism, trade/exports and investment. Meanwhile, efforts to break the COVID-19 chain of transmission have severely impaired domestic production and economic activity. Demand for labour has decreased, while income and consumption have been muted, which have ultimately compressed domestic demand. Heightened uncertainty has seen investors rebalance their portfolios, triggering outflows and exchange rate pressures on the rupiah. If the COVID-19 pandemic continues, pressure on corporate and household performance will intensify as the impact spreads to various sectors, which could potentially undermine the financial services industry, banking in particular.

Observing the potential accumulation of pressures on national economic and financial system stability, the President of the Republic of Indonesia took extraordinary and unconventional policy measures to rescue the national economy and maintain financial system stability as contained in Government Regulation in Lieu of Law No. 1 of 2020, which contains provisions concerning Bank Indonesia's role and jurisdiction. In addition, Bank Indonesia has also instituted a policy mix as an anticipative measure to maintain stability and strengthen economic stimuli in accordance with Bank Indonesia's authority through commitment to synergy and coordination with the Government and Indonesian Financial Services Authority (OJK) as a national policy measure.

After the threat of COVID-19 has passed, the global economy is projected to regain upward momentum in 2021. In line with the promising global outlook and impact of the synergic policy response taken by the Government, Bank Indonesia and other relevant authorities in 2020, national economic growth in Indonesia is projected to recover and expand in the 5.2-5.6% range in 2021. Consistent with the favourable economic outlook, Bank Indonesia expects to control inflation within the 3.0%±1% target corridor. Furthermore, global and domestic economic gains will push the corporate and household sectors into an expansionary phase, which will stimulate stronger credit and third party funds growth in 2021, projected at 9-11% and 8-10% respectively.

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Chapter I

GLOBAL MACROECONOMIC CONDITIONS AND FINANCIAL SYSTEM STABILITY: DYNAMICS AND CHALLENGES FOR THE DOMESTIC FINANCIAL SYSTEM

Macroeconomic and financial system dynamics in Indonesia have been influenced by persistent global economic moderation and the risks associated with a global pandemic. Tension of trade wars between the United States and China and escalating geopolitical risks have reduced world trade volume and decreased commodity prices on global markets. Such conditions have also been characterised by the emergence of new unknown risks. The COVID-19 outbreak at the end of 2019, which spread rapidly to many countries, continues to threaten global macroeconomic and financial system stability.

Global economic moderation has transmitted to increased risk in global financial system. Central banks and global governments responded to these development has been an accommodative policy stance, coupled with stimulus measures. As the global pandemic exacerbated the risks, ultra-accommodative monetary and fiscal policies were introduced. On one hand, such policies eased global financial conditions yet, on the other hand, triggered search for yield (risk-taking) in emerging markets, including Indonesia, which has heightened capital flow and exchange rate volatility in developing economies.

Notwithstanding the build-up of global financial risk, financial system stability in Indonesia has been maintained. Financial system stability has been maintained in Indonesia in line with solid economic fundamentals and domestic financial system resilience, bolstered by adequate capital and liquidity in the banking system, despite intermediation still requiring attention. Nonetheless, the COVID-19 pandemic that emerged at the beginning of 2020 has amplified pressures on global macroeconomic and financial system conditions, including Indonesia, which are expected to hinder the global and domestic economic recovery process.

1.1 Global Economic Moderation Persisting

Global macroeconomic conditions and financial system dynamics in the second semester of 2019 were characterised by five overarching challenges in terms of the trade and financial channels. First, increasing anti-globalisation sentiment and inward-looking policies, as reflected by escalating trade tensions between the United States and China as well as the United Kingdom's (UK) decision to leave the European Union (Brexit), which have amplified pressures in the global economy. Second, high volatility of global financial markets as well as trade negotiations between the United States and China and other geopolitical risks. Third, risk-taking behavior in relation to an influx of foreign capital during the latter half of 2019. Fourth, international commodity price shocks that bear a strong influence on domestic corporate and household performance. Fifth, the emergence of unknown risks with a potential impact on domestic financial system stability, such as the risks associated with the global COVID-19 pandemic that emerged at the beginning of 2020 as a threat to global and domestic macroeconomic and financial system stability.

The global economy became less conducive in the second semester of 2019. A synchronised global slowdown has emerged from uneven global growth. In 2019, the global economy grew just 2.9% to record its lowest rate since the global financial crisis (Table 1.1), down from 3.6% in 2018. Advanced and developing economies posted 1.7% and 3.9% growth respectively, decelerating from 2.2% and 4.5% in 2018. Trade tensions, which began between the United States and China, have spread to several other countries, causing economic moderation not only in the countries involved but spreading around the world.

World trade volume and international commodity prices have declined as a corollary of trade tensions that have suppressed global exports and investment. In 2019, world trade volume contracted 0.2%, its worst position since the global financial crisis (Graph 1.1). The sharp decline in world trade volume was triggered by declining exports due to trade tensions and weaker global investment stemming from high uncertainty. Furthermore, trade tensions have also lowered commodity prices (Graph 1.2). International metal prices were edged down in line with moderating infrastructure development in China. Meanwhile, coal prices have been affected by campaigns to green the economy in several countries, thus reducing long-term demand for coal in China and Europe. In addition, the global oil price has also experienced significant corrections due to compressed international demand despite oil supply cuts agreed by OPEC members. In 2019, the global oil price averaged USD65 per barrel, down from USD71 per barrel in 2018 (Graph 1.3).

Table 1.1 Global Economic Growth

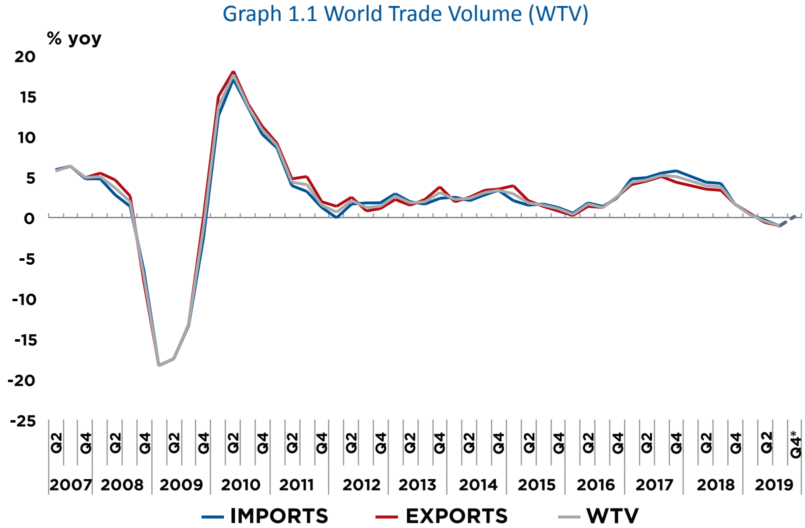
Percent, yoy

Country/Region	2015	2016	2017	2018	2019[1]
Global	3.5	3.4	3.8	3.6	2.9
Advanced Economies	2.3	1.7	2.5	2.2	1.7
United States	2.9	1.6	2.4	2.9	2.3
Europe	2.1	1.9	2.5	1.9	1.2
Japan	1.2	0.6	1.9	0.3	0.9
Developing Economies	**4.3**	**4.6**	**4.8**	**4.5**	**3.7**
Asia	6.8	6.7	6.6	6.4	5.6
China	6.9	6.7	6.8	6.6	6.1
India[2]	8.0	8.2	7.2	6.8	4.8
Latin America	0.3	-0.6	1.2	1.1	0.1
Eastern Europe	0.8	1.8	3.9	3.1	1.8
Middle East and Central Asia	2.6	5.0	2.3	1.9	0.8
Sub-Sharan Africa	3.1	1.4	3.0	3.2	3.3

1) Based on country releases up to 1st February 2020;
2) Fiscal Year

Source: WEO, IMF, October 2019, WEO IMF Update, January 2020, Bloomberg

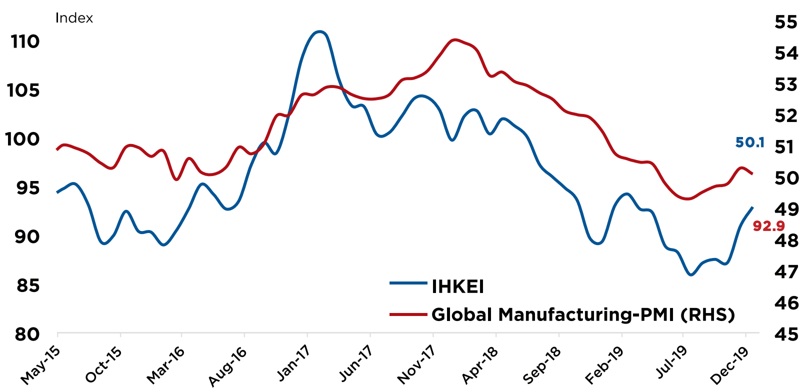
Graph 1.1 World Trade Volume (WTV)



* Projected Q4/2019 data refers to MS Trade Indicator

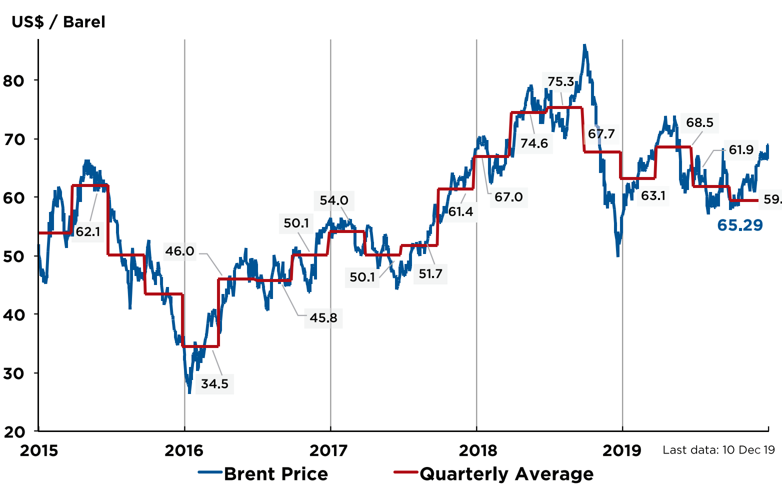
Source: CPB, processed

Graph 1.2 Indonesia Export Price Index (IHKEI) and Global Manufacturing-PMI



Source : IHS Markit, processed

Graph 1.3 Global Oil Price Performance

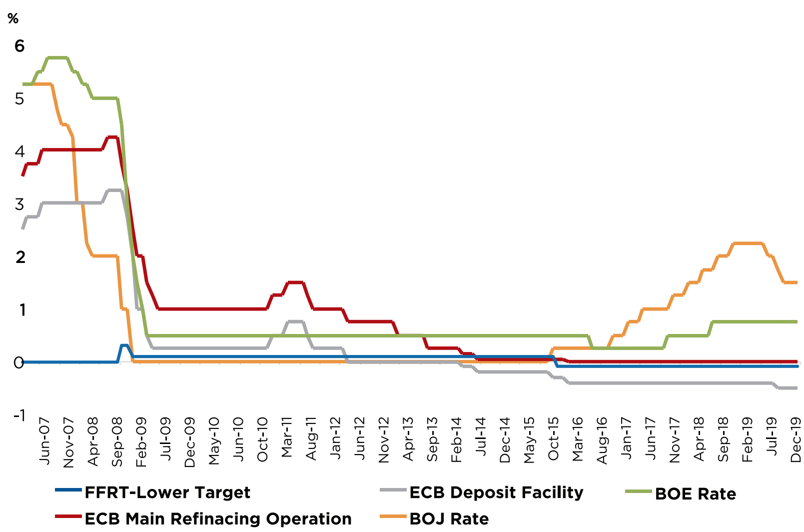


Source: Bloomberg, processed

The global policy response has been oriented towards addressing highly uncertain global economic conditions. Most countries have applied accommodative monetary policy to overcome economic moderation (Graph 1.4). Since July 2019, the US Federal Reserve has lowered the Federal Funds Rate (FFR) three times by a total of 75bps. The European Central Bank (ECB) even adopted an ultra-accommodative policy stance by reducing the deposit rate to-0.5%. Various developing economies have also eased monetary policy. The Reserve Bank of India (RBI) reduced its reference rate five times in 2019 by a total of 135bps. The People's Bank of China (PBoC) has lowered various interest rate instruments, including the Medium-Term Lending Facility (MLF) Rate, Loan Prime Rate (LPR) and 7-Day Reverse Repo Rate. In addition, financial market pressures have increased the complexity of the central bank policyresponse. Several central banks applied liquidity policies to avoid financial tightness, such as quantitative easing (QE), lending facilities and relaxing reserve requirements (Graph 1.5)[1].

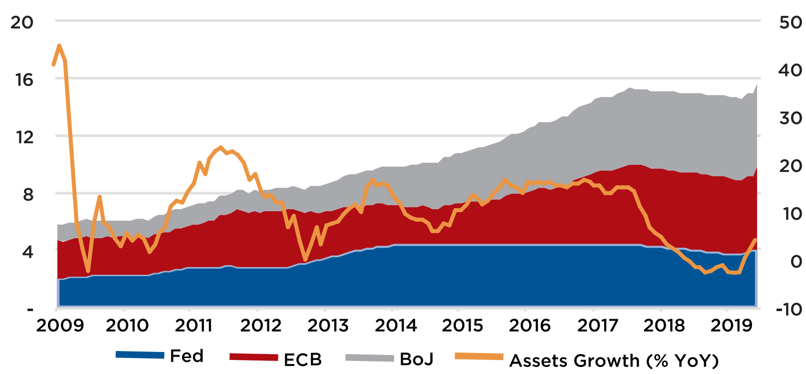
The global easing of monetary and macroprudential policies was further supported by an expansive fiscal posture and stronger structural reforms. Expansive fiscal policy was instituted through greater flexibility to support growth, while maintaining a sustainable debt-to-GDP ratio. Financial reforms, including those recommended by the Financial Stability Board (FSB), have sustainably strengthened global financial system resilience, monitored shadow banking and refined risk assessments.

Graph 1.4 Policy Rates



Source: Bloomberg, processed

Graph 1.5 Central Bank Balance Sheets



Source : Federal Reserve Economic Data (FRED), processed

[1] In Europe, the ECB launched Targeted Longer-Term Refinancing Operations III (TLTRO) and reactivated QE for the first time since the end of 2018. Meanwhile, the Fed suspended faster balance sheet normalisation than initially planned and purchased short-term government debt securities. In China, the PBoC ensured adequate liquidity by lowering reserve requirement ratios, injecting liquidity through a Medium-Term Lending Facility (MLF) and raising the quota of the Standing Lending Facility (SLF).

Towards the end of 2019, global economic dynamics were influenced by the phase one trade deal[2] agreed between the United States and China. The agreement covered the following eight salient issues, namely: (i) intellectual property rights; (ii) technology transfer; (iii) trade of food and agricultural products; (iv) financial services; (v) foreign exchange regulation and macroeconomic policy; (vi) trade expansion; (vii) dispute resolution; and (viii) agreement enforceability and cancellation. Of the eight provisions, only trade expansion was considered a potential challenge for both countries to implement, which involves China buying at least USD200 billion worth of US goods in the next two years, including manufacturing, agricultural and energy products as well as services. The implementation challenges are attributable to structural factors, namely China's capacity to absorb US products and US export capacity to China.

The measures implemented by central banks and governments around the world have led to looser global financial conditions. In the United States, loose monetary policy was transmitted to a surge of housing loan refinancing. In Europe, the measures translated into lower lending rates and faster credit growth. In China, meanwhile, accommodative policy prevented further credit growth declines. Furthermore, global economic financing and the phase one trade deal are expected to stimulate a global economic recovery.

Optimism stoked by early indications of global economic recovery after the phase one trade deal was agreed boosted world trade. Initial signs of de-escalation in the protracted US-China trade tensions increased demand for exports from the US, India and China in line with optimism fuelled by the promising economic outlook. Such conditions also affected an improvement in the Indonesia Export Price Index (IHKEI), supported by stronger rubber and nickel prices (Table 1.2). Nevertheless, crude palm oil (CPO) prices improved minimally, driven by production constraints due to a prolonged dry season and limited expansion of land area amidst persistently high demand. The positive developments recorded until the end of semester II in 2019 provided strong indications of improving world trade volume and international commodity prices. Such expectations were predicted to materialise in line with an import recovery reported in emerging market countries, broad trade diversion, ongoing government stimuli in various jurisdictions and the promising global economic outlook.

Table 1.2 Indonesia Export Price Index (IHKEI)

COMMODITY	2016	2017	2018	2019
Copper	-10.5	27.1	6.7	-7.8
Coal	6.8	48.2	2.5	-8.9
CPO	21.3	5.7	-19.2	-2.3
Rubber	-2.2	28.1	-16.8	12.4
Nickel	-15.4	8.9	27.8	7.0
Tin	13.1	13.1	0.5	-7.5
Aluminium	-3.5	22.9	7.4	-14.1
Coffee	4.3	-2.9	-15.4	-11.8
Others	1.0	6.8	1.2	-0.7
Indonesian Export Commodity Price Index	**5.4**	**21.7**	**-2.8**	**-3.0**

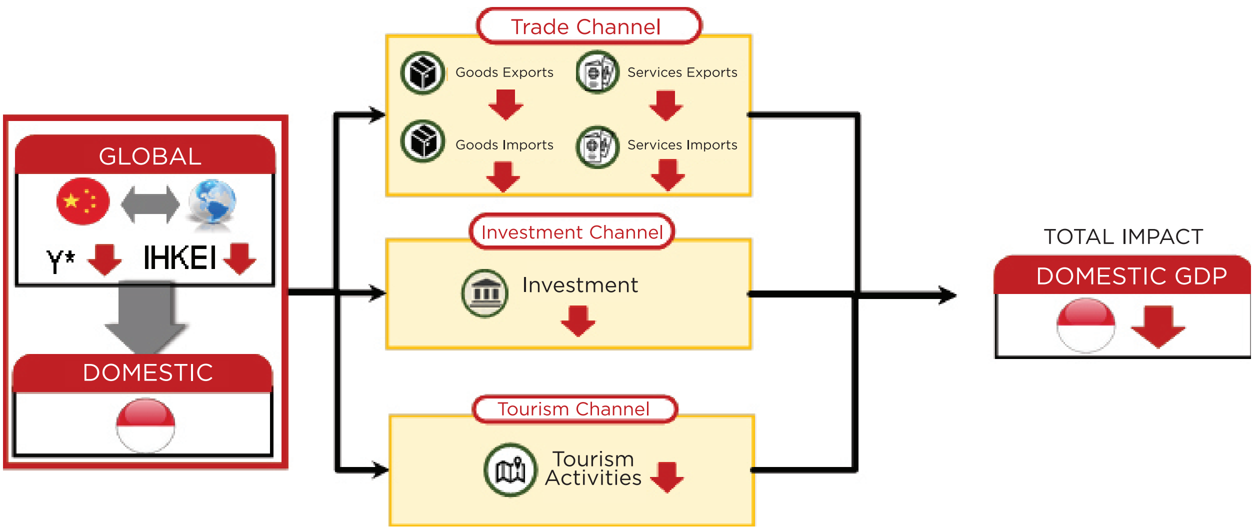
Source: Bloomberg, processed

[2] In pursuance of the phase one trade deal, China pledged to buy imports of US goods and services worth at least USD200 billion for the upcoming two years and protect intellectual property rights on US products marketed in China. On the other hand, the United States committed to rolling back tariffs on USD120 billion of Chinese goods entering the US from 15% to 7.5%.

The rapid spread of COVID-19 to numerous countries outside China at the beginning of 2020 triggered intense global economic pressures. As of the end of March 2020, COVID-19 had been transmitted to 209 countries, spreading beyond Asia to Europe and the United States. COVID-19 transmission heightened uncertainty and impaired global financial market performance, sparked currency pressures and induced a capital reversal to safe-haven financial assets. Furthermore, the global economic growth outlook was downgraded due to disruptions in the global supply chain, compressed global demand and retreating economic confidence. Data from February 2020 showed that various indicators, including economic confidence, Purchasing Managers Index (PMI) and consumption, as well as electricity production decreased sharply. The global economic impact of COVID-19 will intensify due to limited fiscal and monetary policy space coupled with sluggish economic growth.

The global COVID-19 pandemic, accompanied by high global financial market uncertainty, will impede the domestic economic recovery process. COVID-19 risks are transmitted through the tourism, trade and investment channels. In terms of the trade channel, the prospect of slower global economic growth has eroded the export outlook for Indonesian goods. In addition, cross-border travel and mobility restrictions to contain the COVID-19 pandemic have severely impacted tourism. Regarding investment, COVID-19 has triggered foreign exchange market and financial market shocks, particularly in the stock and bond markets. In terms of revenue, the pandemic is expected to compress private and government demand.

Chart 1. COVID-19 Transmission to Domestic Economy



Source: Bank Indonesia, processed

BOX 1.1

Macroeconomic and Financial System Management amidst Increase Climate Change Risk

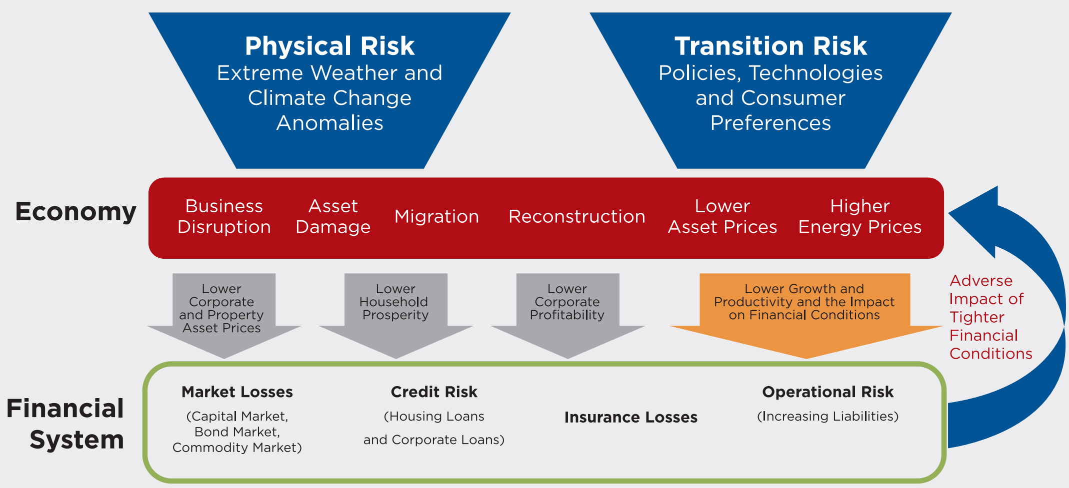
The emergence of various unknown risks has stoked public awareness and represents a key challenge for central banks in terms of managing the environmental, social and governance (ESG) risks, climate change in particular. That issue has become more relevant as a source of vulnerability and crises moving forward. As part of ESG, climate change is becoming a large determinant for investors when considering investment and portfolio allocation. Nevertheless, incorporating climate change in the financial system stability analysis framework is not a simple matter considering the complexity and high uncertainty. A traditional backward-looking risk approach is no longer considered relevant. Therefore, the macroprudential management framework must be improved through a forward-looking approach that encompasses climate change as part of the scenario.

In addition, various studies have shown that climate change has a large impact on the global economy. The Paris Agreement to the United Nations Framework Convention on Climate Change (UNFCCC) aims to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2°C above pre-industrial levels. An increase beyond 2°C would trigger a more detrimental heatwave, thus raising sea levels, reducing agricultural and fishing output as well as adversely impacting other sectors, such as energy, tourism and construction. The expected impact of climate change is in line with the World Economic Forum publication (2020) that placed environmental risk as the main risk in terms of probability and impact. In fact, environmental risk was considered more influential in terms of the global economy than financial-economic risks, geopolitical risks, technology risks and social risks.

The economic impact of climate change has come to the attention of various parties. Many countries have ratified the Paris Agreement, including the Indonesian Government through Act No. 16/2016, which has also submitted its Nationally Determined Contributions (NDC) to UNFCCC. Government measures are aligned with Bank Indonesia, which have drawn attention to climate change considering its impact on monetary and financial stability. Climate change risks are transmitted to macro-financial conditions through two main risk channels, namely physical risk and transition risk. Physical risk includes damage that emerges due to climate change anomalies, the impact of which is felt directly. Meanwhile, transition risk emerges from changes in policy, technology and market sentiment in relation to climate change and the low-carbon economy.

In its Global Financial Stability Report (GFSR) for 2019, the International Monetary Fund (IMF) illustrated the transmission of climate change risk originating from physical risk and transition risk, which is expected to disrupt the economy before reaching

Chart 1.1 Transmission of Physical Risk and Transition Risk from Climate Change



Source: GSFR 2019, processed

the financial system. The impact of climate change is expected to disrupt business activity, lower asset prices and raise other prices, which will trigger larger economic disruptions and ultimately spill into the financial system.

A sustainable financial ecosystem approach is required to anticipate the impact of climate change on the economy and financial system. Currently, ESG principles are increasingly being integrated into business decisions, economic development and investment strategies, which has become known as sustainable finance. Sustainable finance has the full backing of the financial industry towards sustainable growth generated through harmony between ESG interests. The approach and instruments provided through sustainable finance include green finance, sustainable financial products, divestment of sectors, businesses and/or projects that do not meet ESG criteria, risk management instruments and other supports to increase awareness concerning ESG principles (Berensmann et al, 2016).

Bank Indonesia actively participates and supports the sustainable finance initiative. In addition to macroprudential policy oriented towards sustainable finance, Bank Indonesia also supports the initiative through membership at various international forums. In 2019, Bank Indonesia officially joined the Network for Greening the Financial System (NGFS), which is a group of central banks and supervisors willing, on a voluntary basis, to share best practices and contribute to the development of environment and climate risk management in the financial sector and to mobilise mainstream finance to support the transition toward a sustainable economy.

Bank Indonesia's NGFS membership contributes to several strategic issues. Through NGFS, Bank Indonesia is involved with two salient issues, namely: (i) development of a scenario analysis framework for risk assessment in relation to the environment, the impact and transmission to the macroeconomy and financial system; and (ii) strategies to increase green financing in the financial system, including strengthening the institutional support of central banks and supervisors towards green finance, such as the development of green financial instruments and reserve asset placements in green financial instruments.

Seizing the opportunity, the Government continues to promote sustainable development through green financing schemes. To that end, the government has issued Green Bonds as part of Indonesia's commitment to the SDGs relating to climate change. In 2019, Indonesia's Government issued green bonds worth USD750 million. In terms of the private sector, PT Sarana Multi Infrastruktur (PT SMI) issued Continuous Green Bonds I valued at Rp3 trillion. In phase 1, PT SMI released green bonds with an issuance value of Rp500 billion in 2018 intended specifically for green projects and to steer the transition process towards low-carbon and green growth, as well as to protect, conserve and increase environmental quality.

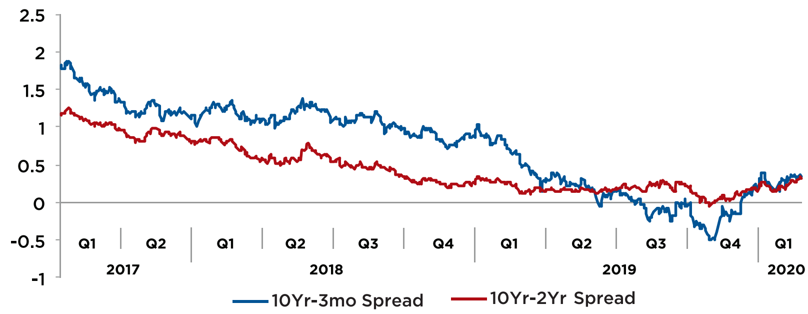
In addition to NGFS, Bank Indonesia also actively supports green financing through participation at several international forums. Through the Interest Group on Sustainable Finance- EMEAP WGBS and in conjunction with other central banks in the ASEAN region, Bank Indonesia initiated the Task Force on the Role of Central Banks in Addressing Climate and Environment-Related Risks, and participated at various other international fora in the same vein. Furthermore, as a preliminary move to bolster financial system resilience to climate change risk, Bank Indonesia has relaxed additional LTV and downpayment requirements for green housing and automotive loans in order to drive green property and green vehicle ownership in Indonesia. Through the policy, the public are eligible for additional incentives on green housing and automotive financing.

1.2 Global Economic Softness Amplifying Global Financial Risks

Loose global financial conditions, characterised by low interest rates and abundant liquidity in advanced economies, have pushed global investors to search for higher yields. Increasing liquidity has driven portfolio capital flows to advanced economies, dominated by the United States, and developing economies. Attractive yields in the United States compared with other advanced economies have increased demand for US government debt securities, even triggering an inverted yield curve in the third quarter of 2019 (Graph 1.6). In contrast, government debt securities in Japan and most countries in Europe are offering negative yields, even for 10-year tenors (Graph 1.7). More attractive yields in developing economies have drawn larger capital flows compared to advanced economies.

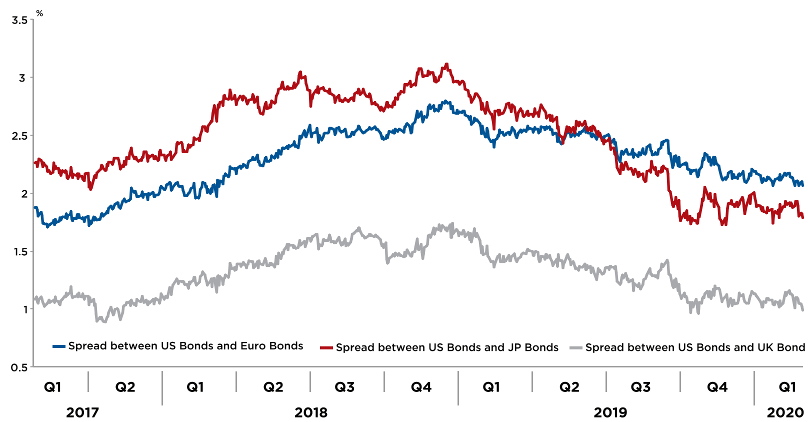
Positive sentiment, particularly towards the end of the second semester of 2019, induced an influx of capital flows to domestic financial markets. Foreign investors were drawn to domestic financial markets by global push factors, such as less uncertainty surrounding the trade war and the global accommodative policy stance, as well as domestic pull factors. The domestic pull factors that made Indonesia competitive compared to assets in other emerging markets are recapitulated as follows: more attractive yields than peer countries (same rating agencies), maintained economic growth differential due to solid domestic economic resilience as well as a comparatively lower stock price index valuation cost. In addition, other pull factors included sound macroeconomic conditions and maintained political stability. ESG factors also drew global investors to domestic markets, including climate change issues and sustainable finance. An in-depth description of ESG factors is presented in Box 1.1 concerning Macroeconomic and Financial System Management amidst Increasing Climate Change Risk.

Graph 1.6 US Inverted Yield Curve



Source: Bloomberg, processed

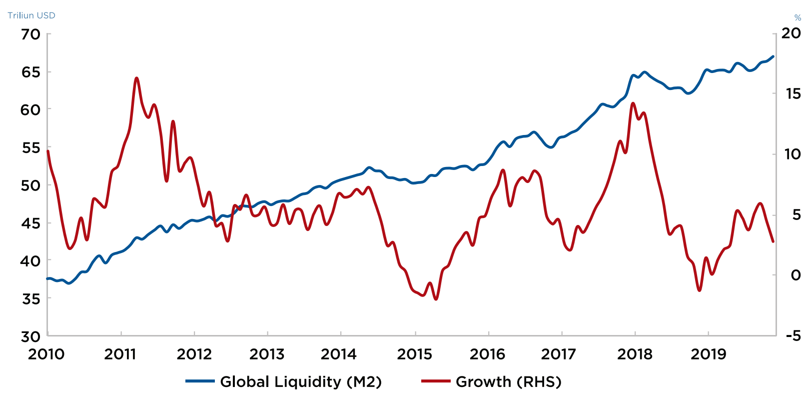
Graph 1.7 US Bond Yields compared to Europe and Japan



Source: Bloomberg, processed

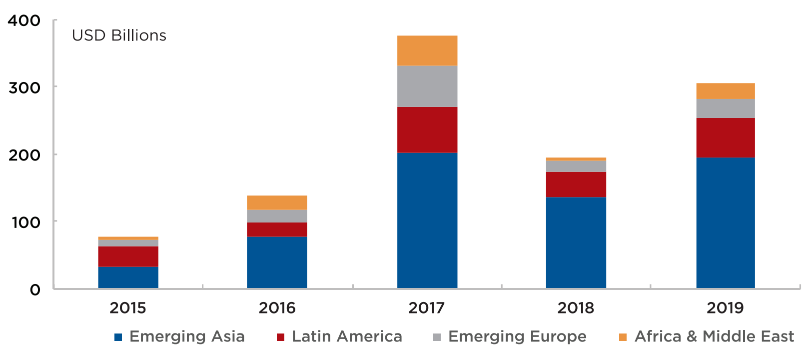
Notwithstanding, foreign capital inflows as a form of risk-taking behavior in search for yield can increase volatility risk and, thus, must be monitored. The lower-for-longer trend affecting yields is expected to persist and increase capital flows, particularly to financial markets offering more attractive yields. Capital inflows to developing economies have therefore persisted with high volatility. Furthermore, enduring global economic moderation amidst monetary easing has triggered a rebalancing of global liquidity to financial markets. Rebalancing has occurred in the form of portfolio investment in the money market, as well as stocks and bonds in developing economies (Graph 1.8). The volatility of portfolio investment flows is comparatively high against a backdrop of economic moderation in advanced economies, as well as an accommodative global monetary policy stance and heightened financial market uncertainty (Graph 1.9).

Graph 1.8 Increasing Global Liquidity



Source: Bloomberg: US, China, Europe, Japan, processed

Graph 1.9 Capital Flows to Emerging Markets

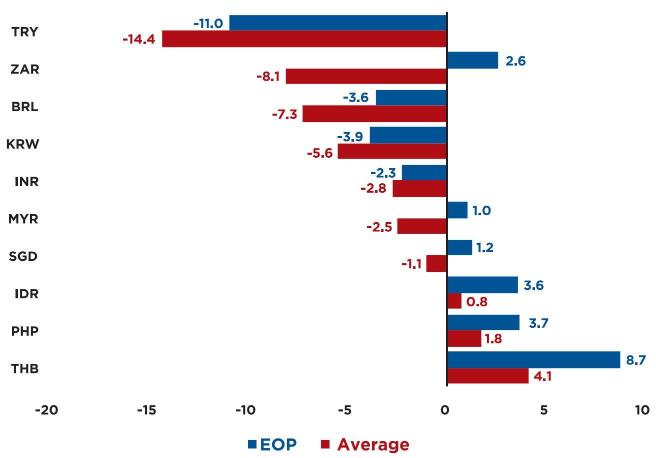


Source: National Sources, Bloomberg, IIF, processed

High volatility of capital flows to developing economies exacerbated currency volatility in developing economies. Faster economic growth in the United States compared with other advanced economies and a change in the policy direction of the US Federal Reserve that strengthened the US dollar broadly against other currencies, including Indonesia, triggered exchange rate depreciation, particularly affecting developing economies. Hardest hit were the currencies of Turkey, Brazil and South Africa, accompanied by high volatility compared with other countries. Meanwhile, Indonesia, the Philippines and Thailand experienced exchange rate appreciation in the latter half of 2019, while containing volatility in line with the promising economic outlook and more attractive yields (Graph 1.10 and 1.11). Therefore, policy design was oriented towards maintaining attractive yields, positive sentiment and policy credibility, while continuing economic transformation in conjunction with the government in order to attract longer-term capital flows with a focus on financing productive sectors.

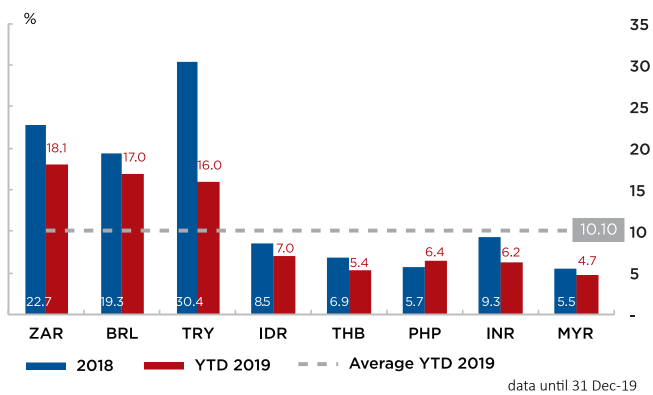
The global COVID-19 pandemic has triggered intense global financial market pressures, as reflected by a sharp spike in the VIX Volatility Index beyond that recorded during the global financial crisis in 2008. Such conditions triggered shocks in global stock markets, bond markets and foreign exchange markets. In response, central banks and governments around the world lowered interest rates, injected liquidity and provided other fiscal incentives. The US Federal Reserve trimmed its interest rate to nearly 0% and injected USD700 billion of liquidity through purchases of Treasury Bonds and Mortgage-Backed Securities. Such policies aimed to alleviate the burden on the financial industry, corporate sector and households.

Graph 1.10 Exchange Rates in Developing Economies



Source: Bank Indonesia, processed

Graph 1.11 Exchange Rate Volatility in Developing Economies



Source: Reuters, Bloomberg, processed

BOX 1.2

Urgent Global Financial Cycle Revisit amidst Risk Propagation from Global Macroeconomic and Financial System Conditions

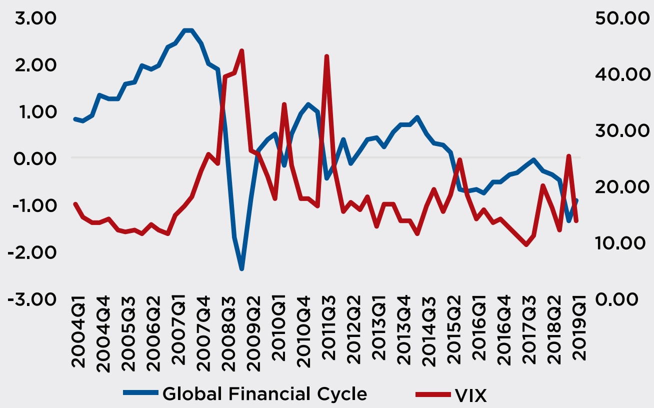
Global capital flow dynamics together with the monetary cycle in advanced economies and risk-averse behavior amongst investors have changed the behavior of the global financial cycle. The Global Financial Cycle (GFCy)[1] is influenced by investor risk appetite to financial uncertainty, as reflected in the VIX Volatility Index. A low VIX over a relatively long-term does not indicate low risk, however, instead inferring a potential build-up of risk. Low financial uncertainty increases capital flows, credit creation, leverage and asset prices. Systemic risk can materialise from such global capital flow dynamics, as occurred in 2008, triggering a financial crisis.

Global macrofinancial turbulence influences macrofinancial conditions in Indonesia, where global financial risks are transmitted through the financial channel. Attractive yields on financial assets for investment in Indonesia, coupled with the upgraded sovereign rating, have been exploited by global investors searching for higher yields against a backdrop of global financial uncertainty. Such conditions were confirmed by capital flow dynamics in Indonesia, which have been impacted by financial uncertainty and the global financial cycle. Foreign capital inflows have surged, dominated by portfolio investment. Such capital flows demand vigilance, however, due to high volatility and the risk of sudden reversal. Consequently, an indicator is required that not only signals domestic imbalances but also risk propagation from external financial conditions, which could assist the formulation of Capital Flow Management (CFM) and the policy mix.

Indonesia's Financial Cycle (IFCy), which has been used by Bank Indonesia since 2015, requires further revision. IFCy 2015 was compiled based on loan dynamics and the ratio of bank credit to GDP, which are considered relevant as bank loans represent the dominant source of financing in Indonesia. Nonetheless, in line with global macrofinancial developments, the scope of the financial cycle must be expanded to detect risk propagation from the global economy. To that end, Bank Indonesia revisited the Indonesia's financial cycle in 2019 using total credit, consisting of bank loans, financing from non-bank financial institutions, capital market financing and external debt as the main components as proxies of financing constraints[3].

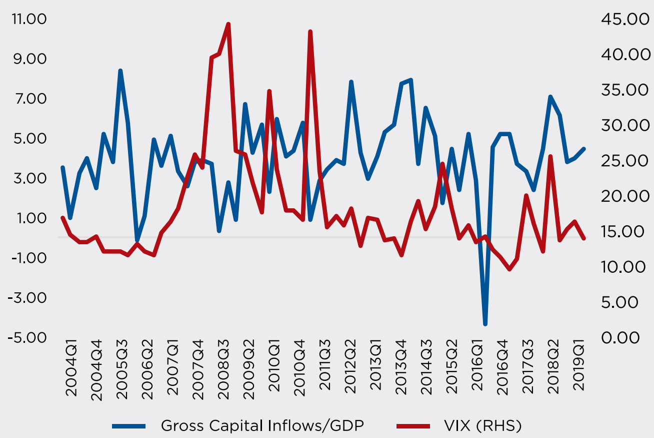
In addition, IFCy 2019 also considers stock prices through the Jakarta Composite Index (JCI) as a proxy of value and risk perception (asset prices). In terms of the methodology, Bank Indonesia strengthened IFCy 2019 as a composite of total credit, total credit to GDP and JCI[4] through spectral and Kalman filter analysis[5].

Graph B1.2.1 Global Financial Cycle Developments[2]



Source: Miranda-Agrippino and Rey (2015); Bloomberg, processed

Graph B1.2.2 Foreign Capital Flows to Indonesia



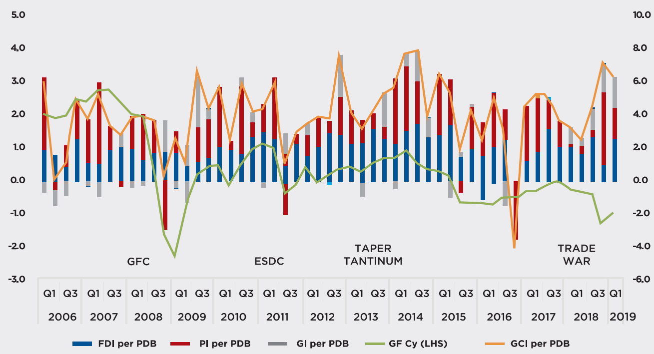
Source: Bank Indonesia; Bloomberg, processed

[1] Bekaert et al. 2012; Miranda-Agrippino and Rey 2012; Bruno and Shin 2013b
[2] Miranda-Agrippino and Rey (2015) global financial cycle; Latest data is only available until the first quarter of 2019
[3] Based on the financial cycle definition put forward by Borio (2012), the financial cycle is represented by at least two elements: (i) asset prices as a proxy of value and risk perception; and (ii) financing constraints.
[4] The composite IFCy 2019 is based on three common cycle components, namely total credit, total credit to GDP and JCI based on Principal Component Analysis (PCA).
[5] Spectral analysis is used to determine the cycle duration, which is relatively short in Indonesia at 2-8 years compared to the financial cycle in advanced economies. Meanwhile, the Kalman filter is used to overcome previous filtering analysis weaknesses using frequency-based filters that entail endpoint constraints.

Indonesia's Financial Cycle (IFCy) is able to capture the risk propagation from global macrofinance condition well. Co-movement occurs between the global financial cycle and Indonesia's financial cycle, as reflected by a Concordance Index[6] of 51% between the two. In addition, co-movement between the global financial cycle and Indonesia's financial cycle was also confirmed by local projections of the Impulse Response Function (IRF) obtained usingVector Auto Regression (VAR) models. This showed global financial dynamics are transmitted to financial conditions in Indonesia, with the domestic financial cycle responding to an uptick in the global financial cycle with a lag of 2-4 quarters, peaking three quarters after an increase in the GFCy.

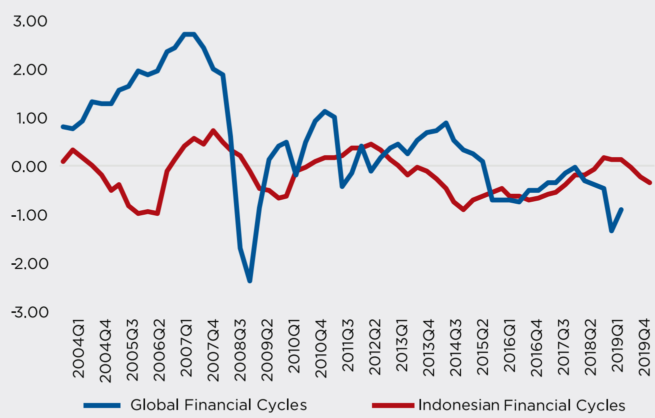
Seeking to dampen the effects of global financial turbulence on domestic finance, Bank Indonesia continuously applies a policy mix, while simultaneously strengthening policy coordination and synergy with the government and other relevant authorities. Furthermore, to maintain financial system stability, Bank Indonesia has maintained an accommodative macroprudential policy stance in order to stimulate and strengthen bank lending. Such policies aim to expand intermediation and catalyse sustainable economic growth momentum, while maintaining financial system stability.

Graph B1.2.3 Disaggregated Capital Inflows and Global Financial Cycle



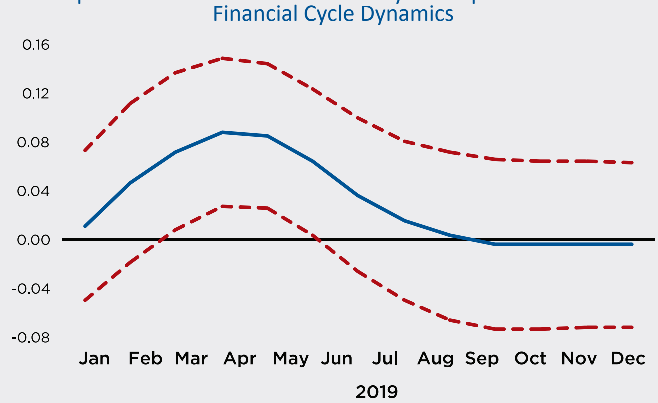
Source: Bank Indonesia; Miranda-Agrippino and Rey (2015), processed

Graph B1.2.4 Global and Indonesia's Financial Cycle



Source: Bank Indonesia, processed

Graph B1.2.5 Indonesia's Financial Cycle Response to Global Financial Cycle Dynamics



Source: Bank Indonesia, processed

[6] The Concordance Index (CI) was introduced by Harding and Pagan (2006) based on the following formula:

$$CI_{xy} = \frac{1}{T}\sum_{t=1}^{T}\left[C_t^x C_t^y + \left(1-C_t^x\right)\left(1-C_t^y\right)\right]$$

Two series are said to experience co-movement with a CI value of greater than 50%.

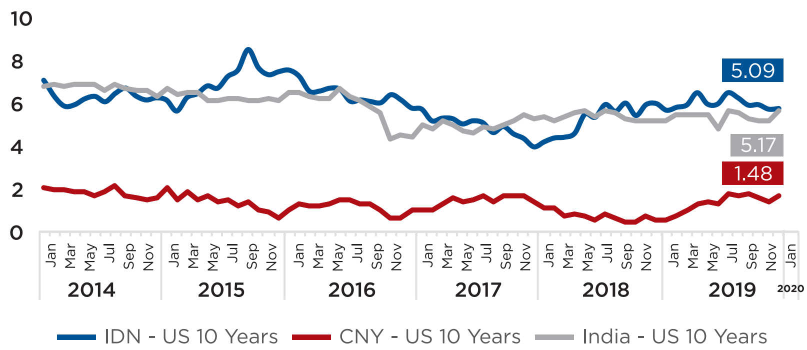
1.3 Domestic Financial System Stability Maintained despite Build-up of Global Financial Risks

The dynamics and complexities of the macroeconomy and financial system have implications in terms of changes in the global and domestic financial cycles. Consequently, Bank Indonesia has refined its methodology to calculate the domestic financial cycle in order to better detect risk propagation from global macroeconomic and financial system conditions. This is described in more detail in Box 1.2 concerning Urgent Global Financial Cycle Revisit amidst Risk Propagation from Global Macroeconomic and Financial System Conditions. The study shows that the domestic financial cycle responds to an uptick in the global financial cycle with a lag of 2-4 quarters, peaking three quarters after an increase in the GFCy.

The impact of global financial market dynamics is transmitted to the domestic macroeconomy and financial system through the trade and financial channels. In terms of the trade channel (global value chain), exports contracted 0.87% in 2019, primarily held back by manufacturing exports to advanced economies. Furthermore, shipments of Indonesia's main export commodities, namely crude palm oil (CPO) and coal, have been affected by policies taken in trading partner countries, including CPO import tariffs in India and import restrictions on coal in China. In terms of crude oil, and export contraction was triggered by domestic policies to optimise crude oil utilisation for domestic purposes. The global economic slowdown, accompanied by weaker manufacturing exports and soft commodity prices, has impaired domestic corporate performance.

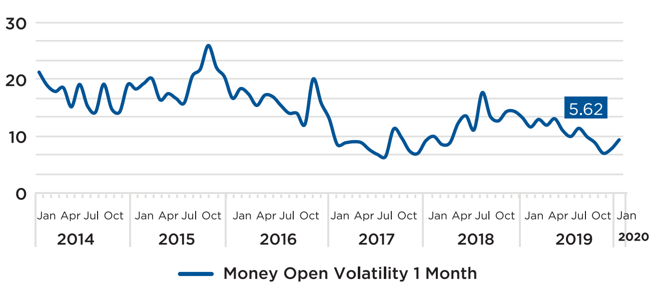
In terms of the financial channel, strong foreign capital flows to Indonesia have been maintained. Foreign capital inflows to Indonesia have been dominated by government securities (SBN), medium and long-term government debt securities (SUN) in particular. An influx of foreign capital was maintained due to an attractive valuation and, despite narrowing towards the end of the year, the yield spread between Indonesia and the United States remains the highest in the industry (Graph 1.12). Against a global backdrop of yield seeking, the high yield spread in Indonesia has drawn foreign capital inflows, which is also in line with lower exchange rate volatility and improvements in Indonesia's Credit Default Swap (CDS) (Graph 1.13 and Graph 1.14).

Graph 1.12 Comparison of Yield Spread



Source: Bloomberg, processed

Graph 1.13 Exchange Rate Volatility



Source: BEI, Bank Indonesia, processed

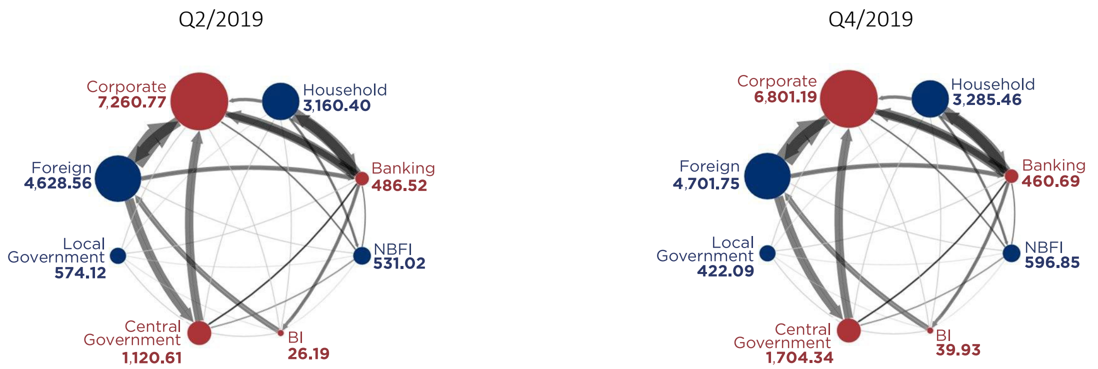
Graph 1.14 CDS Indonesia

Source: Bloomberg, processed

The impact of global economic performance together with macroeconomic and domestic financial system resilience, through the financial channel and real sector, is reflected in the position and transactions recorded in the Financial Account and Balance Sheet Indonesia (FASBI). In this case, the contribution of the external sector as a source of domestic economic funding remains large despite a decline of net inflow. The decline of external net inflow was mainly driven by a decrease in central bank liabilities in the form of securities in the context of implementing monetary policy. Meanwhile, the largest net liabilities experienced by the corporate sector in fourth quarter 2019 relatively decreased compared to second quarter 2019 (Graph 1.15).

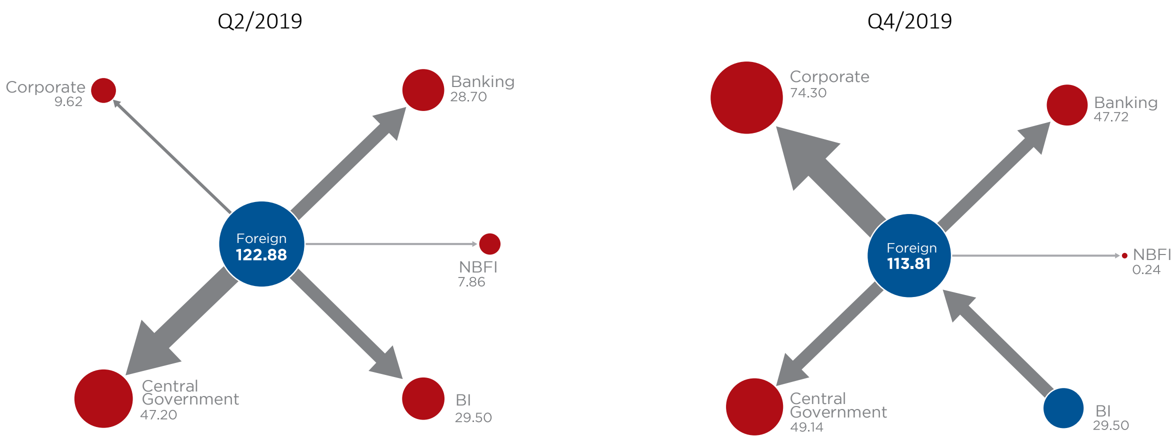
The balance sheets of domestic sectors have experienced slower growth compared with conditions in the second quarter of 2019 on the asset and liability sides. In terms of the position, domestic sectoral balance sheets recorded a larger net liability compared with conditions in the second quarter of 2019. Regarding the transactions, the government sector recorded the largest net borrowing in line with an increase of SBN issuances, which were primarily absorbed by the external sector, banking industry and households. The government increased borrowing mainly to finance its work program at the end of 2019. Meanwhile, the corporate sector recorded the largest net borrowing against the external sector, which is in line with the uptick of direct capital investment by the external sector and purchases of corporate securities. Corporate sector borrowing was used to finance production at the end of 2019. The increase of corporate borrowing from the external sector was also reflected in the transaction trends in the fourth quarter of 2019 (Graph 1.16).

Graph 1.15 Total Network Analysis of Financial Positions in Q2/2019 and Q4/2019 (Rp, trillions)*



Notes:
● Net Assets ● Net Liabilities
Nodes (bubbles) represent a net asset and liability position, while the edges represent inter-sector exposure.
*Preliminary values
Source: Bank Indonesia, processed

Graph 1.16 Analysis of Foreign Financial Transactions in Q2/2019 and Q4/2019 (Rp, trillions)*



Notes:
● Net Assets ● Net Liabilities
Nodes represent net financial position, while the edges represent bilateral exposure between sectors.
*Preliminary values
Source: Bank Indonesia, processed

In general, risk indicators for domestic sectors have remained sound despite persistent global instability. Domestic financial resilience to international dynamics is solid, as confirmed by improvements recorded in terms of solvency risk and external risk. Furthermore, leverage risk has been contained within a manageable threshold. On the other hand, however, growing risk in the government sector demands attention along with a suboptimal bank intermediation function as risk indicators rise in both sectors. Notwithstanding the increase, risk indicators generally infer maintained financial system stability (Table 1.3).

Consistent with relatively well-maintained financial activity between sectors in the domestic economy during the second semester of 2019, domestic macroeconomic conditions and financial system stability have also been preserved. This was confirmed by an improvement in the Financial System Stability Index (FSSI) compared with conditions in the previous semester (Graph 1.17). Upward momentum was primarily driven by less pressure on financial institutions, particularly in terms of stronger bank capital and liquidity. A stronger capital position in the banking industry was demonstrated by an increase in the Capital Adequacy Ratio (CAR) from 22.53% in June 2019 to 23.31% in December 2019. Furthermore, bank liquidity also improved, as denoted by an increase in the ratio of liquid assets to deposits from 19.05% in June 2019 to 20.86% in December 2019. Market pressures have also subsided in terms of JCI and exchange rate volatility, accompanied by lower yields on government bonds (Graph 1.18 and Graph 1.19).The risks associated with slower intermediation growth in the financial system due to the impact of global financial risks necessitate vigilance. Growth of economic financing decelerated from 9.40% in the first semester of 2019 to 5.62% in the second semester of 2019. Meanwhile, banks have been less inclined to lend, with bank financing growth slumping from 9.92% in the first semester of 2019 to 6.08% in the second semester of 2019. The slowdown stems from less demand for financing from non-financial corporations in line with declining world trade volume and early indications of increasing risk perception by the banking industry concerning real sector conditions.

Additionally, global macroeconomic and financial system conditions impacted by COVID-19 will also impede the domestic economic recovery and influence financial system stability in Indonesia. The COVID-19 outbreak, which has spread with rapidity to numerous countries since the beginning of 2020, could potentially impair macroeconomic and financial system performance, as indicated by a bump in the Financial System Stability Index (FSSI). In turn, such conditions will affect domestic corporate and household performance. The government sector and Bank Indonesia will also be affected in order to alleviate pressure in the domestic economy and counteract external sector dynamics. Similar to other countries, the impact of COVID-19 is transmitted through the tourism, trade and investment channels. Therefore, sectors with high exchange rate exposure and tourism activity will be hit hardest by the pandemic.

Table 1.3 Comparison of Balance Sheet Risk Indicators in Q3/2019 and Q3/2018[3]

No	Risk type	Main Indicator	Domestic	Corporate	Banking	IKNB	Central Goverment	Household
1	Liquidity Risk	Net Short Term Position to GDP (E-I) (GDP)	(10.08) ↘	(9.65) ↘	7.75 ↗	10.07 ↗	(26.47) ↗	(5.66) ↗
2	Currency Risk	Net Foreign Exchange Position to GDP ((D-HJ)/GDP)	(11.66) ↘	3.25 ↘	0.52 ↘	0.36 ↘	(17.79) ↗	1.99 →
3	External Risk	Net External Position to GDP ((F-J)/GDP	(40.65) ↗	(14.84) ↗	(7.95) ↘	(0.36) ↘	(17.50) ↗	-
4	Leverage Risk	Debt to GDP (K/GDP)	145.31 ↘	38.25 ↓	44.38 ↘	8.76 ↗	32.67 ↗	20.93 ↓
5	Solvency Risk	Net Financial Position to GDP ((A-G)/GDP)	(29.41) ↗	(46.22) ↗	(2.60) ↘	4.35 ↗	(8.01) ↗	19.40 ↗

Notes:

Risk scale (left to right): ↑ - ↗ - → - ↘ - ↓ (improving-deteriorating)

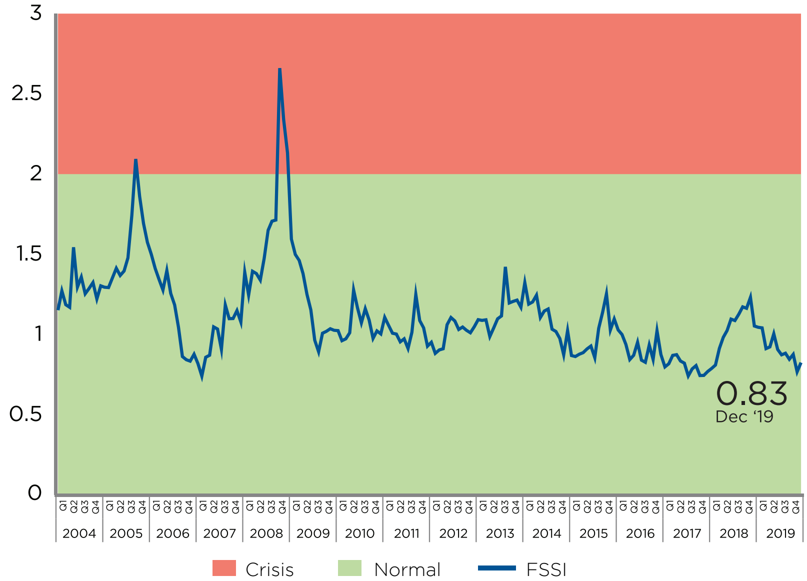
Liquidity, Currency, External and Insolvency indicators have declined implying higher risk, contrasting the Leverage indicator, which has increased implying higher risk.

Preliminary values. Values presented as ratios.

Source: Bank Indonesia, processed

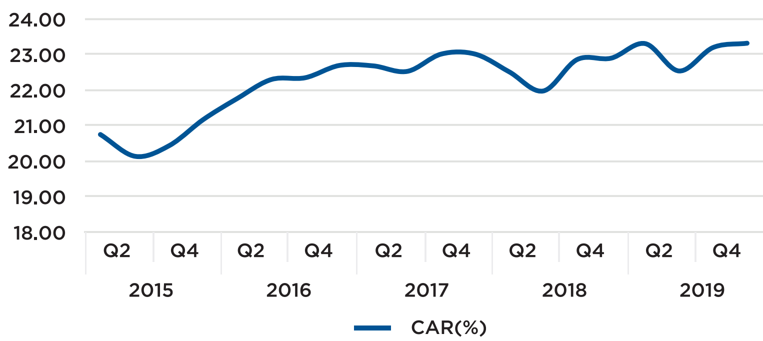
[3] The numbers used in the indicators in risk analysis use FABSI position data

Graph 1.17 Financial System Stability Index (FSSI)



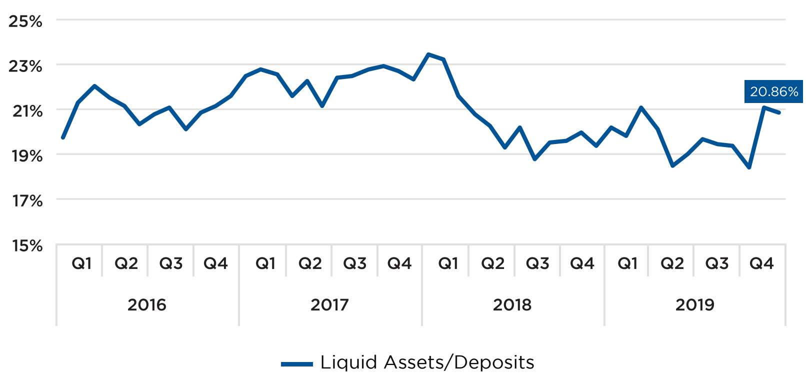
Source: Bank Indonesia, processed

Graph 1.18 Bank Capital Adequacy Ratio (CAR)



Source: OJK, processed

Graph 1.19 Bank Liquid Assets to Deposits



Source: OJK, processed

Chapter II
VULNERABILITIES

In the second semester of 2019, Indonesia's financial system was confronted four main sources of vulnerability with the potential to disrupt financial system resilience in the event of a global or domestic shock. The first vulnerability was influenced by linkages between corporate performance and global financial and macroeconomic dynamics, particularly in the affected commodity-based sectors and manufacturing industry. Corporate vulnerability in Indonesia could potentially increase if the decline of trade volume and goods exports from Indonesia that has persisted since last year continues, manifesting in a shock stemming from an unknown risk. If allowed to materialize, such a vulnerability would constitute a risk to financial system stability.

The second vulnerability emerged due to lower repayment capacity, particularly amongst corporations holding external debt. A comparatively high portion of external debt in terms of corporate financing could potentially compound market risk in the event of higher exchange rate volatility. On the other hand, additional global shocks could further suppress corporate repayment capacity. Consequently, the corporate sector is mitigating such risks through hedging activity to meet Bank Indonesia's mandatory hedging requirements for corporations holding foreign debt.

The third vulnerability stems from a broad household exposure to corporate performance. External pressures on corporate performance relating to commodity exports and other impacted sectors are being transmitted to household incomes in the affected sectors. Household performance will be disrupted if the risks continue to transmit from the corporate sector and households fail to apply sound risk management principles.

The fourth vulnerability is the result of the banking industry exposure to corporations and households in disrupted sectors, particularly where sectoral credit concentration is an issue. Deteriorating corporate performance in several sectors due to the impact of the trade war and lower commodity prices have reduced demand for new loans and increased Loans at Risk (LaR) in the corporate and household sectors. If pressures on corporate and household performance continue together with sluggish credit growth, further vulnerabilities could emerge with the potential to materialize into financial system stability risk.

2.1 Domestic Non-Financial Corporate Vulnerabilities to Global Macroeconomic and Financial Dynamics

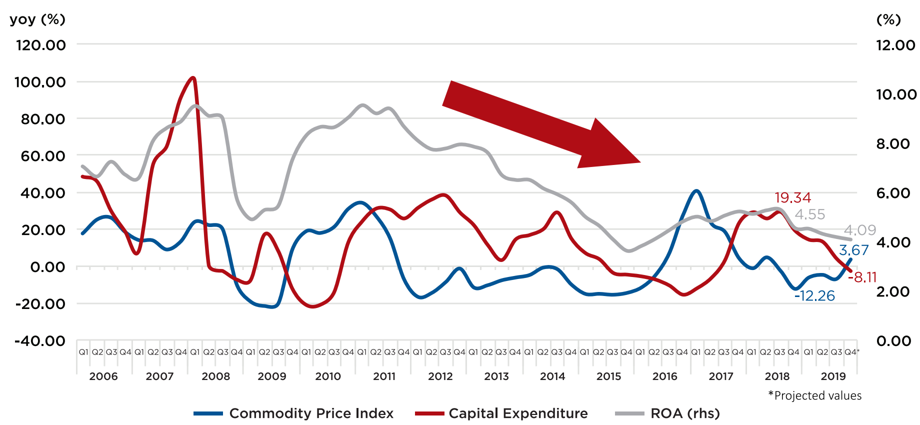
As a small open economy, the performance of domestic non-financial corporations (herein referred to as corporations) has been affected by global economic moderation. Domestic corporations are potentially vulnerable, especially those oriented towards exports, importing raw materials or burdened with large external debt. Export-oriented corporations, particularly those engaged in commodity sectors are vulnerable if demand and prices decline as global economic moderation persists and the geopolitical risks increase. Meanwhile, manufacturing corporations that import raw materials would experience intense pressures on the cost of goods produced in the event of exchange rate depreciation or supply shocks.

Such dynamics have increased the vulnerability of sales at export-oriented corporations and in the manufacturing industry, for which raw materials are often imported. Sliding commodity prices in the international market over the past several years have undermined performance at export-oriented corporations. Meanwhile, global economic moderation, which has eroded world trade volume, has also compressed demand for Indonesia's manufacturing exports. Furtherance of the trade war, accompanied by the relocation of factories and marketing of Chinese products, including in Indonesia's export markets, has also affected Indonesia's manufacturing sales.

Event analysis and empirical testing have evidenced a correlation between commodity prices and corporate profitability. During the period from 2006-2019, corporate profitability and investment moved in line with commodity prices, which is consistent with the commodity sector's significant contribution to the economy[1], particularly coal and crude palm oil (CPO), coupled with strong interlinkages (agriculture and mining) to other sectors. During the commodity price boom from 2003-2011, corporate profitability increased in line with rising prices yet subsequently declined as the price boom faded. Commodity prices continued to slide in 2019, however, leading to deeper corporate profitability declines (Graph 2.1.1). In addition, corporate profitability was eroded further during periods of distress (Graph 2.1.2). Periods of distress were also denoted by GDP (Graph 2.1.3). Interconnectedness and linkages between the commodity cycle, business cycle, and credit cycle have been reflected during three episodes of increasing corporate distress (Graph 2.1.4). Subdued corporate performance increases the percentage of corporations under distress and impairs credit growth. If left unchecked, such conditions will trigger flatter credit growth.

In addition to the impact on profitability, commodity price developments also influence corporate investment decisions. An empirical study by Magud and Sosa (2015)[2] showed that low private investment is associated with expectations of decreasing profitability and low commodity prices. Moreover, capital expenditure also continues to track a decelerating trend. Such conditions have emerged in several key CPO and coal-producing regions in Sumatra and Kalimantan. In response to low commodity prices, businesses have adopted a wait-and-see attitude, which has decreased export revenues and impacted overall investment performance. The production of fresh fruit bunches and CPO in Sumatra experienced slower growth in 2019 despite expanding on the position recorded in 2018. Similarly, coal production has experienced a contraction in line with lower production quotas and compressed demand from China.

Graph 2.1.1 Export Commodity Prices, Corporate Profitability and Capital Expenditure*



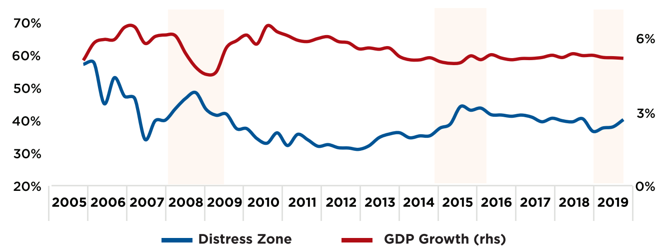
Source: Bank Indonesia, processed

[1] Garnaut, Ross, 2015. Indonesia's Resources Boom in International Perspective: Policy Dilemmas and Options for Continued Strong Growth. The Ninth Sadli Lecture, Jakarta, 21st April 2015.

[2] Magud, N and Sebastian Sosa (2015). Investment in Emerging Markets: We Are Not in Kansas Anymore… Or Are We? International Monetary Fund (IMF) working paper.

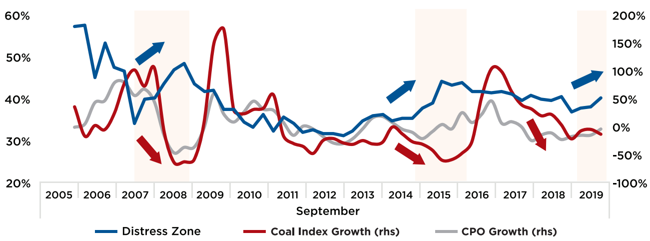
Volatility and lower commodity prices have amplified corporate repayment risk. CPO and coal remain the backbone of non-oil and gas exports from Indonesia[3]. Nevertheless, the value of CPO and coal sales as of the end of 2019 had charted downward trends, mirroring the prices of both commodities (Graph 2.1.5). The main challenge facing coal exports is lower demand from China due to tighter import controls, reduced coal consumption as an energy source and warmer weather than recorded in previous years. In terms of CPO, pressures have been fuelled by the escalating trade war, economic moderation in China as well as the European Union's (EU) designation of CPO as an unsustainable vegetable oil.

Graph 2.1.3 Distress Zone and GDP



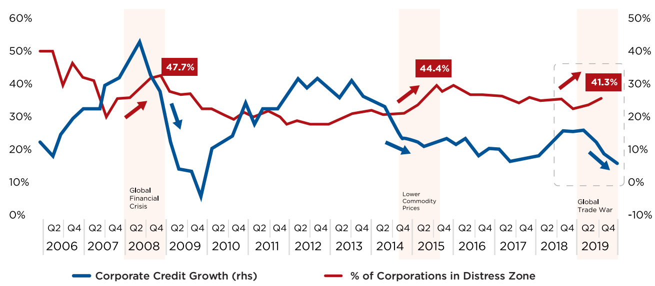
Source: BEI, Bloomberg, processed

Graph 2.1.2 Commodity Price Trends and Share of Distressed Corporations



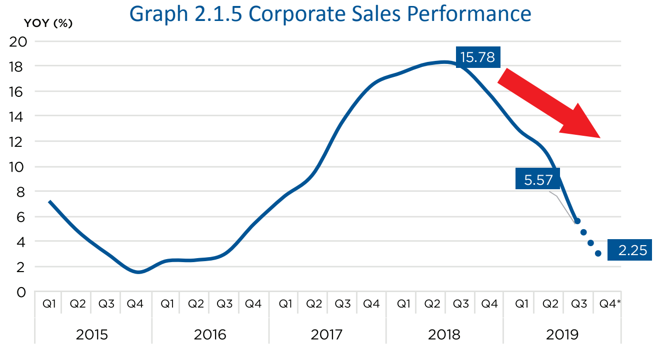
Source: BEI, Bloomberg, processed

Graph 2.1.4 Share of Distressed Corporations and Corporate Credit Growth



Source: BEI, Bloomberg, processed

Graph 2.1.5 Corporate Sales Performance



*Projected values

Source: Bloomberg, Bank Indonesia, processed

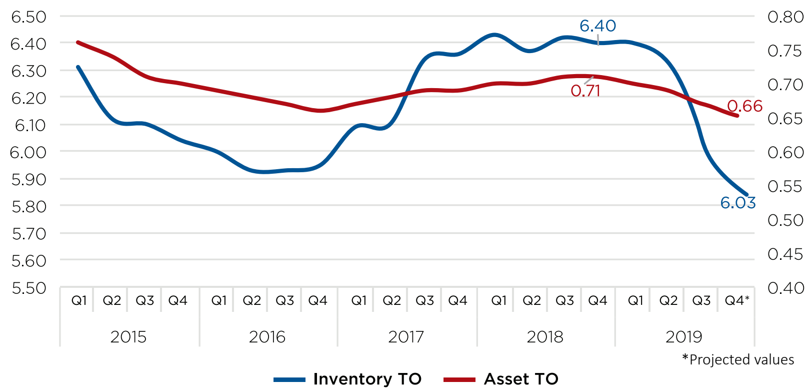
[3] Based on data from the Ministry of Finance (Customs Office), the share of coal and CPO exports accounted for 13.86% and 9.41% respectively in 2019, exceeding textiles (8.25%) and electrical equipment (6.02%).

2.2 Declining Corporate Repayment Capacity Cause for Concern

Global pressures have begun to impact corporate repayment capacity. Activity in the corporate sector continued to moderate as global uncertainty increased on the back of the trade war between the United States and China, Brexit uncertainty and escalating geopolitical conditions in several regions. On the other hand, flatter national economic growth could not shore up domestic corporate activity, as demonstrated by slower growth of inventory turnover compared with conditions in the past two years. Congruently, the asset turnover ratio also experienced weaker growth. Consequently, declining activity eroded corporate repayment capacity towards the threshold (Graph 2.2.2). As a measure of corporate repayment capacity, the share of corporations with an Interest Coverage Ratio (ICR) < 1.5 tended to increase, which also raised the level of corporate debt at risk (DaR).

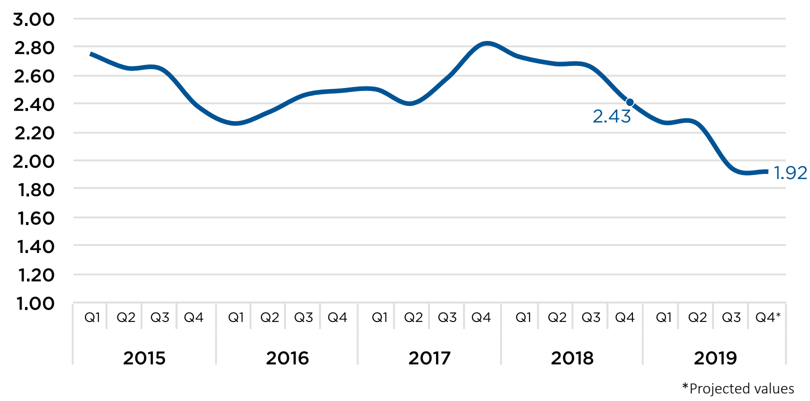
Global pressures also intensified currency risk and liquidity risk at corporations with a high level of external debt. Global pressures were felt more intensely by corporations with a high level of external debt, a net foreign liability position and foreign exchange source of income (import oriented). The results of mapping asset value and foreign currency liabilities of 250 corporations with the highest external debt showed that 43 corporations, accounting for 22.7% of total external debt, maintained a net foreign liability position and relied on a foreign exchange source of income. This group was susceptible to global economic pressures and domestic economic stagnation, which would undermine repayment capacity. Nevertheless, of the corporations with a net foreign liability but no source of foreign exchange income, only a small portion had failed to meet the hedging ratio (<25% of foreign currency exposure for the upcoming three months) and the foreign currency liquidity ratio[4] (Graph 2.2.4).

Graph 2.2.1 Corporate Activity Indicators



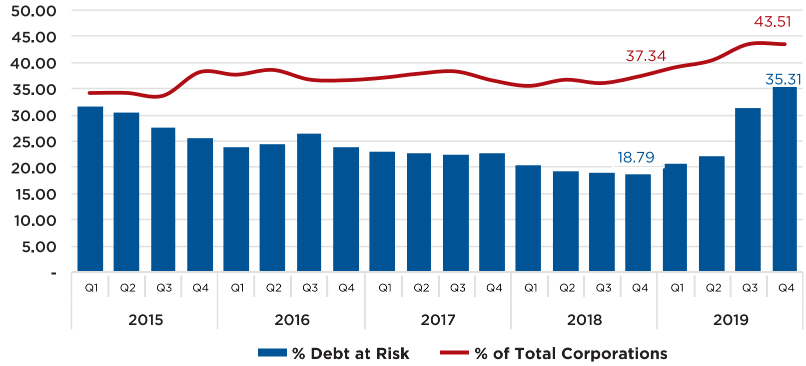
Source: Bloomberg, Bank Indonesia, processed

Graph 2.2.2 Corporate Repayment Capacity (Interest Coverage Ratio)



Source: Bloomberg, Bank Indonesia, processed

Graph 2.2.3 Share and Debt Value of Corporations with ICR < 1.5

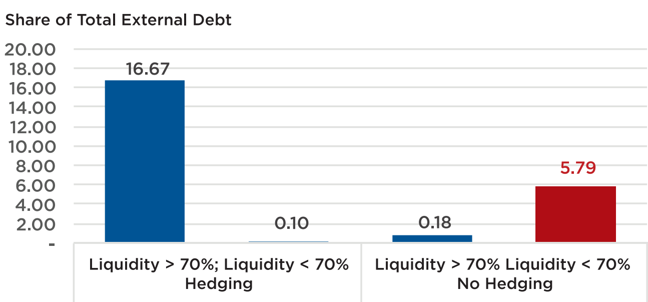


Source: Bloomberg, Bank Indonesia, processed

[4] Bank Indonesia Regulation (PBI) No.16/21/PBI/2014, Bank Indonesia.

The results of sectoral mapping showed that corporations in the manufacturing industry, electricity, gas and water supply (utilities), as well as the mining sector maintained the highest levels of external debt. Although the pace of external debt growth has decelerated, several indebted corporations in the manufacturing industry that utilize foreign financing to fund investment to increase production capacity have diversified export markets and developed activity at subsidiary businesses. Corporations with a high level of external debt in the utility sector primarily use the debt as a source of financing for strategic infrastructure development, including power stations, gas drilling and construction of a gas network. Meanwhile, large indebted corporations in the mining sector have used increasing levels of external debt to purchase assets and acquire new mines.

Graph 2.2.4 Share of Indebted Corporations with Net Foreign Liabilities and No Foreign Currency Income

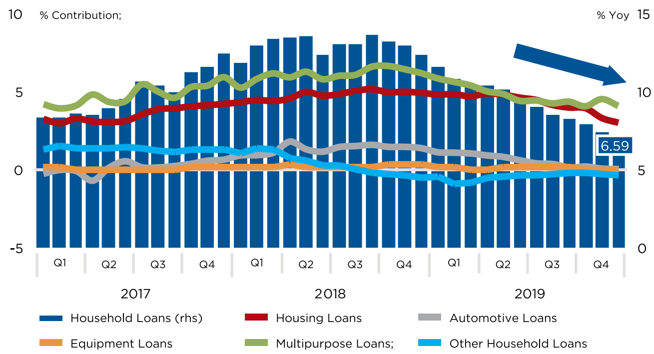


Source: Bank Indonesia, processed

2.3 Declining Corporate Performance Influencing Households

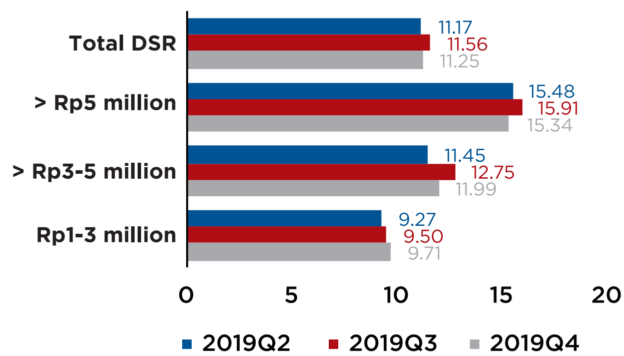
Sliding commodity prices amidst global economic pressures have undermined corporate performance and affected the household sector. Slower growth of household loans was recorded from the end of the third quarter of 2018 until the end of 2019. During that period, growth of household loans declined (Graph 2.3.1). Furthermore, declining household financial conditions were consistent with lower loan repayments, as reflected by a decline in the debt service ratio (DSR) throughout 2019 (Graph 2.3.2). Medium-income households (Rp3-5 million per month) were most affected by a lower DSR.

Graph 2.3.1 Household Loan Growth



Source: Bank Indonesia, processed

Graph 2.3.1 DSR by Spending Level (as a percentage)

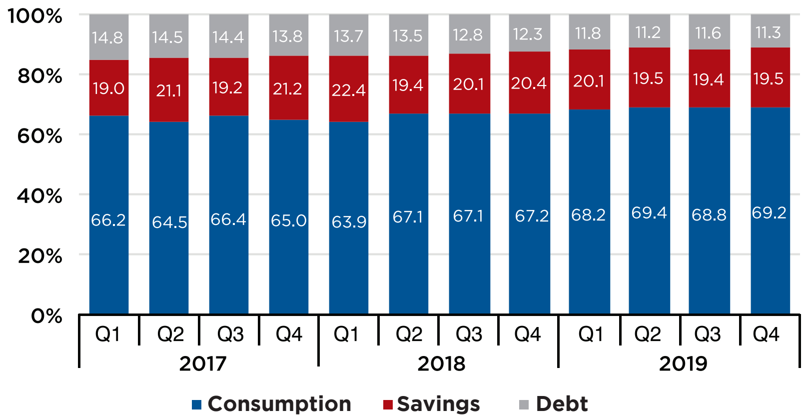


Source: Bank Indonesia, processed

Slower growth of household loans was accompanied by a decline in terms of loan quality, indicating a build-up of financial risk in the household sector. The ratio of non-performing loans (NPL) and loans at risk (LaR) for household loans tended to increase throughout 2019. In terms of composition, most credit risk in the household sector was concentrated on housing loans, with the corresponding LaR reaching 11.65%. In addition, most of the loans at risk in the household sector had a collectability score of two (Special Mention), implying a potential increase of credit risk if the pressures persist.

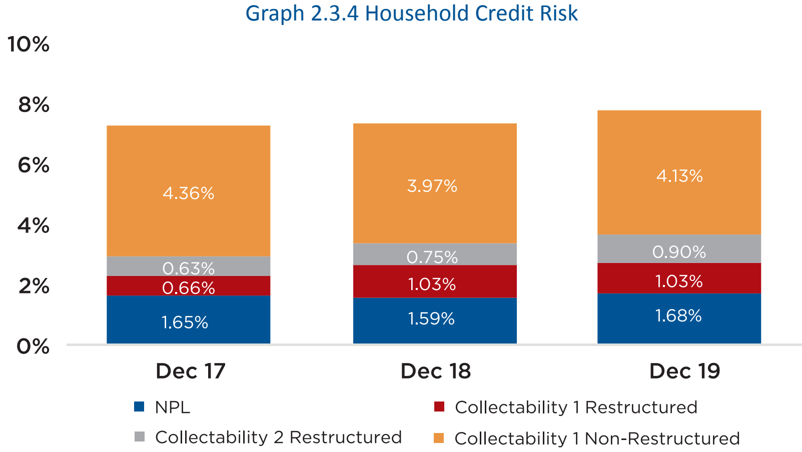
Households consequently reduced the share of debt in order to maintain consumption. The Consumer Survey conducted by Bank Indonesia showed that the average propensity to consume ratio increased in the household sector from 66.25% at the beginning of 2017 to 69.20% at the end of 2019 (Graph 2.3.3). Furthermore, the Survey also showed that household incomes trended lower throughout 2019, as confirmed by a decrease in the Current Income Index from a level of 123.3 in the first semester of 2019 to 119.3 in the second semester of 2019.

Graph 2.3.3 Household Income Allocation



Source: Bank Indonesia, processed

Graph 2.3.4 Household Credit Risk



Source: Bank Indonesia, processed

BOX 2.3

Joint Probability of Bank Default in Indonesia

After the global financial crisis in 2008, the financial system began to react differently to risk, namely in a non-linear and asymmetrical manner. Furthermore, endogenous risks also emerged from within the financial system itself.

Based on those risk characteristics, a non-linear model approach was vital to detect risks deep in the financial system and simultaneously develop the relationships between economic agents. Standard linear econometric models might not detect such risks (refer to Dalla Valle et al., 2016; Pourkhanali et al., 2016). A non-linear model, however, such as the pair-copula construction (PCC), can be used to estimate the joint probability of default (joint PD) occurring in Indonesia's financial system.

The copula is a function that combines two marginal distributions into one function (joint distribution). The joint distribution consists of the copula and marginal distributions using PCC, as put forward by Dalla Valle et al. (2016). The copula approach was introduced by Sklar (1959). Using four categories of bank asset and liability data, namely current assets (CA), long-term assets (LA), current liabilities (CL), and long-term liabilities (LL), potential systemic risk was estimated using the copula approach. First, the probability of default (PD) of each bank was estimated to obtain the multivariate dependencies, with each PD used to calculate the correlated default and then aggregated to obtain the joint PD of the system.

Balance sheet data was used as a proxy of corporate market value. Using Sklar's theory, data realization based on the balance sheet was constructed into a copula expressed as the following function:

(2)

$$E_t = P(t,T)\int_0\int_0\int_0\int_0 G_2\left(A_{C_T}, A_{L_T}, B_{C_T}, B_{L_T}; T\right)$$
$$\times c\left(F_{A_C}, F_{A_L}, F_{B_C}, F_{B_L}\right) f_{A_C} f_{A_L} f_{B_C} f_{B_L}\, dA_{C_T}\, dA_{L_T}\, dB_{C_T}\, dB_{L_T}$$

Where c (.) is the four-dimensional density copula; F (.) is the marginal cumulative distribution function; and f (.) is the marginal probability density function.

Using the Monte-Carlo simulation, equity value was estimated using the following equation:

(3)

$$\tilde{E}_t = P(t,T)\frac{1}{N}\sum_{k=1}^{N} G_2\left(\tilde{A}_{C_{Tk}}, \tilde{A}_{L_{Tk}}, \tilde{B}_{C_{Tk}}, \tilde{B}_{L_{Tk}}; T\right)$$

The inverse function of the uniform distribution into a real distribution was estimated with the following function:

(4)

$$C(u_1,\ldots,u_d) = F\left(F_1^{-1}(u_1),\ldots,F_d^{-1}(u_d)\right).$$

The probability of default for all observation periods was subsequently analyzed using a rolling regression estimation with a 36-month window..

The PD index is formulated using a Bayesian approach, where the weight of each respective bank grew is determined based on the standard deviation as follows:

(5)

$$Index_{PD_t} = \sum_{i=1}^{N} w_{i,t} PD_{i,t}$$

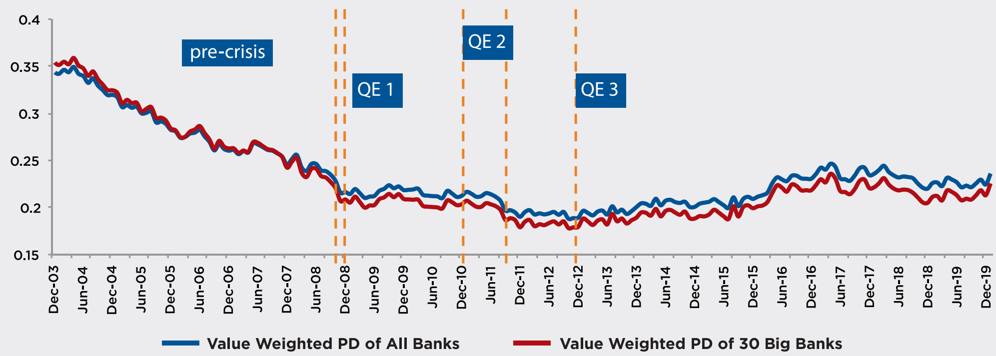
where $w_{i,t} = \dfrac{I_{P,t}}{I_{GOV,t} + I_{BUSN,t} + I_{KCBA,t} + I_{BPD,t}}$ and $I_{P,t} = \dfrac{1}{\sigma_{P,t}}$.

The conclusion from the results of the copula model showed that aggregate risk has accumulated in the banking industry in Indonesia since 2015. The aggregate measurement was calculated by observing the PD index for all banks. As illustrated in Graph B2.3.1.1, the PD index from 2003-2008 trended lower before increasing in 2009 until the beginning of 2010. From 2010 until the middle of 2015, the PD index remained relatively stable, before trending upwards thereafter until the end of 2019. Despite the increasing trend, the PD index of banks in Indonesia has remained comparatively low.

The results show that the probability of default of state-owned banks, national private commercial banks, and foreign banks tended to converge after the global financial crisis in 2008 until the end of 2016. This was accounted for by a tendency towards common risk and a similar correlated default in the event of potential systemic risk. After 2016, however, the PD index for national private commercial banks tended to increase, contrasting the decrease experienced by state-owned banks and foreign banks. During the latter half of 2019, regional banks had the highest standard deviation of the probability of default (PD), followed by private banks, state-owned banks, and foreign banks (Graph B2.3.1.1). Nonetheless, the share of total assets of regional banks to the total assets of the banking industry only accounted for 8%, implying a negligible level of risk.

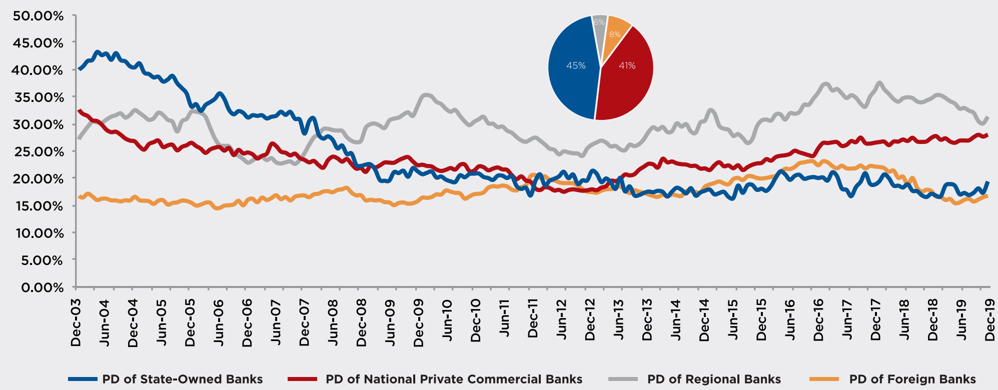
Convergence between private banks, state-owned banks and foreign banks have triggered an increase in aggregate risk in the banking industry in Indonesia since 2014. Specifically, convergence has stemmed from the movements of 30 large banks. Aggregate measurements of the PD index of all banks and the 30 large banks, as illustrated in Graph B2.3.1.2, using the PD index of all banks (blue line) plotted against the PD index of the 30 large banks estimated using an evaluated approach (red line) track very similar trends.

Graph B2.3.1.1 Joint Probability of Default of All Banks



Source: Bank Indonesia, processed

Graph B2.3.1.2 Probability of Default of Different Bank Groups



Source: Bank Indonesia, processed

2.4 Bank Exposure to Corporates and Households in Impacted Sectors

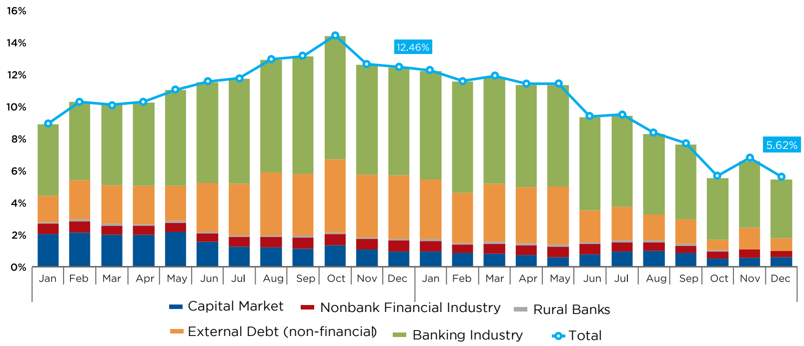
Declining corporate performance has compressed demand for economic financing and increased credit risk. In 2019, economic financing expanded 5.62% (yoy), down significantly from 12.46% (yoy) in 2018 (Graph 2.4.1). The slump was primarily attributable to slower growth of financing from bank loans, a trend that has persisted since the beginning of the second quarter of 2019. Growth of outstanding loans disbursed by the banking industry decelerated from 11.75% (yoy) at the end of 2018 to 6.08% (yoy) at the end of 2019, which is the slowest rate of growth recorded in the past two decades.

On the other hand, third party fund growth in 2019 increased slightly on the previous year, namely from 6.45% (yoy) to 6.54% (yoy). The combination of slower credit growth and faster third party fund growth reduced to the loan-to-deposit ratio (LDR) in the banking industry to 93.64% in 2019 from 94.04% in the previous year.

Slower credit growth since the end of 2018 has mainly been caused by corporate loans, which experienced the deepest decline and simultaneously dominated the largest share of total credit, leading to a significant impact on total credit growth in the banking industry. In December 2019, corporate credit growth had languished to just 8.51% (yoy) from 19% (yoy) in December 2018 (Graph 2.4.3). Dwindling corporate demand for new loans was consistent with declining corporate activity and performance as a corollary of low commodity prices and global pressures that undermined corporate repayment capacity.

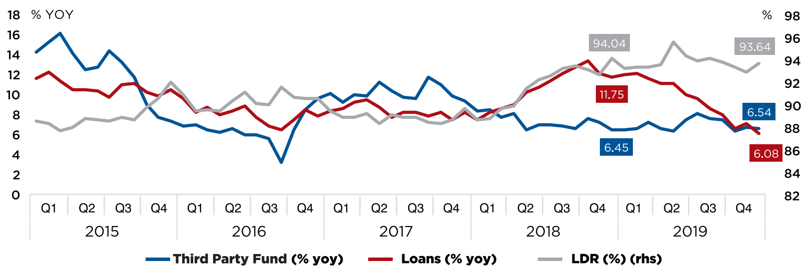
In terms of corporate loans, the most significant declines affected working capital loans, primarily held back by the Trade sector, which experienced the largest decrease in December 2019. In response to deteriorating performance, the corporate sector consolidated to mitigate decreasing profitability through efficiency gains by utilizing internal funds for operating activities, while also pursuing more efficient inventory management, which ultimately reduced the requirement for working capital financing.

Graph 2.4.1 Economic Financing Performance



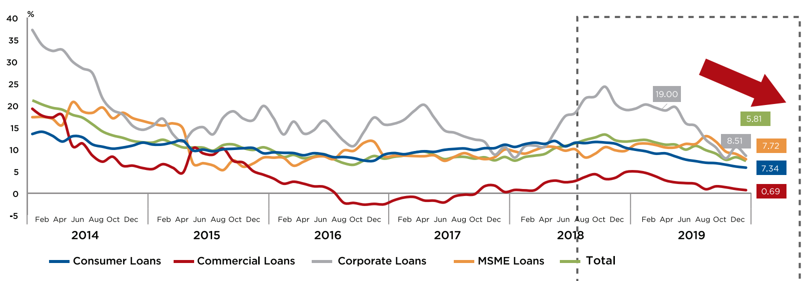
Source: OJK, processed

Graph 2.4.2 Loans, Third Party Fund and LDR



Source: Bank Indonesia, processed

Graph 2.4.3 Credit by Segment



Source: Bank Indonesia, processed

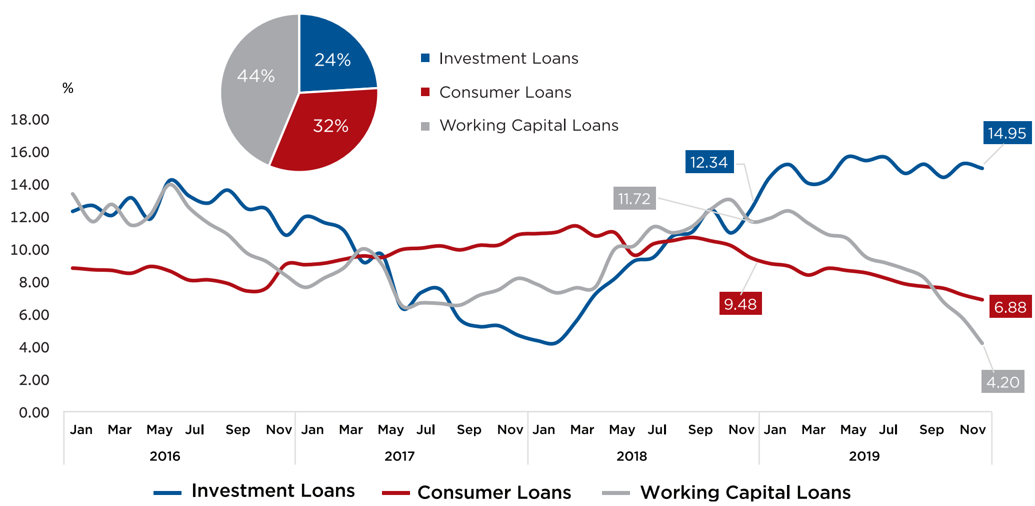
Solid growth of infrastructure loans effectively negated a deeper credit decline in 2019. Infrastructure loans expanded at a significantly faster pace than total outstanding loans disbursed by the banking industry. Notwithstanding, growth of infrastructure loans decelerated in 2019 compared with conditions in 2018 as the capacity of state-owned banks and several other large national private commercial banks began to decline as the main lenders of infrastructure loans, coupled with lower risk appetite in the banking industry to finance infrastructure projects, which led to fewer total infrastructure projects financed. The construction sector remained the main driver of infrastructure loan growth in 2019 despite retreating in the previous period.

A suboptimal bank intermediation function was also the result of lending rate rigidity in the banking industry. A 100bps reduction in the reference rate from 6% in December 2018 to 5% in 2019 was transmitted to lower lending and third party fund rates, yet to a lesser degree. Lending rates decreased 28bps in 2019, while third party fund rates fell 34bps. Using more granular third party fund data, with a 43% share of total third party funds, interest rates on term third party funds declined 57bps in 2019. The banks created greater rigidity of lending rates than third party fund rates by paring down credit expansion. In addition, pressures on expensive funds to maintain the LDR ratio also contributed to the lag in terms of policy rate transmission to lending rates in the banking industry. On the other hand, the banks opted to more aggressively lower third party fund rates to maintain profitability.

Slower credit growth was accompanied by a higher NPL ratio, which nevertheless remained well below the threshold. Declining corporate and household performance in 2019 led to an increase in the NPL ratio to a level of 2.53% from just 2.37% in 2018, still below the 5% threshold, however. In terms of loans at risk, LaR stood at 9.93% in 2019, up from 9.23% in 2018.

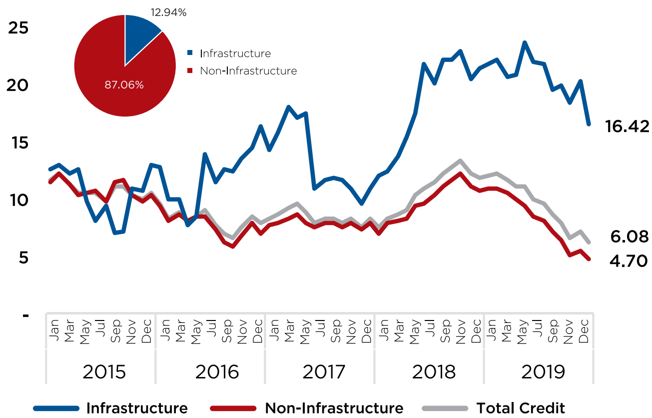
Slower growth of outstanding corporate loans disbursed by the banking industry was also evidenced by the flatter growth of corporate financing in the capital market. Initial public offerings (IPO), rights issues, and medium-term notes all trended lower in 2019, with bonds the only exception. Corporate sector consolidation to boost efficiency saw firms prefers internal funds over external funds. Financing through corporate bond issuances continued to trend higher, however, due to lower costs, primarily as a result of a lower coupon rate mirroring policy rate reductions.

Graph 2.4.4 Credit by Type



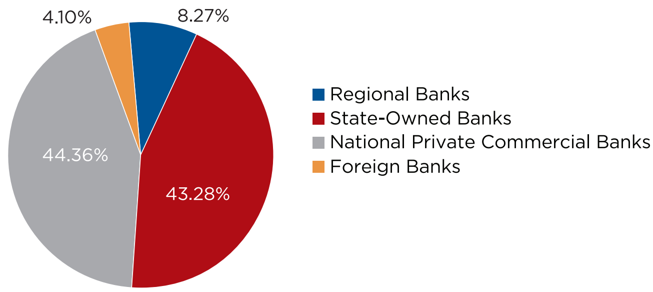
Source: Bank Indonesia, processed

Graph 2.4.5 Infrastructure Loan Performance



Source: Bank Indonesia, processed

Graph 2.4.6 Composition of Infrastructure Loan Lenders



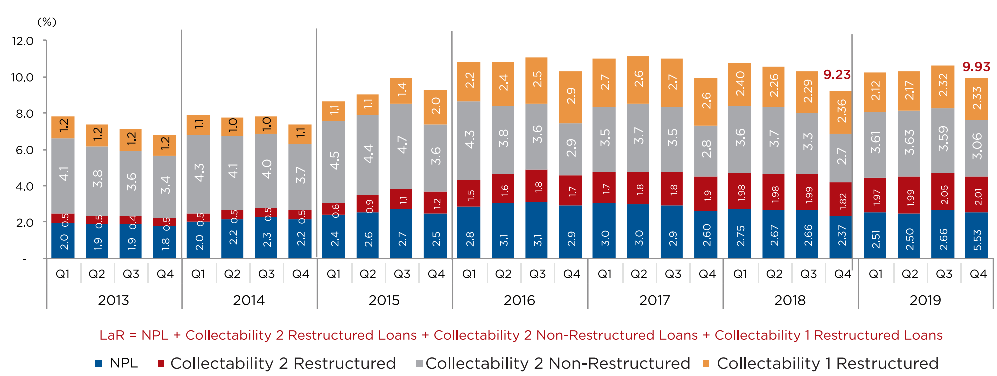
Source: Bank Indonesia, processed

Table 2.4.1 Infrastructure Loan Growth by Sector

No.	Sector	2015	2016	2017	2018	2019		Share
						Sem I	Sem II	Sem II 2019
1	Construction	18.65	23.67	23.35	30.18	32.92	20.01	38.07
2	Electricity, Gas and Water Supply	16.28	44.97	10.08	15.72	26.96	16.45	25.53
3	Other Financial Intermediaries	8.45	8.14	-2.80	10.72	14.78	9.63	9.38
4	Transportation and Communication	8.28	-3.82	4.41	19.60	7.24	14.03	27.02
5	Total Infrastructure Credit	12.85	16.32	10.90	21.24	21.91	16.42	100.00

Source: Bank Indonesia, processed

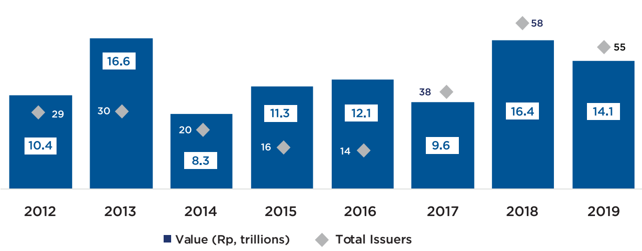
Graph 2.4.7 NPL and LaR



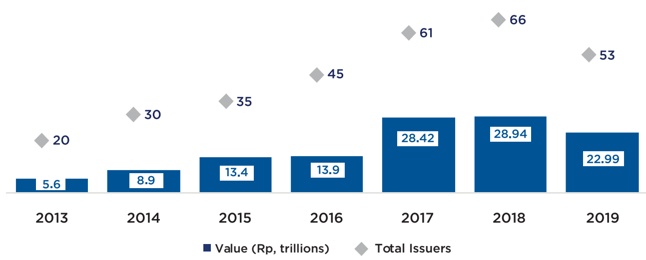
Source: Bank Indonesia, processed

As a reflection of household financing, consumer loan growth also decelerated, primarily held back by multipurpose loans and housing loans. Efforts to stimulate credit growth through existing customers (value chain), dominated by multipurpose[5] loans, tended to underperform due to oversaturation as numerous banks adopted the same strategy. Slower growth of consumer loans was also confirmed by the Consumer Confidence Index (CCI), which has retreated since the beginning of 2018 (Graph 2.4.13). Meanwhile, the growth of housing loans has been impaired by fewer property investors/speculators. Therefore, demand for property loans has stemmed primarily from the end-users. Nonetheless, deteriorating household performance has triggered a change in terms of purchasing power and household preferences towards property ownership. Properties costing less than Rp1 billion have maintained solid demand. Such conditions are in stark contrast to the property boom, when demand for property from investors/speculators were high, even for residential units valued at more than Rp5 billion. Resilient demand for houses worth less than Rp1 billion has lowered the value of housing loan applications. The emergence of millennials as the dominant working age population implies that such individuals are potential consumers in the residential property sector but a change in lifestyle from the previous generation, with greater emphasis on travel and entertainment, has forced the banks to offer special housing loan schemes.

Graph 2.4.8 Initial Public Offerings (IPO)

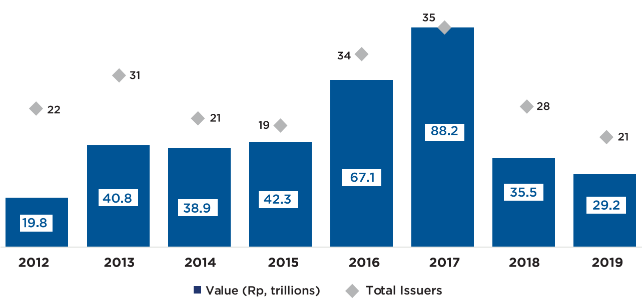


Graph 2.4.10 Medium-Term Notes (MTN)

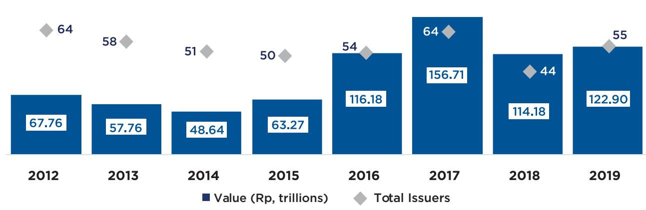


Source : OJK, processed

Graph 2.4.9 Rights Issues



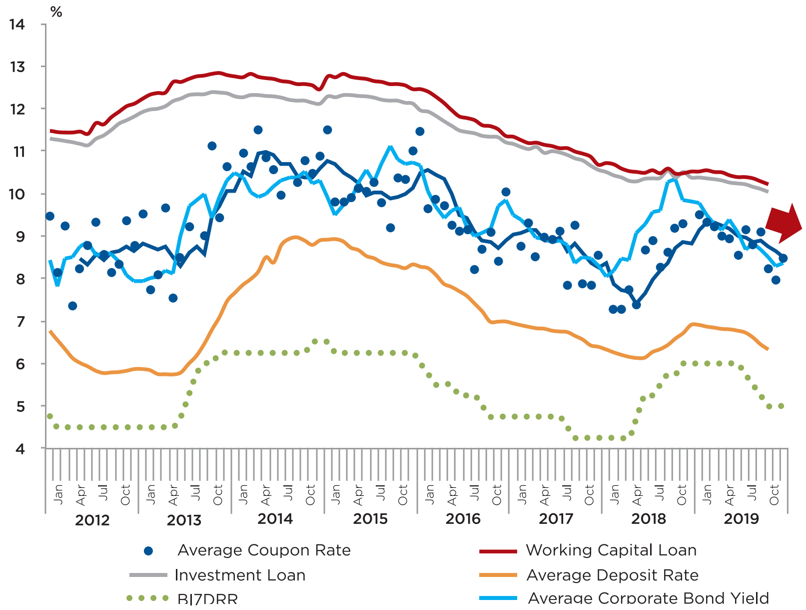
Graph 2.4.11 Bond Issuances



Source : OJK, processed

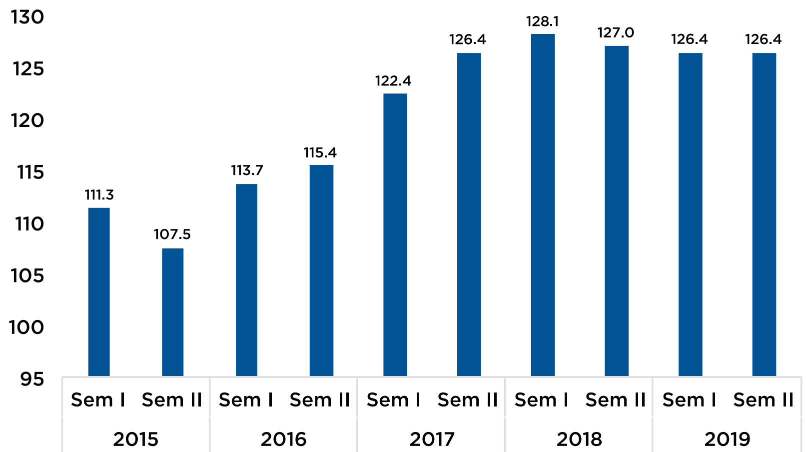
[5] Loans offered to eligible permanent employees with a minimum period of employment for miscellaneous needs or business development.

Graph 2.4.12 Coupon Rate Vs. Lending Rate



Source : OJK, processed

Graph 2.4.13 Consumer Confidence Index (CCI)



Source : OJK, processed

In line with slower consumer loan growth, financing from finance companies has also tended to decelerate in response to declining automotive sales, which dominate finance company financing. By sector, however, financing allocated to the manufacturing industry, electricity and gas as well as mining sector experienced declines. Weaker financing growth has forced finance companies to reduce funding sources, particularly funds originating from the banking industry and external debt.

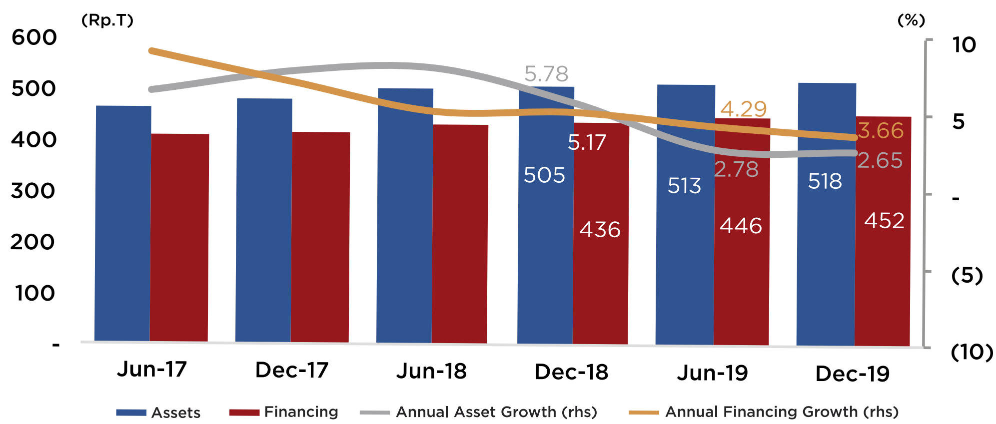
Other non-bank financial institutions maintained positive growth. In 2019, growth averaged more than 20%. Nevertheless, non-bank financial institutions account for a small 15% share of total financing in the industry.

Table 2.4.2 Consumer Loan Growth by Segment (% yoy)

No.	Sector	2015	2016	2017	2018	2019		Share
						Sem I	Sem II	Sem II 2019
1	Housing	6.96	7.67	10.53	12.67	11.83	7.32	33.77
2	Automotive	-2.12	-2.01	5.40	12.80	5.15	-0.04	9.00
3	Household Equipment	12.05	45.27	44.94	45.89	26.44	11.61	0.60
4	Multipurpose	14.04	8.24	14.30	14.72	10.09	9.20	37.61
5	Other Household	46.45	12.37	24.77	-10.15	-8.16	-7.73	3.62
6	Non-Business	4.75	17.31	4.95	1.08	-0.66	1.85	15.40
7	Total Consumer Loans	9.09	8.76	11.04	10.35	7.64	5.81	100.00

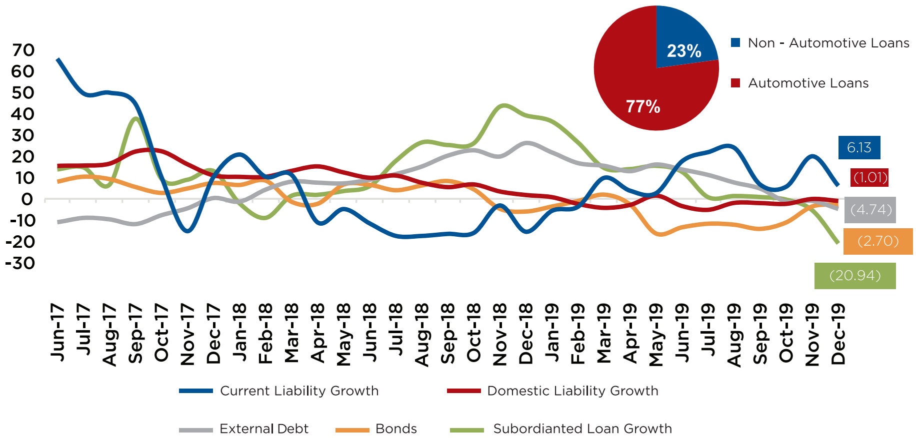
Source: Bank Indonesia, processed

Graph 2.4.14 Finance Company Assets and Financing



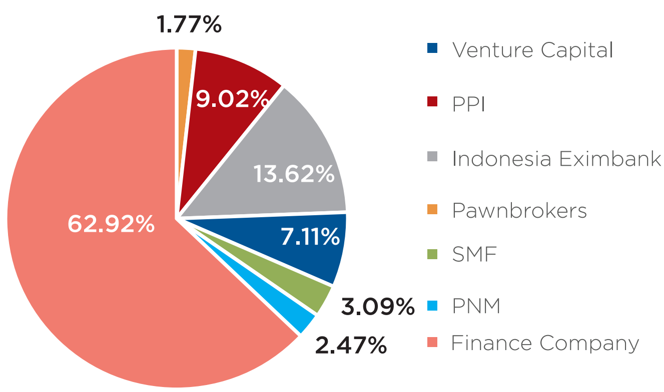
Source : OJK, processed

Graph 2.4.15 Source of Funds and Financing Composition



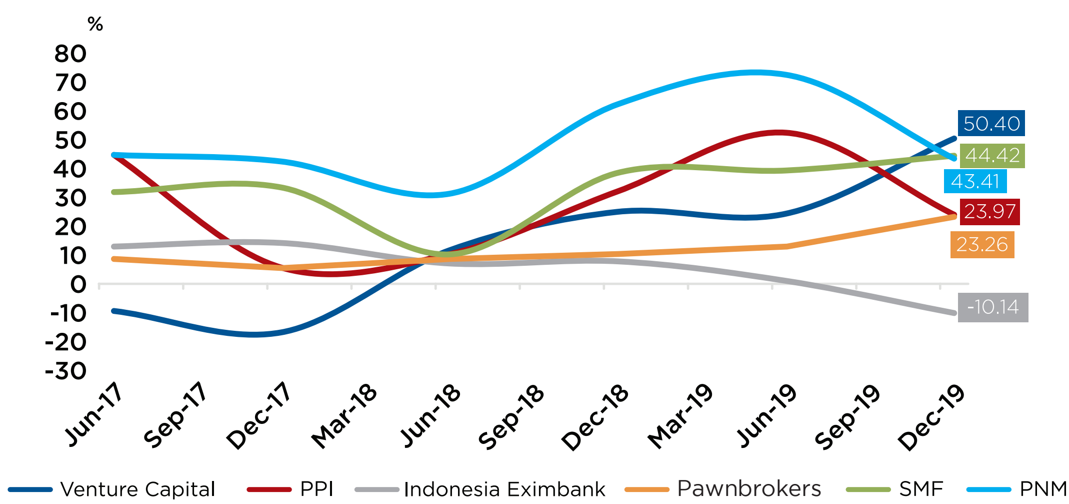
Source : OJK, processed

Graph 2.4.16 Financing Composition of Finance Companies and Nonbank Financial Institutions



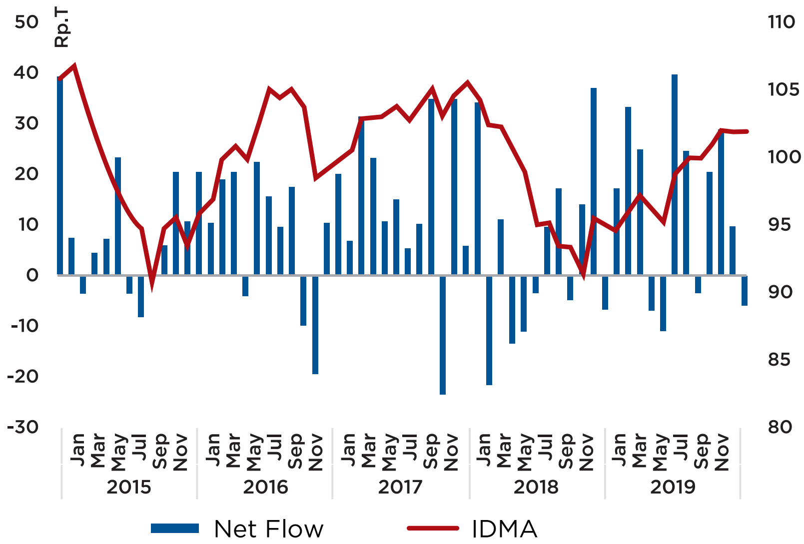
Source : OJK, processed

Graph 2.4.17 Other Nonbank Financial Institutions



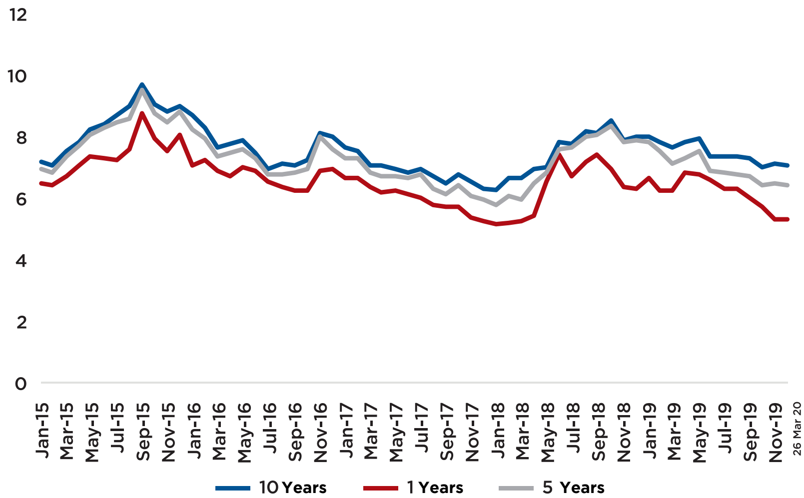
Source : OJK, processed

Graph 2.4.18 Inter-Dealer Market Association Index and Foreign Flows



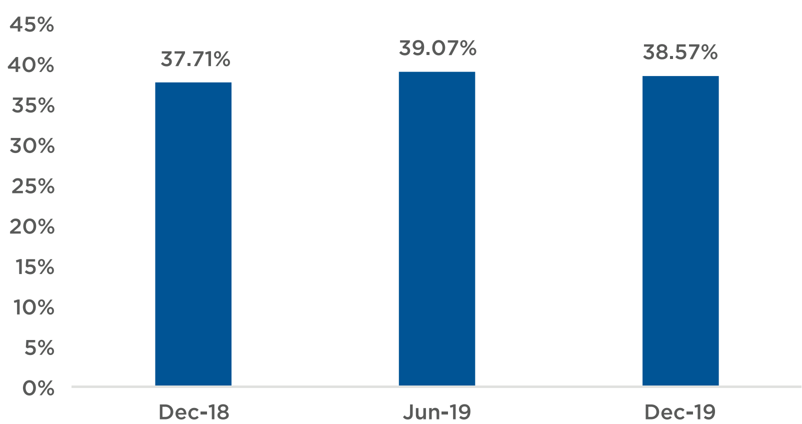
Source : CEIC, processed

Graph 2.4.19 Benchmark SUN Yield



Source: Bloomberg, processed

Graph 2.4.20 Foreign Holdings of Government Securities (SBN)

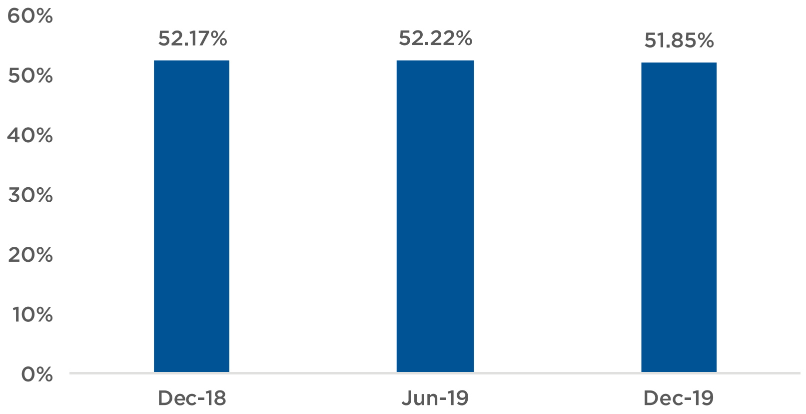


Source: Ministry of Finance, processed

SBN performance improved in 2019 on the back of national economic expansion supported by high domestic demand, financial market stability and more attractive yields than peer countries. In the second semester of 2019, SBN performance continued to improve, as indicated by a stronger Inter-Dealer Market Association Index of 3.12% and lower benchmark yield. The improvements were primarily driven by mutual funds purchased by the pension fund industry and foreign investors. Averaging 38% of total outstanding SBN, foreign holdings have a large potential risk of outflow if sentiment triggers panic in the capital market.

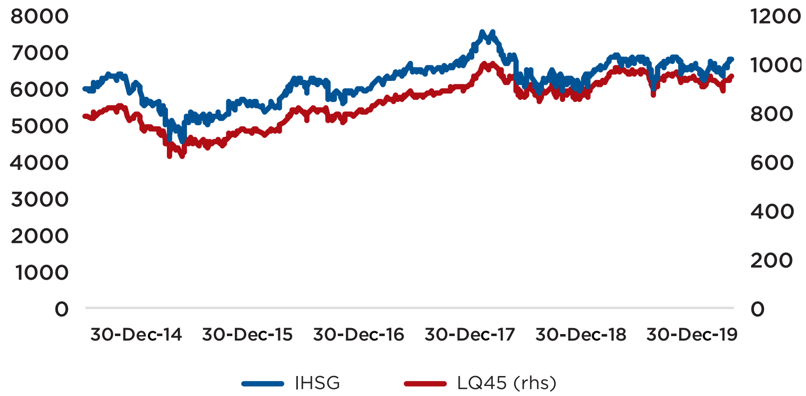
The capital market did not perform as well as the SBN market. Capital market performance declined marginally in 2019 compared with conditions in 2018, experiencing a deep decline in the middle of the year due to negative sentiment stoked by the trade war and sliding international commodity prices before rebounding in the latter half of 2019. Dominant foreign holdings, which remained stable at more than 50%, exposed the Jakarta Composite Index (JCI) to corrections (Graph 2.4.21).

Graph 2.4.21 Foreign Holdings in the Stock Market



Source : KSEI, processed

Graph 2.4.22 Stock Market Index Performance



Source: Bloomberg, processed

Chapter III
FINANCIAL SYSTEM RISKS AND RESILIENCE

Despite persistent global uncertainty during the latter half of 2019, the impact of global economic and financial market shocks on Indonesia's financial system were effectively controlled. Spillover from global macrofinancial conditions transmitted to the domestic economy through the trade channel, as reflected by commodity sector developments, as well as the financial channel. Although the performance of several manufacturing and export-oriented corporations has declined marginally amidst intense global pressures, general conditions have been maintained. Domestic-oriented corporations continued to perform well on the back of solid domestic consumption. The corporate sector has pursued consolidation and efficiency gains, while adjusting the scale of business expansion in order to bolster performance. Nevertheless, the wait-and-see attitude of the corporate sector has pared back capital expenditure, as reflected by compressed corporate demand for financing.

In general, corporate repayment capacity remained adequate despite declining business activity due to global economic shocks. Typically, corporations holding external debt have maintained sound repayment capacity, with the maturity risk effectively contained. Furthermore, the quality of external debt has been maintained and corporations have successfully absorbed potential currency risks through hedging requirements and adequate foreign exchange liquidity. Granular analysis has shown that the exposure of corporate external debt in the affected sectors only accounts for a small portion of total corporate external debt.

Household resilience has been maintained through various strategies to overcome economic moderation. Weaker financial performance has left households less inclined to incur debt. Furthermore, households have strived to maintain consumption by seeking additional income, reducing tertiary expenditures and utilizing savings to mitigate risk.

Amidst the current spate of global shocks, the banking industry has applied effective risk mitigation measures. Credit risk has slightly increased but remains below the threshold despite more intense pressures on corporate and household performance. The banking industry quickly responded and mitigated the early signs of escalating credit risk, thus remaining below the threshold. Furthermore, the banking industry is monitoring credit conditions more tightly, while prioritizing quality credit growth through more selective and cautious lending. Risk buffers in the banking industry are also solid, as evidenced by a solid capital base and mitigated liquidity risk.

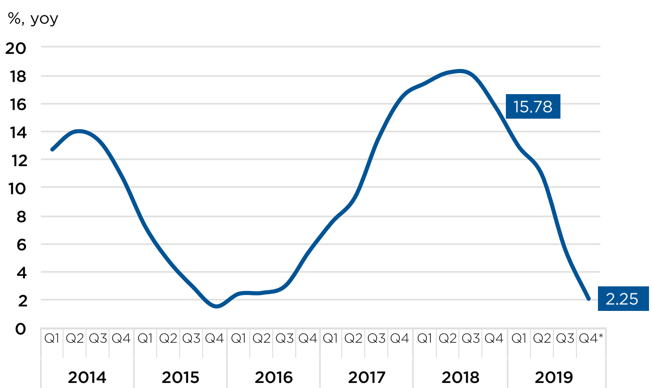
3.1. Solid Corporate Resilience in Face of Global Pressures

Corporate performance has continued to deteriorate because of ongoing global economic moderation. The impact of the escalating trade war has been transmitted through the trade channel, as evidenced by a persistent slowdown of corporate sales since the third quarter of 2018. Compressed global demand due to the trade war waged between the United States and China, accompanied by fading domestic demand, has suppressed corporate sales figures (Graph 3.1.1). Furthermore, corporate performance has also been hit by declining commodity sector performance. Transmission through the commodity channel has been reflected in suboptimal commodity price movements, including CPO, coal, cement and steel, leading to sales corrections, particularly in commodity-based sectors. Nevertheless, sales of CPO and coal for the export and domestic markets have shown early signs of improvement, bolstered by increasing domestic demand to meet the B30 program as well as replanting, higher prices and persistently strong demand from India and other Asian countries.

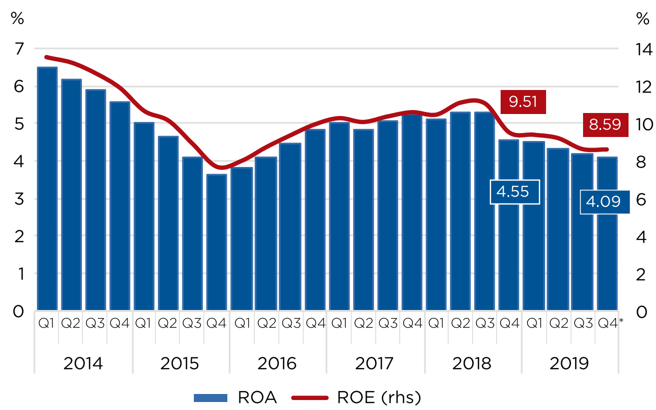
Slower sales growth has adversely impacted corporate profitability (Graph 3.1.2). The trade war, which has impaired world trade volume and global economic growth, has also affected corporate income. Rupiah exchange rate fluctuations during the first three quarters of 2019 have also undermined corporate sales, while also increasing costs, particularly at corporations reliant on imported raw materials, such as in the manufacturing industry. Consequently, the trend of declining corporate profitability persisted until the end of 2019.

Corporate performance in most sectors has decelerated, agriculture, mining and construction in particular. Corrections in the global price of crude palm oil (CPO) together with declining food production in the dry season has impacted corporate performance in the agricultural sector. CPO prices, which posted gains in the fourth quarter of 2019, have been unable to boost sales growth due to limited global demand. In addition, lower coal prices have amplified pressures in the mining sector. On the other hand, weak property demand and limited new contracts have impeded sales performance in the construction sector. Meanwhile, higher uncertainty risk from the trade war and global economic moderation have subdued manufacturing and trade performance.

Graph 3.1.1 Public Non-Financial Corporate Sales Performance



Graph 3.1.2 Public Non-Financial Corporate Profitability



*Projected values

Source: Bloomberg, Bank Indonesia, processed

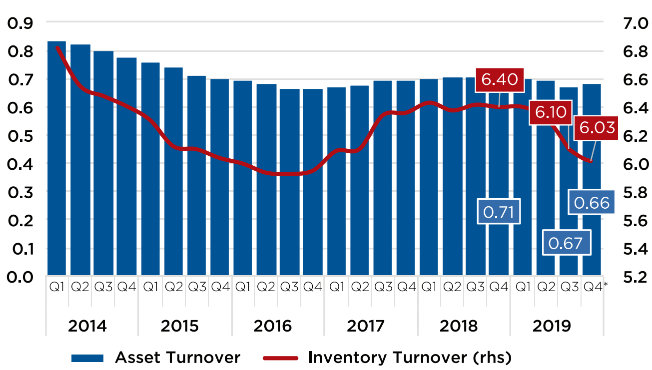
Table 3.1.1 Public Non-Financial Corporate Performance Indicators

No.	Sector	Sales Growth (% yoy)		Capital Spending Growth (% yoy)		Asset Turnover		Inventory Turnover		Return on Asset (%)		Return on Equity (%)	
		Dec-18	Dec-19	Dec-18	Dec-19	Dec-18	Dec-19	Dec-18	Dec-19	Dec-18	Dec-19	Dec-18	Dec-19
1	Agriculture	3.5	-6.3	-8.0	4.7	0.6	0.5	6.9	6.1	1.4	-0.7	2.6	-1.4
2	Mining	45.8	-1.8	45.8	13.1	0.7	0.6	16.4	12.1	6.0	3.5	12.7	7.2
3	Manufacturing	13.7	3.8	27.3	-12.1	0.9	0.8	5.8	5.8	7.1	5.7	14.1	11.4
4	Electricity, Gas and Water Supply	26.7	-1.2	9.1	-47.5	0.5	0.5	26.0	31.1	4.4	1.6	9.2	3.6
5	Construction	7.5	-10.4	-2.9	-6.1	0.3	0.3	2.2	1.8	3.2	2.3	7.2	5.1
6	Trade	20.6	4.3	34.6	-11.8	1.5	1.4	8.0	7.4	6.7	6.0	14.2	12.4
7	Transportation	4.4	4.6	12.3	-3.5	0.6	0.6	47.4	46.7	0.6	4.1	1.6	10.3
8	Corporate Service	1.6	31.6	24.6	-21.5	0.5	0.8	9.4	12.8	-5.6	5.4	-9.2	8.8
9	Social Service	15.3	10.3	19.6	-30.0	0.4	0.4	5.8	6.1	1.2	3.2	2.2	5.5
	Aggregate	**15.78**	**2.25**	**19.34**	**-8.11**	**0.71**	**0.66**	**6.40**	**6.03**	**4.55**	**4.09**	**9.51**	**8.59**

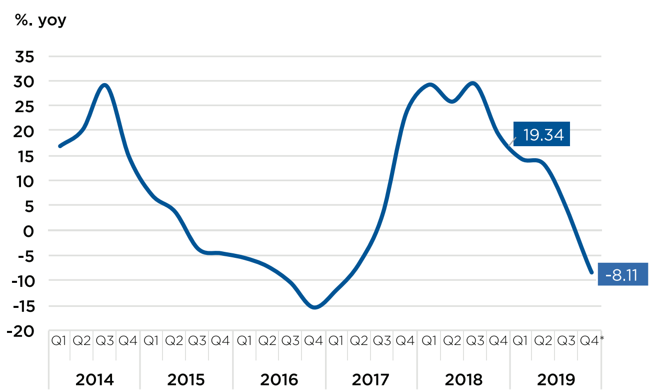
Source: Bloomberg, Bank Indonesia (Q4 data is projected), processed

Global pressures have forced some corporations to pare back business expansion in line with the perceived lack of investment opportunities and increasing business risk, as confirmed by slower growth of asset turnover and inventory turnover as well as capital spending (Graph 3.1.3 and 3.1.4). Less business activity demonstrated business reluctance to invest during 2019. Spatially, weaker national investment was replicated in most Indonesian provinces, except Sulampua[1]. Non-building investment growth slowed due to weaker mining and manufacturing exports. Imports of capital goods to Sulampua nevertheless increased in the form of machinery to support the development of downstream nickel production. Meanwhile, construction in Java and Kalimantan experienced a downturn due to fewer new factories and government infrastructure projects compared with conditions in 2018. Notwithstanding, in terms of business scale (large, medium and small)[2], medium enterprises remained upbeat in terms of business expansion. Rapid development of the digital economy and e-commerce in recent years has placed Indonesia at the forefront of e-commerce growth, which has attracted rapid investment in medium enterprises, particularly in trade, retail, packaging, food and beverages.

Graph 3.1.3 Public Non-Financial Corporate Activity



Graph 3.1.4 Public Non-Financial Corporate Capital Spending



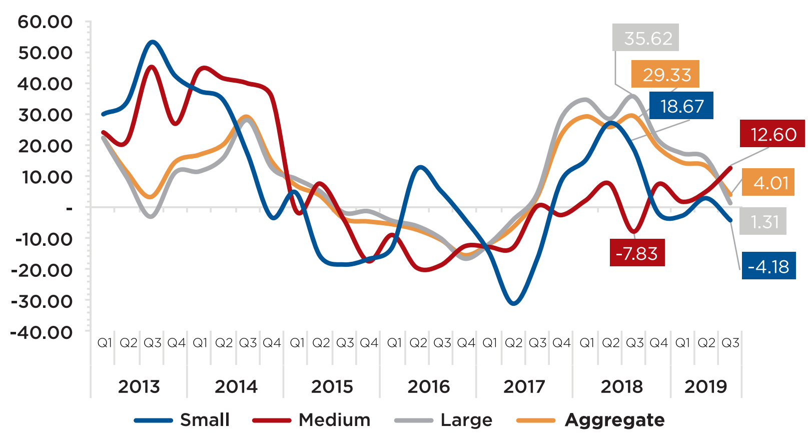
*Projected values

Source: Bloomberg, Bank Indonesia, processed

[1] Sulampua: Sulawesi, Maluku dan Papua
[2] Based on total assets.

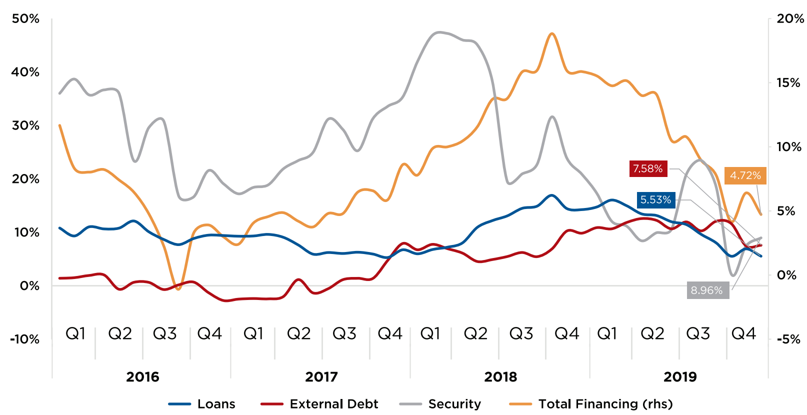
Unwinding the pressures, the corporate sector undertook consolidation through mergers and acquisitions as well as portfolio rebalancing to reduce the debt burden, as reflected by declines in the debt-to-equity ratio (DER) (Graph 3.1.5, Graph 3.1.6 and Graph 3.1.7). In addition, the corporate sector increased efficiency by reducing various regular costs, while adjusting the scale of business expansion by limiting planned investment and adopting a wait-and-see attitude. Such measures reduced demand for corporate financing. Slower corporate financing growth was not only reflected in terms of weaker credit growth but also external debt and securities[3], which decelerated throughout 2019. In addition to reducing exposure to financing, consolidation also impacted corporate propensity for business expansion, as confirmed by a contraction in the plowback ratio (PBR)[4].

Graph 3.1.5 Capital Spending by Business Scale



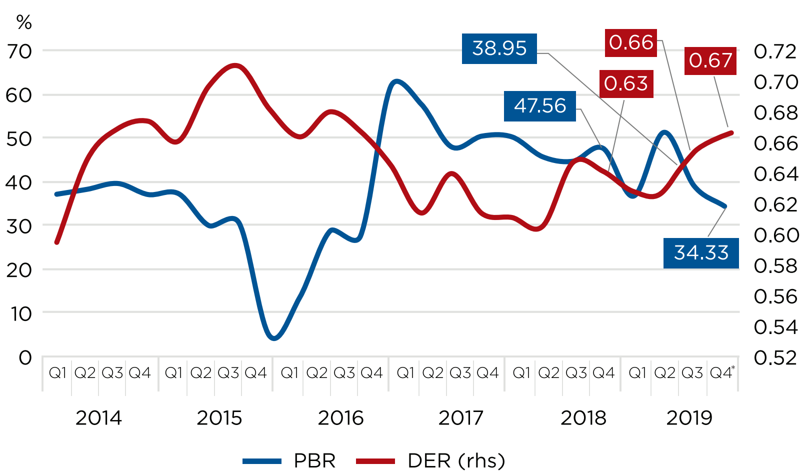
Source: Bloomberg, BEI, Bank Indonesia, processed

Graph 3.1.6 Financing at Non-Financial Corporations



Source: Bank Indonesia and KSEI, processed

Graph 3.1.7 Plowback Ratio and Debt-to-Equity Ratio of Public Non-Financial Corporations



Source: Bloomberg, Bank Indonesia (Q4/2019 data is projected), processed

[3] Including commercial papers, corporate bonds, medium-term notes, promissory notes and sukuk.
[4] The plowback ratio is retained earnings after dividend payments as a fraction of net earnings, as a measure of internal fund retention at non-financial corporations.

BOX 3.1

Corporate Vulnerability Analysis using Altman Z-Score

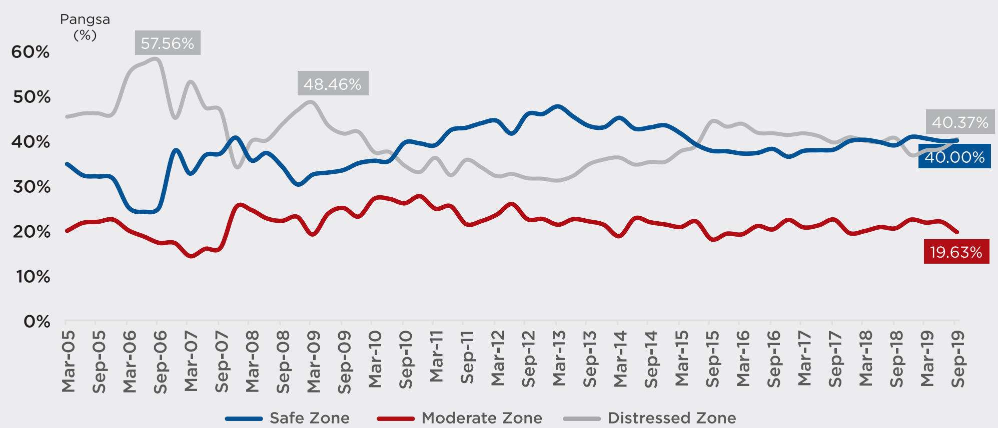
One method to measure potential risk of default in the corporate sector is the Altman Z-score[5]. Several prediction models of corporate financial distress use the Altman Z-score as a measure of control for the financial distress status of companies. In other words, the Z-score is used to predict the likelihood of corporate bankruptcy. A higher Z-score indicates a larger probability of corporate default. The Altman Z-score is calculated using the following financial ratios:

$$Z = 0{,}012X1 + 0{,}014X2 + 0{,}033X3 + 0{,}006X4 + 0{,}999X5$$

Where
X1 = working capital/total assets
X2 = retained earnings/total assets
X3 = earnings before interest and taxes/total assets
X4 = equity market price/book value of total liabilities
X5 = sales/total assets

The share of corporations with a potential risk of default in various sectors has trended higher. Global economic conditions in 2019, characterised by economic moderation in China and sliding international commodity prices, prompted a global slowdown. Such conditions have suppressed corporate performance due to negative sentiment influencing the trade, financial and commodity channels. Global pressures were captured in the Altman Z-score, indicating that the number of corporations in the distressed zone increased in 2019 compared with conditions in 2018. Nevertheless, the increase of corporations in the distressed zone from 2015 to 2019 is below that recorded during the 2008-2009 crisis period. (Graph B3.1.1).

Graph B3.1.1 Corporate Performance based on Altman Z-Score



Source: Bloomberg, Bank Indonesia, processed

[5] Z-score > 2.99 (safe zone), 1.81 < Z-Score < 2.99 (moderate zone) and Z-Score < 1.81 (distressed zone).

Table B3.1.1 1-Year Corporate Z-Score Trends

2008 ke 2009 (2008 \ 2009)	Safe	Gray	Distress
Safe	27.1%	3.1%	0.0%
Gray	5.5%	12.4%	4.1%
Distress	1.0%	7.9%	38.8%

2014 ke 2015 (2015 \ 2015)	Safe	Gray	Distress
Safe	34.6%	7.6%	1.2%
Gray	1.2%	9.8%	10.0%
Distress	0.7%	1.7%	33.1%

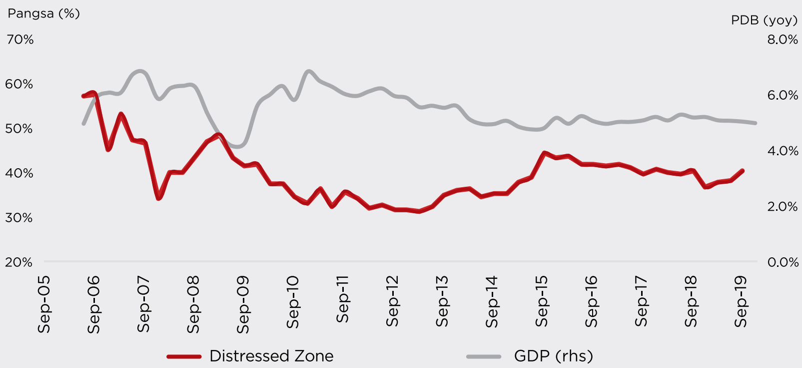
2018 ke 2019 (2018 \ 2009)	Safe	Gray	Distress
Safe	33.5%	4.0%	1.6%
Gray	4.6%	12.4%	3.2%
Distress	0.6%	3.6%	36.5%

Source: Bloomberg, Bank Indonesia, processed

The percentage of corporations that moved from the safe zone to the distressed zone has increased in comparison to previous crisis periods (2009 and 2015). The share of corporations that experienced a deterioration in the 2018-2019 period increased to 1.6% from 0% in 2008-2009 and 1.2% in 2014-2015. Similarly, the percentage of corporations remaining in the distressed zone for a one-year period during 2018-2019 was higher at 36.5% than during the 2014-2015 crisis period at 33.1% (Table B3.1.1). Nevertheless, the portion of corporations improving from the moderate to safe zones also improved to 4.6% compared with the previous crisis periods (Table B3.1.1). Such developments indicate that more corporations have strived to implement a consolidation strategy to mitigate the global economic headwinds present throughout 2019.

Macroeconomic conditions have a large impact on financial performance and corporate behavior in terms of business expansion and financing sources. Plotting the Altman Z-score against GDP growth showed that economic moderation correlates with declining corporate financial performance, as confirmed by the economic slowdown in 2019 that was accompanied by an increase in the percentage of corporations in the distressed zone (Graph B3.1.2). Meanwhile, a build-up of corporate risk closely correlates with the growth of outstanding loans disbursed by the banking industry, as evidenced during periods of pressure on the domestic economy (Graph B3.1.3).

Graph B3.1.2 Distressed Corporations and Economic Growth (GDP)



Source: Bloomberg, BPS, Bank Indonesia, processed

Graph B3.1.3 Distressed Corporations and Corporate Loan Growth

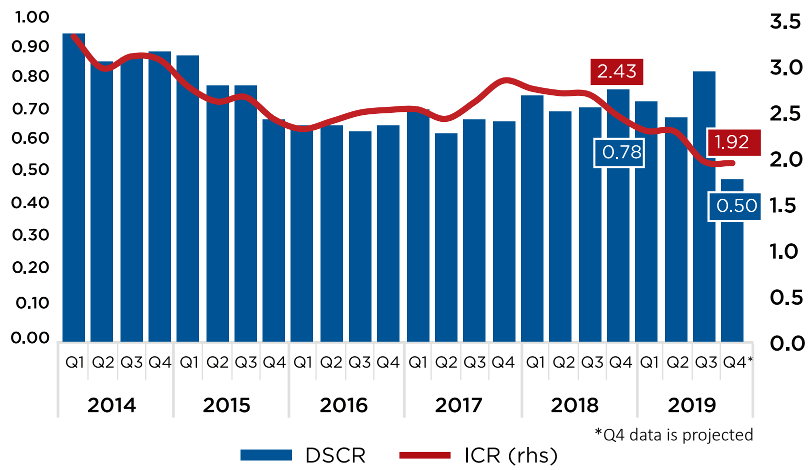
Source: Bloomberg, BPS, Bank Indonesia, processed

3.2. Corporate Sector Maintains Repayment Capacity, including Corporates with External Funding Sources

In general, corporate repayment capacity has declined amidst persistent global headwinds. The median value of the debt coverage service ratio (DCSR) has declined to below 100%, while the interest coverage ratio (ICR) has fallen to below 2, which is nevertheless still significantly above the 1.5 threshold (Graph 3.2.1). The corporate sector has strived to maintain repayment capacity through several strategies, such as adjusting exposure to financing and reprofiling maturing debt. Notwithstanding, a few sectors continue to demand attention due to a lower repayment capacity than the industry aggregate, namely agriculture, mining and transportation (Table 3.2.1).

Several sectors must be monitored in terms of exposure to currency risk as a consequence of high external debt despite maintaining adequate repayment capacity. In 2019, external debt growth at corporations with large external debt[6] tended to accelerate, exceeding the aggregate pace of corporate external debt growth. In the second semester of 2019, external debt growth at highly indebted corporations stood at 31.79% (yoy), up from 22.32% (yoy) in the previous year. As an aggregate, however, corporate external debt experienced flatter growth from 9.84% (yoy) in the second semester of 2018 to 7.58% (yoy) in the second semester of 2019. By sector, corporations with higher exposure to external debt recorded faster external debt growth than the aggregate, particularly in the transportation sector, electricity, gas and water supply, mining and services. Such conditions demand vigilance considering the share of non-affiliated debt exceeds the affiliated debt (Table 3.2.2).

Graph 3.2.1 Public Non-Financial Corporate Repayment Capacity



Source: Bloomberg, Bank Indonesia, processed

Table 3.2.1 Public Non-Financial Corporate Repayment Capacity by Economic Sector

No.	Sector	Debt Service Coverage Ratio		Interest Coverage Ratio	
		Dec-18	Dec-19	Dec-18	Dec-19
1	Agriculture	0.44	0.25	1.79	0.81
2	Mining	1.69	1.32	3.56	1.48
3	Manufacturing Industry	0.63	0.42	3.08	2.13
4	Electricity, Gas and Water Supply	0.49	1.29	1.06	2.15
5	Construction	0.81	0.50	2.74	1.79
6	Trade	0.51	0.27	2.01	2.34
7	Transportation	0.79	0.88	1.45	1.64
8	Corporate Services	0.99	0.50	2.22	2.78
9	Social Services	1.91	3.10	2.89	4.93
	Aggregate	**0.78**	**0.50**	**2.43**	**1.92**

Source: Bloomberg, Bank Indonesia, processed

Table 3.2.2 Performance of Non-Financial Corporations with High External Debt by Economic Sector

No.	Sector	Total Corporations	External Debt Position						Share (%)	Growth (%, yoy)
			Dec-18			Dec-19				
			Affiliated	Non-Affiliated	Total	Affiliated	Non-Affiliated	Total		
1	Agriculture, Livestock, Forestry and Fishing	15	1.53	1.56	3.09	1.29	1.71	3.00	1.93	(2.82)
2	Mining and Quarrying	33	2.35	24.64	26.99	3.46	28.71	32.17	20.74	19.20
3	Manufacturing Industry	77	7.52	17.22	24.74	8.34	17.01	25.36	16.35	2.49
4	Electricity, Gas and Water Supply	32	2.27	27.64	29.91	3.08	33.67	36.75	23.69	22.87
5	Construction	5	0.70	0.68	1.39	0.73	0.75	1.48	0.95	6.45
6	Trade, Accommodation and Food Service Activities	19	1.77	2.59	4.36	1.60	3.04	4.63	2.99	6.40
7	Transportation and Communication	27	1.68	7.12	8.80	1.68	26.57	28.26	18.21	221.10
8	Finance, Leasing and Financial Services	33	3.90	3.53	7.43	4.28	5.00	9.28	5.98	24.89
9	Services	5	0.03	0.62	0.65	0.07	0.74	0.81	0.52	25.43
10	Other Sectors	4	0.20	0.60	0.80	0.16	0.64	0.79	0.51	(0.91)
Subtotal of Corporations with High External Debt		**250**	**21.95**	**86.20**	**108.15**	**24.70**	**117.84**	**142.53**	**91.88**	**31.79**
Subtotal of Corporations with Other External Debt		**2866**	**19.38**	**16.67**	**36.05**	**10.10**	**2.50**	**12.60**	**8.12**	**(65.05)**
Subtotal of Corporations with External Debt		**3116**	**41.33**	**102.87**	**144.20**	**34.80**	**120.33**	**155.13**	**100.00**	**7.58**

Source: Bank Indonesia, processed

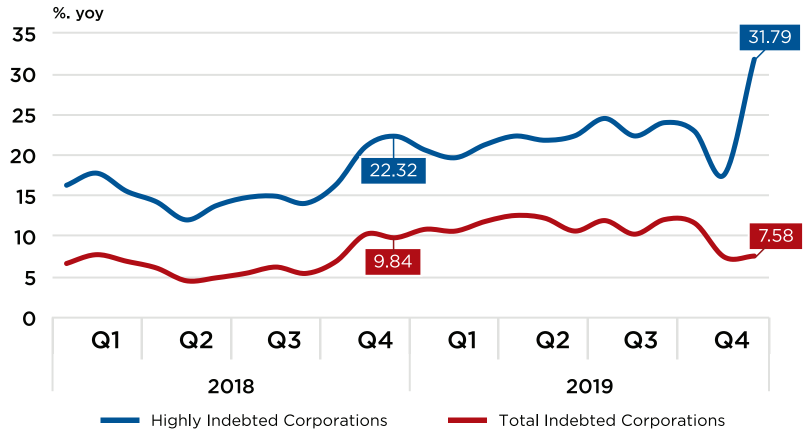
[6] In total, 250 non-financial corporations with a higher level of external debt than other non-financial corporations were categorised as having large external debt.

Increasing corporate external debt has been stoked by high demand to finance the government's strategic infrastructure projects and meet raw material requirements for production (Graph 3.2.2). Infrastructure development, which was dominated by state-owned enterprises in 2019, particularly for electrical power, transportation (roads, ports, railways and airports) as well as energy, triggered demand for foreign financing. In terms of the private sector, offshore financing was required to meet demand for foreign exchange in order to increase production capacity, acquire raw materials and as an alternative source of affordable financing for corporations oriented towards the export market.

Despite currency risk looming over highly indebted corporations, maturity risk was effectively contained considering that most external debt was dominated by a maturity profile of greater than one year. In the second semester of 2019, the composition of long-term corporate external debt (>1 year) accounted for 80.83%, with short-term corporate external debt maturing in 2020 accounting for just 17.3%. The share of long-term external debt declined slightly in 2019 compared with conditions in 2018, primarily due to corporate sector consolidation, which included servicing a portion of long-term external debt (Graph 3.2.3). The spike in external debt at already indebted corporations towards the end of 2019 was dominated by state-owned enterprises because non-financial corporations generally strived to reduce external debt in line with flatter sales performance.

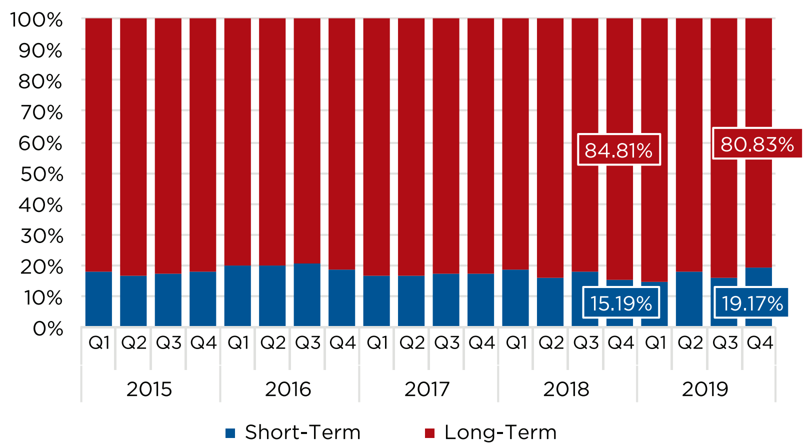
In general, the quality of corporate external debt has been maintained. In the second semester of 2019, around 84.18% of total corporate external debt was current, consisting of non-restructured external debt (75.56%) and positive tone[7] restructured external debt (8.62%). On the other hand, negative tone[8] restructured external debt accounted for 15.82% of the total in the second semester of 2019, shrinking from 20.26% in the second semester of 2018 (Graph 3.2.4). A stronger rupiah, particularly during the fourth quarter of 2019, increased corporate repayment capacity, particularly in terms of servicing foreign debt obligations.

Graph 3.2.2 Non-Financial Corporate External Debt



Source: Bank Indonesia, processed

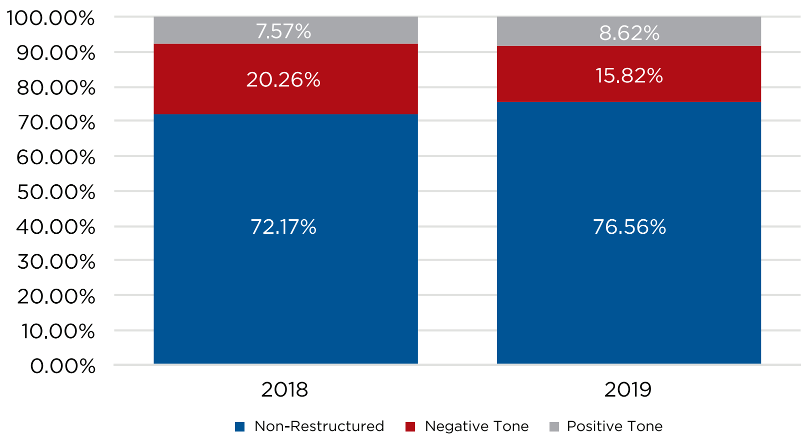
Graph 3.2.3 Non-Financial Corporate External Debt by Remaining Maturity



Source: Bank Indonesia, processed

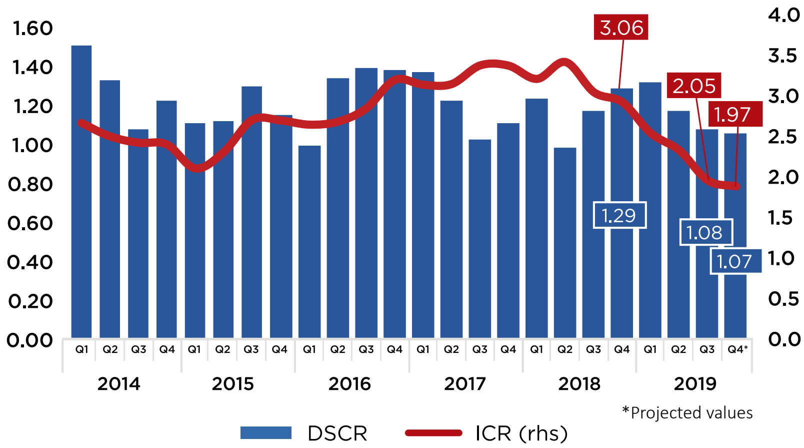
[7] Positive tone restructuring actions aim to improve corporate business and performance, including: (i) raising the ceiling; (ii) refinancing; (iii) rollover; and (iv) creditor diversification.
[8] Negative tone restructuring actions are undertaken due to declining corporate performance, including: (i) reconditioning; (ii) capitalised interest; (iii) debt to equity swaps; (iv) debt reduction; (v) rescheduling; and (vi) other external debt restructuring.

Graph 3.2.4 Non-Financial Corporate External Debt Restructuring



Source: 46 highly indebted corporations, Bloomberg, Bank Indonesia (projected values), processed

Graph 3.2.5 Repayment Capacity of Highly Indebted Non-Financial Corporations



Source: Bank Indonesia, processed

Consistent with the aggregate gain in terms of corporate external debt quality, highly indebted corporations have maintained adequate repayment capacity, as confirmed by improvements in the debt coverage service ratio (DCSR) and interest coverage ratio (ICR) based on the respective thresholds. In the fourth quarter of 2019, the DSCR stood at 1.07, exceeding the 1.0 threshold, and the ICR was recorded at 1.95 with a threshold of 1.50 (Graph 3.2.5). Despite remaining within the respective thresholds, corporations must remain vigilant of further declines in global demand, which could ultimately undermine repayment capacity, by maintaining adequate foreign exchange liquidity through prudent foreign debt management.

In general, corporations holding external debt could effectively absorb a potential increase of currency risk and liquidity risk. A potential deterioration of domestic economic conditions could lead to rupiah depreciation and, in turn, intensify currency and liquidity risk, especially at indebted corporations with external debt. This is also linked to the Bank Indonesia regulation[9] that requires all corporations to hedge against external debt, particularly corporations exposed to foreign currency financing or engaged with importing activity. According to the regulation, non-bank corporations with external debt are required to meet a minimum hedging ratio of 25% of the negative difference between maturing foreign currency assets and foreign currency liabilities: (i) in the next three months; and (ii) in the next three to six months. The regulation is even more pertinent during periods of high global economic uncertainty, such as currently.

Most non-bank corporations with external debt have already met the hedging ratio. In the fourth quarter of 2019, 92.70% of the 3,807 non-bank corporations with external debt had already fulfilled the minimum hedging ratio for foreign currency liabilities maturing in the next three months. Meanwhile, for foreign currency liabilities maturing in the next three to six months, 92.51% or 2,148 non-bank corporations had also met the minimum hedging requirements. Consequently, the management of foreign currency liabilities by non-bank corporations has improved.

[9] Bank Indonesia Regulation (PBI) No. 16/21/PBI/2014, dated 29th December 2014, concerning the Implementation of Prudential Principles in Managing External Debt of Non-Bank Corporations.

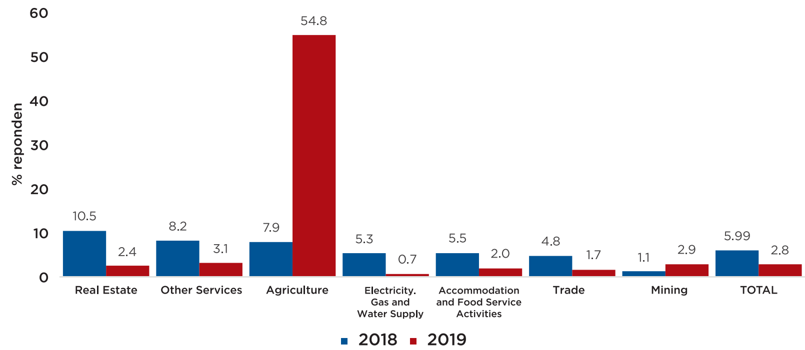
3.3. Household Behavior and Strategy in Face of Economic Moderation

The Household Balance Sheet Survey (SNRT) confirmed that weaker financial performance has influenced household behavior in terms of debt. The largest decrease in debt affected households in the mining and quarrying sector in line with declining corporate performance because of sliding international commodity prices. Furthermore, households operating in accommodation and food service activities as well as the transportation and storage sector were also less inclined towards taking on debt. Based on the profession, entrepreneurial households have experienced the deepest declines of debt.

In terms of escalating financial risk in the household sector, debt repayment capacity has been most severely impacted, while the percentage of households failing to meet their basic needs[10] has decreased. The percentage of households struggling to repay debt increased from 13.0% in 2018 to 13.3% in 2019, with the majority of such households earning less than Rp2 million per month. On the other hand, household vulnerability in terms of meeting basic needs has trended significantly lower from 5.99% in 2018 to 2.79% in 2019. Nevertheless, attention is required because such households are concentrated in the agricultural sector, accounting for more than 50% of the total (Graph 3.3.1).

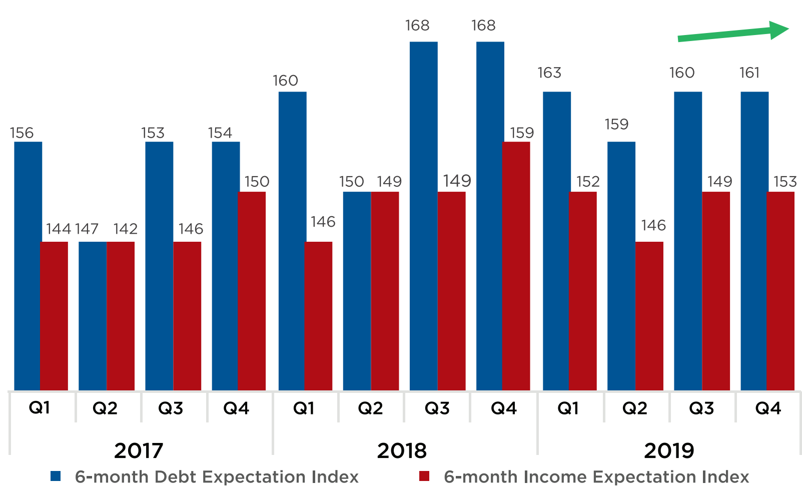
Households have employed various coping strategies to overcome financial vulnerabilities. The five main strategies include reducing spending, utilizing savings, selling possessions, working overtime and seeking supplementary work. Those coping strategies, which are categorized as moderate and high by USAID[11], are illustrated in the heat map below. This shows that potential household vulnerabilities have been contained and can be mitigated. Bank Indonesia expects household financial performance to improve in the first semester of 2020 in line with expectations of higher incomes in the next six months (Figure 3.3.1). In addition, expectations of increasing borrowing in the next six months are expected to accelerate household credit growth (Graph 3.3.2).

Graph 3.3.1 Households with a Financial Margin < 0



Source: Bank Indonesia, processed

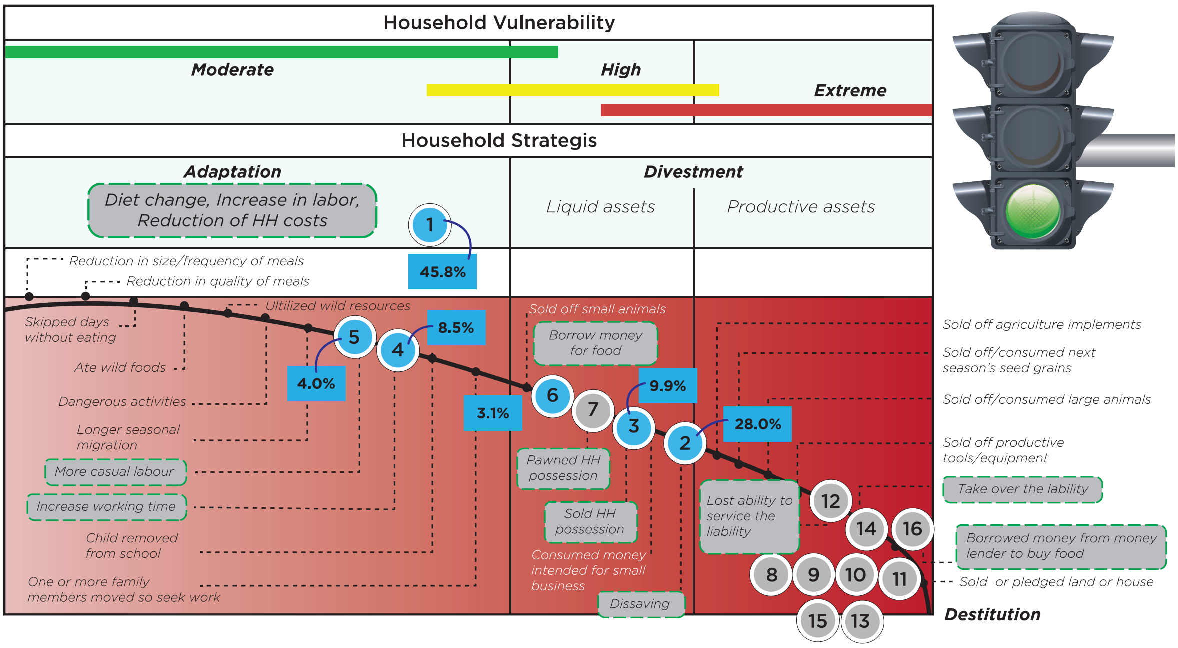
Graph 3.3.2 Debt Expectation Index and Income Expectation Index in the Household Sector



Source: Bank Indonesia, processed

[10] Failure to meet basic needs is a condition where household income is below household spending.
[11] USAID Security and Early Warning Vulnerability Assessment Manual (1999).

Figure 3.3.1 Heatmap of Coping Strategies



Source : USAID, processed

BOX 3.3

Household Behavior and Strategy in Face of Economic Moderation

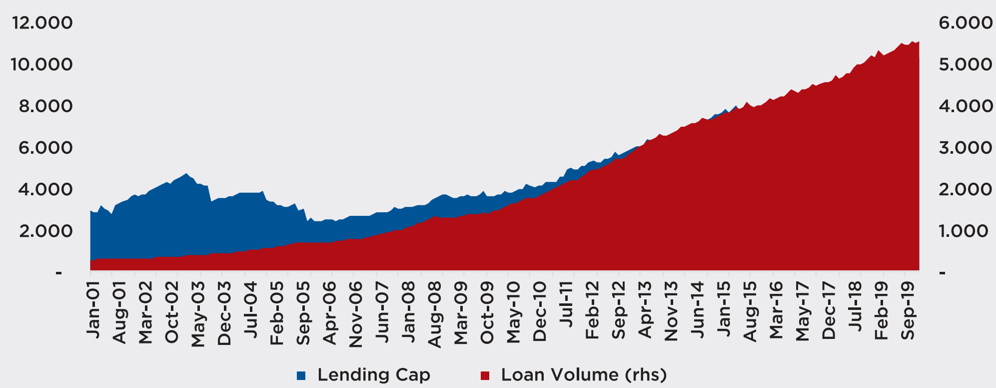
Growth of outstanding loans disbursed by the banking industry tended to moderate throughout 2019, sinking to the slowest rate for the past two decades in December 2019 at 6.08%. Such conditions were reflected by declining lending capacity[12] compared with loan volume growth. Lending capacity, represented as bank debt minus capital, required reserves and cash in vault, is a measure of funds available to the bank. In the second semester of 2019, lending capacity grew just 2.54% (ytd), while loan volume expanded 4.33% (ytd) (Graph B3.3.1).

Lending capacity has decreased in line with a sluggish bank intermediation function. As the dominant component of bank debt, slower third party fund growth has raised the loan-to-deposit ratio (LDR) and impaired lending capacity. Global uncertainty and economic moderation over the past several years have been a key determinant of lower lending capacity in the banking industry.

Slower growth of loans disbursed by the banking industry is attributable to demand-side and supply-side constraints. On the demand side, disruptions can undermine corporate and household demand for financing, while higher lending rates may exceed borrower repayment capacity and increasing risk in a particular economic sector could affect business plans at impacted corporations. On the supply side, declines could be triggered by bank capital limitations, the availability of loanable funds as well as bank reluctance to lend due to a build-up or concentration of risk in a particular economic sector.

Global uncertainty triggered by a trade war between the United States and China, coupled with domestic vulnerabilities characterised by a wider current account deficit, have suppressed credit growth. The current pace of credit growth is approaching the nadir recorded during the 2008-2009 crisis at 5.44% (yoy) in November 2009, reaching 6.08% (yoy) in December 2019. This phenomenon has been accompanied by demand-side factors, namely flatter GDP growth and increasing leverage in the corporate and household sectors, as reflected by the ratio of liabilities to assets (Graph B3.3.2). Interest rate rigidity in the banking industry has eroded corporate and household assets and disrupted cash flows. Consequently, despite the opportunity to invest, corporations and households have favoured consolidation and, thus, pared back demand for new loans.

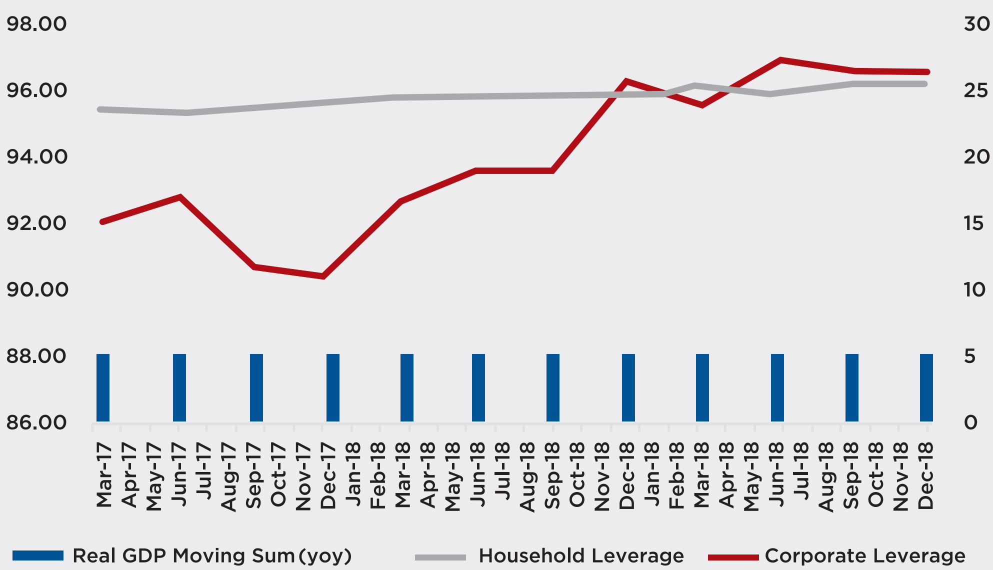
Graph B3.3.1 Nominal Credit and Lending Capacity in the Banking Industry



Source: Bank Indonesia, processed

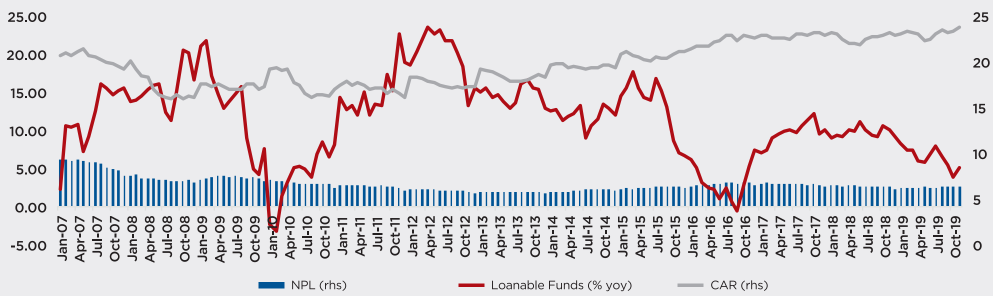
[12] Lending capacity is defined as total bank liabilities minus bank capital, required reserves and cash in vault.

Graph B3.3.2 Corporate and Household Leverage and GDP Growth



Source: Bank Indonesia, processed

Graph B3.3.3 NPL Ratio, Loanable Funds and CAR (%)



Source: Bank Indonesia, processed

Supply-side factors have also impeded credit growth in the banking industry, including the capital adequacy ratio, declining asset quality and availability of loanable funds, which have impacted lending capacity. One interesting phenomenon is that weaker credit growth in 2019 was offset by an increase in the capital adequacy ratio and decline in the availability of loanable funds (Graph B3.3.3). This may be due to bank prudence in terms of cautious and selective lending considering the domestic vulnerabilities and global uncertainty. Nevertheless, capital resilience is also expected to maintain credit quality, which improved slightly in the latter half of 2019.

A simultaneous equation of demand and supply was used to measure the factors affecting slower credit growth in 2019 with the maximum likelihood estimation of Maddala (1983, pp. 296-297). Credit supply (Ls) is influenced by factors such as lending capacity, lending rates, current output, capital adequacy ratio (CAR) and NPL ratio. Lending capacity is defined as total bank liabilities minus bank capital, required reserves and cash in vault. The lending rate used is the interest rate on working capital loans, while current output uses an annual GDP growth approach. CAR and NPL are the control variables (similar to Agung et al., 2001). The equation is expressed as follows:

(1)

$$L_t^S=\alpha_o+\alpha_1 lcap_t+\alpha_2 r_l+\alpha_2 y_t+\alpha_4 CA_t+\alpha_5 NPL_t+\varepsilon_t$$

Where l_{cap} is real lending capacity in the banking industry (minus annual CPI), r_t is the interest rate on working capital loans, y_t is real output in the form of real GDP, CA_t is the Capital Adequacy Ratio (CAR) and NPL_t is the NPL ratio.

Meanwhile, demand for loans is a determinant of real output and lending rate. It is important to note that higher output implies higher demand for loans. Demand for new loans is inversely correlated with credit growth, which reflects the cost of capital. The equation is, therefore, expressed as follows:

(2)

$$L_t^D=\beta_0+\beta_1 Y_t+\beta_2 r_{1,t}+\varepsilon_t$$

To observe any change in probability between supply and demand regimes, the equation above may be simultaneously expressed as follows:

(3)

$$L_t=X_{1t}\alpha+\varepsilon_{1t}$$
$$L_t^D=X_{2t}\alpha+\varepsilon_{2t}$$

Where X_1 is a determinant of the loan supply function, while X_2 is a function of demand for loans. If the lending rate is not fully adjusted to credit market equilibrium, actual loans, L_t can be illustrated as the minimum of credit supply or demand as follows:

(4)

$$L_t=\min\left(L_t^D, L_t^S\right)$$

If, $L_t^D > L_t^S$ maka the resultant function is the credit supply function but if $L_t^D > L_t^S$ the resultant function is the credit demand function. Maddala (1983) showed that the equilibrium equation can produce the coefficient of the supply and demand equation, measured using the maximum likelihood (ML) method as follows:

(5)

$$ML=\prod\{g_1(L_t)[1-G_2(L_t)]+g_2(L_t)[1-G_1(L_t)]\}$$

Where $g_1(L_t)$ dan $g_2(L_t)$ are defined as the probability of actual credit with demand or supply, assuming a normal distribution, and $G_1(L_t)$ and $G_2(L_t)$ are the cumulative density function. The iterative procedure of Berndt, Hall, Hall and Hausman (BHHH) was used.

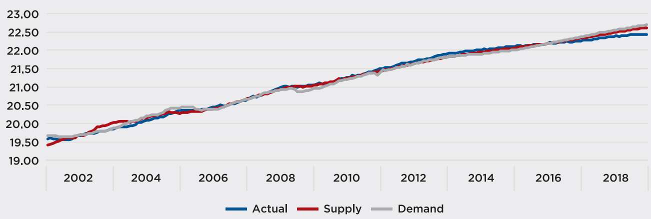
The coefficient of the equation was estimated as follows:

(6)

$$Credit^{supply}=-36.54=0.01R_t+2.87GDP_t-0.04NPL_t+0.002CAR_t+0.06LENDCAP_t$$
$$Credit^{demand}=-32.03=0.07R_t+2.69GDP_t$$
$$Credit_t=\min(Credit_t^{demand}, Credit_t^{supply})$$

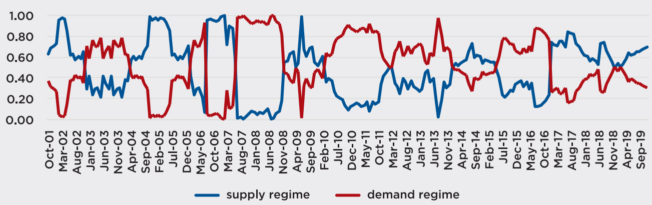
The estimations evidenced early stage credit rationing in the banking industry. The results have been plotted on Graph B3.3.4 and show that credit moderation towards the end of 2019 was attributable to a dominant supply function. Such conditions were indicative of early signs of increasing risk perception by the banks in terms of lending. This was further supported by the regime probability illustrated in Graph B3.3.5, where a supply regime is more dominant in the function of actual credit.

Graph B3.3.4 Supply vs. Demand Constraints



Source: Bank Indonesia, processed

Graph B3.3.5 Supply Regime vs. Demand Regime Probability

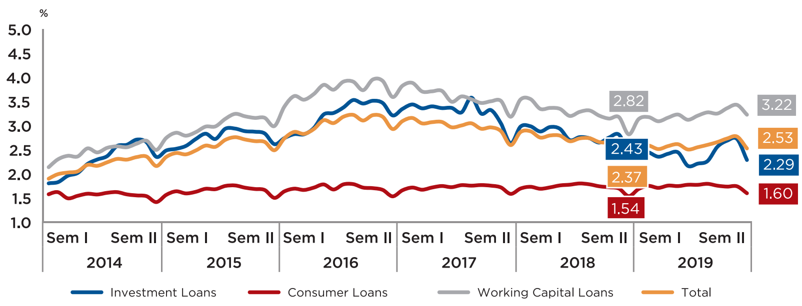


Source: Bank Indonesia, processed

3.4 Banks Contain Credit Risk despite Declining Corporate and Household Performance: Potential Risks Demand Vigilance

The bank intermediation function continued to demand attention due to the moderating trend throughout 2019. Slower credit growth was accompanied by marginally faster third party fund growth. Furthermore, credit risk intensified slightly yet was contained within a manageable threshold, thus evidencing sound credit risk mitigation measures in the banking industry. Despite increasing on the previous semester and year, the gross NPL ratio was maintained at a relatively low level of 2.53%. The gross NPL ratio was observed to increase for all loan segments except investment loans, which recorded a lower NPL ratio (Graph 3.4.1).

Graph 3.4.1 Non-Performing Loans (NPL)



Source: Bank Indonesia, processed

Table 3.4.1 NPL Ratio of Consumer Loans by Segment (% yoy)

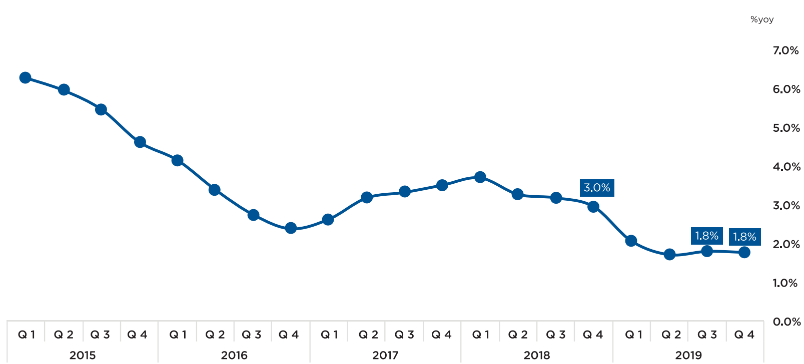
Sector	2015		2016		2017		2018		2019		Share
	Sem I	Sem II	Sem I	Sem II	Sem I	Sem II	Sem I	Sem II	Sem I	Sem II	Sem II 2019
Housing	2.59	2.34	2.67	2.54	2.94	2.63	2.86	2.42	2.78	2.62	55.49
Automotive	1.26	1.40	1.52	1.32	1.37	1.31	1.51	1.37	1.61	1.36	7.65
Household Equipment	2.42	1.73	1.82	1.74	1.45	1.45	1.93	1.67	1.33	1.32	0.50
Multipurpose	1.10	0.88	1.01	0.83	0.98	0.89	1.08	0.94	1.09	0.97	22.87
Other Household	1.43	1.11	1.09	0.92	1.11	1.20	1.26	1.07	1.28	1.19	2.69
Non-Economic Sector	1.36	1.28	1.34	1.29	1.31	1.28	1.41	1.28	1.40	1.12	10.80
Total Consumer Loans	1.68	1.50	1.67	1.53	1.72	1.58	1.77	1.54	1.77	1.60	100.00

Source: Bank Indonesia, processed

Increasing credit risk in the banking industry stemmed primarily from the manufacturing industry, which has been impacted directly by declining corporate performance. By economic sector, the main contributors to the gross NPL ratio in the banking industry in the second semester of 2019 were the manufacturing industry (manufacture of basic iron and steel) as well as construction. In the reporting period, the highest gross NPL ratios were recorded for the manufacturing industry and trade.

Consistent with slower growth, the quality of consumer loans also deteriorated marginally in 2019. The NPL ratio for consumer loans increased slightly on the previous year but remained below the 5% threshold, edged upwards primarily by housing loans and multipurpose loans, which tend to dominate consumer loans (Table 3.4.1). The performance of housing loans has declined in line with weaknesses in the property sector in 2019, as indicated by slower growth of the Residential Property Price Index (RPPI) (Graph 3.4.2).

Graph 3.4.2 Primary Residential Property Price Index (RPPI)

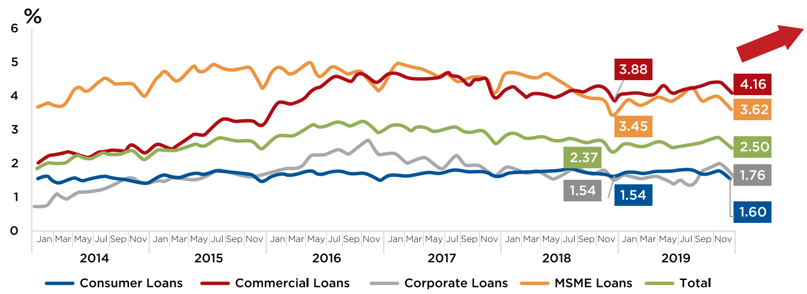


Source: Bank Indonesia, processed

Non-performing loans have increased across all segments, including corporate loans (Graph 3.4.3). In contrast, the gross NPL ratio declined for several sectors, led by electricity, gas and water supply as well as mining. Furthermore, the gross NPL ratio was lowest in the second semester of 2019 for electricity, gas and water supply as well as corporate services. NPL declined in the electricity, gas and water supply sector primarily due to higher quality infrastructure loans throughout 2019.

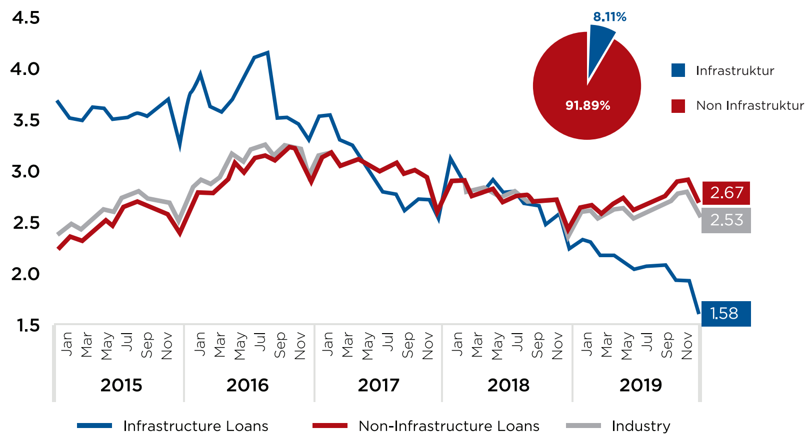
The prevailing phenomenon is in line with more cautious and selective bank lending in 2019, including a greater focus on disbursing infrastructure loans. The low NPL of infrastructure loans also offset the industrywide increase in terms of non-performing loans (Graph 3.4.4). Furthermore, higher quality infrastructure loans in 2019 were replicated across all subsectors (Table 3.4.2). Nevertheless, credit risk could still potentially intensify, as reflected by an increase in loans at risk (LaR). In comparison with 2018, LaR in the banking industry increased from 9.23% to 9.93% in 2019, primarily driven by level 2 restructured and non-restructured loans (Graph 3.4.5). Several sectors demand vigilance due to potentially higher credit risk, denoted by a significant uptick of LaR. Of 10 economic sectors, five experienced a higher LaR, namely agriculture, manufacturing, construction, trade and others. Such sectors were impacted by declining corporate performance, which had a direct influence on the manufacturing industry and trade. In addition, there was a knock-on effect on private income, as indicated by higher credit risk in the others sector (household consumption). Moreover, lower commodity prices have had a direct impact on the agricultural sector (Table 3.4.3).

Graph 3.4.3 NPL by Segment



Source: Bank Indonesia, processed

Graph 3.4.4 Infrastructure Loan Growth



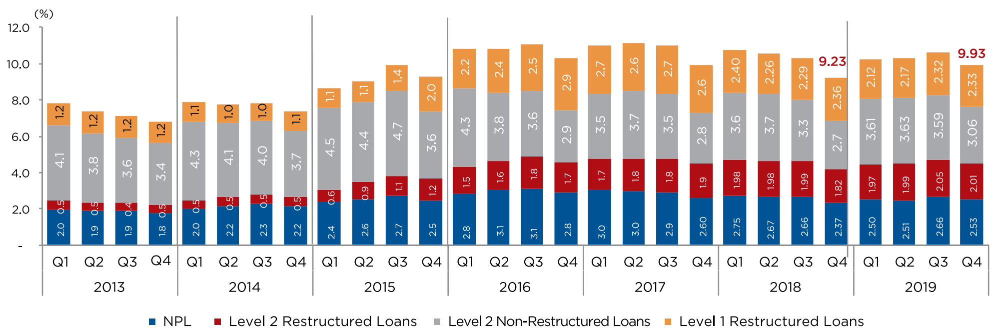
Source: Bank Indonesia, processed

Table 3.4.2 NPL Ratio of Infrastructure Loans by Sector (%)

Sector	2015		2016		2017		2018		2019		Share
	Sem I	Sem II	Sem I	Sem II	Sem I	Sem II	Sem I	Sem II	Sem I	Sem II	Sem II 2019
Construction	6.25	4.51	4.83	4.20	3.84	3.94	4.53	3.03	3.23	2.80	67.31
Electricity, Gas and Water Supply	1.06	1.79	1.16	1.02	0.92	0.46	0.50	0.60	0.39	0.45	7.20
Other Financial Intermediaries	1.32	1.13	1.56	1.52	1.28	1.14	4.00	3.59	3.12	0.76	4.52
Transportation and Communication	3.50	3.90	5.84	5.07	4.09	3.25	2.31	2.07	1.58	1.23	20.97
Total Infrastructure Loans	3.48	3.25	3.87	3.27	2.87	2.51	2.75	2.20	2.01	1.58	100.00

Source: Bank Indonesia, processed

Graph 3.4.5 Loans at Risk (LaR)



Source: Bank Indonesia, processed

Table 3.4.3 Bank NPL by Sector

Sector	NPL Ratio		LaR Ratio		NPL Contribution		LaR Contribution		Δ YTD (Rp T)	
	Dec-18	Dec-19	Dec-18	Dec-19	Dec-18	Dec-19	Dec-18	Dec-19	NPL	LaR
Agriculture	1.33	1.66	7.25	9.41	0.21	1.20	-0.53	1.95	0.99	2.49
Mining	4.66	3.58	11.97	10.35	-0.49	-1.29	-1.61	0.53	-0.80	1.08
Manufacturing	2.53	3.88	9.95	12.68	0.36	10.75	1.38	5.87	10.40	4.49
Electricity, Gas and Water Supply	1.33	0.89	3.73	2.88	0.56	-0.39	-0.08	-0.13	-0.95	-0.05
Construction	3.14	3.55	12.38	15.29	0.35	2.35	1.02	3.32	2.00	2.31
Trade	3.79	3.66	11.83	12.26	0.39	0.04	1.02	1.95	-0.35	0.93
Transportation	2.68	1.64	11.91	8.92	-0.82	-1.42	-0.57	-0.79	-0.60	-0.21
Corporate Services	1.52	1.43	9.05	8.71	0.29	-0.03	0.92	0.13	-0.32	-0.79
Social Services	1.41	1.50	7.77	7.51	-0.27	0.34	0.10	0.23	0.61	0.13
Others	1.55	1.60	6.90	7.17	1.33	1.68	2.07	2.09	0.35	0.01
Total	**2.37**	**2.53**	**9.23**	**9.93**	**1.91**	**13.23**	**3.71**	**14.10**	**11.32**	**10.39**

Sector	Gross NPL (%)				Nominal NPL		
	2016	2017	2018	2019	Δ YTD (Rp T)		Share
				Dec-19	Dec-18	Dec-19	(%)
Trade	4.10	4.10	3.79	3.66	0.5	0.0	28.8
Others (Household Consumption)	1.52	1.59	1.55	1.60	1.6	2.1	17.7
Manufacturing	3.44	2.70	2.53	3.88	0.4	13.5	25.5
Transportation and Communication	4.83	3.74	2.68	1.64	-1.0	-1.8	2.9
Construction	3.86	3.67	3.14	3.55	0.4	2.9	9.1
Agriculture	2.23	1.41	1.33	1.66	0.3	1.5	4.5
Corporate Services	1.95	1.63	1.52	1.43	0.4	0.0	5.2
Social Services	2.10	1.86	1.41	1.50	-0.3	0.4	1.7
Mining	7.16	6.18	4.66	3.58	-0.6	-1.6	3.4
Electricity, Gas and Water Supply	1.64	1.08	1.33	0.89	0.7	-0.5	1.2
Total	2.93	2.59	2.37	2.53	2.3	16.6	100.0

Source: Bank Indonesia, processed

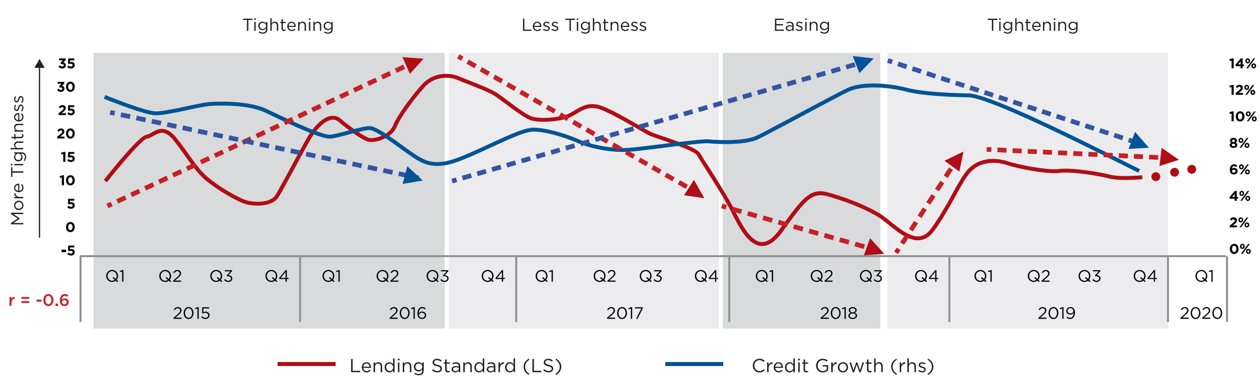
Nevertheless, efforts to mitigate credit risk were continued and the banking industry applied prudent lending standards,[13] while prioritising quality credit. Based on the Lending Standard Index (ILS), banks have become more selective when extending new loans. In general, weaker credit growth in the banking industry was confirmed by an extended period of ILS tightening through to the second semester of 2019. After loosening the ILS in 2018, the banking industry tightened the ILS at the beginning of 2019, with that position maintained until the end of the year. Such tightness was expected to persist into 2020, driven by tighter lending standards for investment loans, working capital loans and MSME loans. Meanwhile, lending standards for housing loans were eased as Bank Indonesia relaxed the loan-to-value (LTV) ratio. In addition, the banking industry also strived to more closely monitor borrowers impacted by global conditions as a preventative measure.

The tighter direction of bank lending is expected to persist in the first quarter of 2020. Congruent with the expected slowdown of new loans disbursed by the banking industry, tighter lending standards are expected in the first quarter of 2020, as confirmed by a bump in the ILS. In terms of tighter lending standards, the banks will concentrate on investment loans, working capital loans and MSME loans, with a focus on aspects of loan maturity and document requirements. On the other hand, the banks are also expected to loosen lending standards in terms of lending rates and credit lines in the first quarter of 2020 (Graph 3.4.6).

On the supply side, sluggish credit growth was also attributable to more selective bank lending. Declining economic activity in Indonesia stoked negative sentiment concerning the bank intermediation function. In addition to tightening the ILS, the banks also became more risk averse with a focus on lending to existing borrowers rather than expanding to new borrowers (Graph 3.4.7).

Bank capital has remained solid, as signalled by a rising Capital Adequacy Ratio (CAR) trend throughout 2019, well above the minimum threshold. In the second semester of 2019, bank CAR increased to 23.31% from 22.98% in the second semester of 2018 (Graph 3.4.8). CAR in the banking industry has trended higher due to slower growth of risk-weighted assets (RWA) as a direct impact of deeper declines in terms of credit growth than capital growth. Furthermore, the current banking industry CAR level meets the rules stipulated by Basal III concerning capital, particularly the capital conservation buffer, countercyclical buffer and capital surcharge for systemically important banks (SIB).

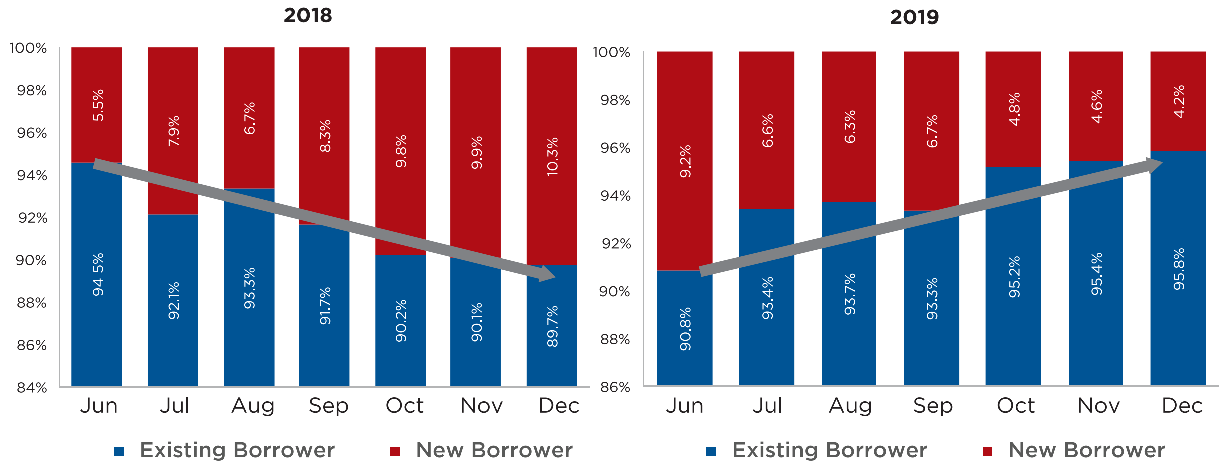
Graph 3.4.6 Lending Standards Index and Credit Growth



Sumber: Bank Indonesia, processed

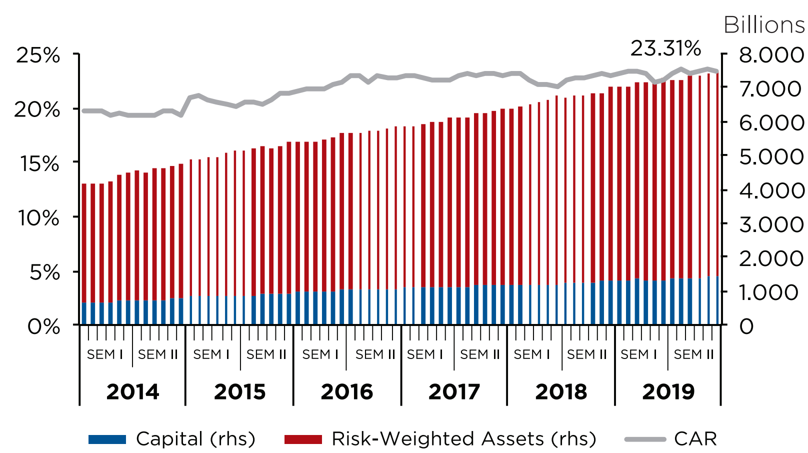
[1] Lending standards are the policies used as general guidelines for the allocation of loans to prospective borrowers at a financial institution. The Lending Standard Index is a measure of the tightness or looseness of those guidelines across the banking industry.

Graph 3.4.7 Composition of New Loans by Borrower



Source: OJK, processed

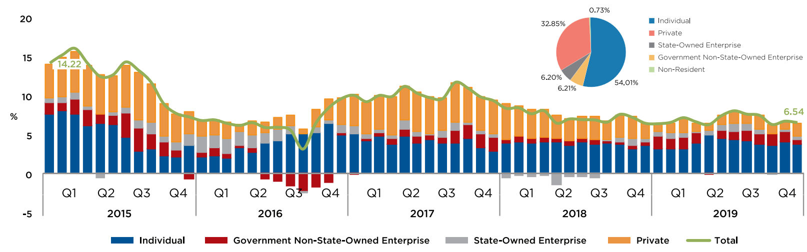
Graph 3.4.8 Capital Adequacy Ratio (CAR)



Source: OJK, processed

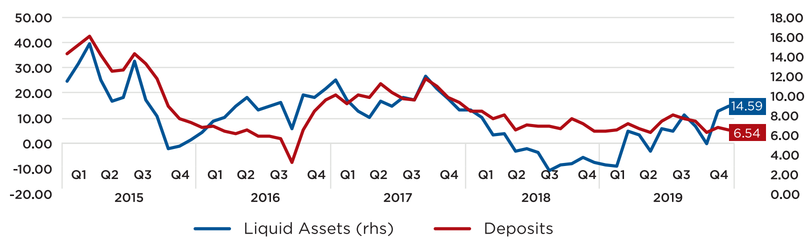
The banking industry confirmed restrained third party fund growth in 2019 in line with compressed demand for new loans. Third party banking fund posted 6.54% (yoy) growth in December 2019, with growth decelerating since the third quarter of 2017 due primarily to corporate third party fund in line with declining corporate profitability accompanied by efficiency gains through the utilisation of internal funds. Despite trending lower, third party fund growth increased slightly in 2019 compared with 2018, boosted predominantly by individual third party fund as well as government non-state-owned enterprises (Graph 3.4.9). In addition, the banking industry has also focused on bolstering cheaper funds in order to maintain profitability. Most of the increase in deposits was placed in liquid assets (Graph 3.4.10), SBN and foreign currency term deposits in particular (Graph 3.4.11).

Graph 3.4.9 Deposits by Depositor



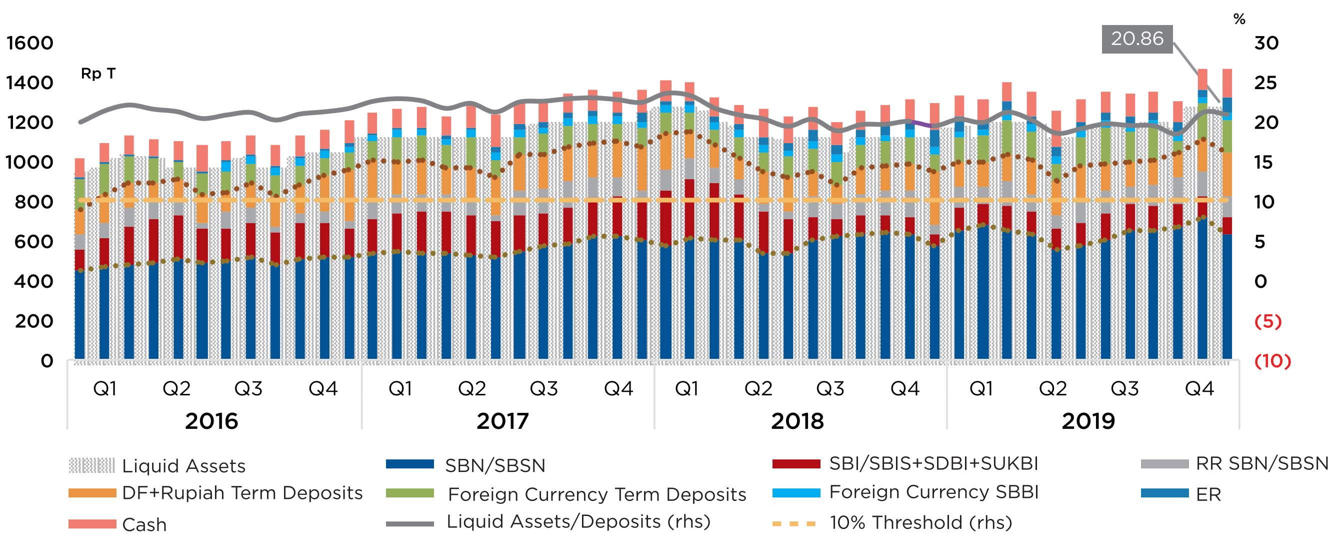
Source: Bank Indonesia, processed

Graph 3.4.10 Growth of Deposits and Liquid Assets (% yoy)



Source: Bank Indonesia, processed

Graph 3.4.11 Bank Liquidity



Source: Bank Indonesia, processed

BANK INDONESIA

Chapter IV

MACROPRUDENTIAL POLICY RESPONSE

In response to the domestic macrofinancial challenges encountered in 2019, increasing risk and the suboptimal financial cycle, Bank Indonesia strived to stimulate economic financing in the second half of 2019 in order to break the cycle in compliance with prudential principles. Bank Indonesia perceived additional room to optimise intermediation and support sustainable economic growth momentum, while maintaining financial system stability. To that end, Bank Indonesia eased the (sharia) Macroprudential Intermediation Ratio (MIR) to 84-94% and expanded bank funding to include prudent foreign borrowings. Furthermore, Bank Indonesia also relaxed the loan-to-value/financing-to-value (LTV/FTV) ratios by an average of 5-10% to drive house and vehicle ownership, including green buildings and vehicles. In addition to prudential aspects, policy to stimulate intermediation was balanced with policy to maintain adequate capital and liquidity. Therefore, Bank Indonesia held the Countercyclical Buffer (CCB) at a level of 0% and the Macroprudential Liquidity Buffer (MPLB) at 4%. The policies were formulated amidst stronger synergy and coordination between Bank Indonesia and other members of the Financial System Stability Committee in order to maintain financial system stability in 2019. Internationally, synergy and coordination manifested through Bank Indonesia's active role at various international forums in the financial sector.

4.1. Accommodative Monetary Policy Stance Maintained to Accelerate Credit Growth

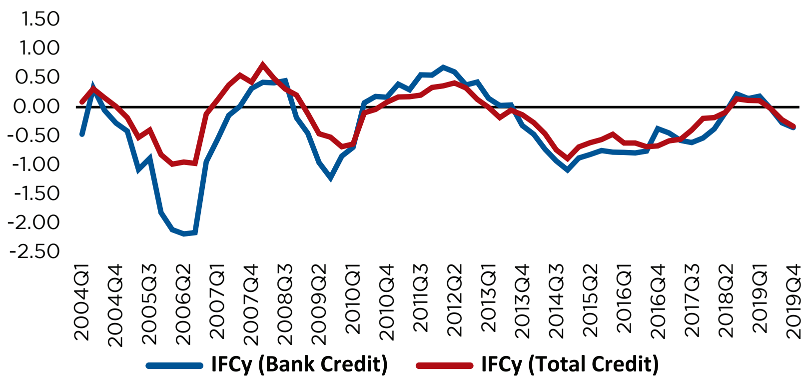
Bank Indonesia continued to strengthen the accommodative policy mix in order to maintain economic growth momentum. During the second half of 2019, Bank Indonesia maintained an accommodative monetary policy stance by reducing the BI 7-Day (Reverse) Repo Rate four times by a total of 100bps in July, August, September and October. The policy measures were taken based on the projection of low inflation, attractive yields on domestic financial assets for investment and the need to stimulate economic growth momentum amidst less global financial market uncertainty and maintained external stability. In addition, Bank Indonesia also lowered the rupiah reserve requirements for conventional commercial banks and Islamic banks/business units by 50bps in the second semester of 2019 to 5.5% and 4.0% respectively, with the average reserve requirements held at 3.0%. Effective from 2nd January 2020, the policies aimed to provide additional liquidity in the banking industry in order to stimulate financing and support economic growth. RR policy in the latter half of 2019 built on the reductions taken in the first semester of 2019, namely by a further 50bps for conventional commercial banks and Islamic banks/business units.

As part of its policy mix, Bank Indonesia also maintained an accommodative macroprudential policy stance considering the additional room to expand intermediation within the financial cycle (Graph 4.1.1). With a suboptimal financial cycle, the main macroprudential policy challenge was to maintain business confidence in order to break the cycle. Slower growth of economic financing left financial players more risk averse, thus favoring consolidation, which ultimately disrupted domestic economic growth and exacerbated vulnerabilities in the national economy. Consequently, efforts to break the vicious cycle through macroprudential policies was required. Bank Indonesia maintained an accommodative macroprudential policy stance in order to catalyze economic growth momentum against a backdrop of maintained macroeconomic and financial system stability in line with prudential principles.

Expanding intermediation through the Macroprudential Intermediation Ratio (MIR)

Bank Indonesia reformulated the Macroprudential Intermediation Ratio (MIR) in order to utilize additional space to increase lending capacity in the banking industry. The MIR target range was increased from 80-92% to 84-94% in the first semester of 2019, effective from July 2019, which has effectively increased bank lending. Seeking to stimulate economic growth momentum, while maintaining macroeconomic and financial system stability, Bank Indonesia strengthened the bank intermediation function through refinements to the (sharia) Macroprudential Intermediation Ratio (MIR).

Graph 4.1.1 Indonesia's Financial Cycle



Source: Bank Indonesia, processed

(Sharia) Macroprudential Intermediation Ratio (MIR) policy was refined by expanding the loan/financing components received by a bank as funding/financing sources in order to more optimally depict intermediation capacity. In line with a growing portion of wholesale funding in the bank funding structure over the past several years, the existing (sharia) MIR formula no longer fully illustrated bank intermediation capacity. Based on the results of a Bank Indonesia evaluation, certain elements of wholesale funding, excluding the third party funds and securities issued, were not recognized as sources of bank funding when calculating the (sharia) MIR. Seeking to accelerate lending, Bank Indonesia refined the (sharia) MIR by expanding the components of funding sources in the banking industry to include loans received and financing received. The refinements were enacted through Bank Indonesia Regulation (PBI) No. 21/12/PBI/2019, dated 25th November 2019, as an amendment to Bank Indonesia Regulation (PBI) No. 20/4/PBI/2018 concerning the Macroprudential Intermediation Ratio (MIR) and Macroprudential Liquidity Buffer (MPLB) for Conventional Commercial Banks, Islamic Banks and Islamic Business Units. Through the amendment, funding sources in the form of loans/financing received are expected to be optimised for credit allocation in the banking industry.

The amendment was made in compliance with prudential principles in order to expand intermediation without disrupting financial system stability. For prudential purposes, several criteria must be met for loans/financing received to be included in the (sharia) MIR as follows: (i) bilateral or syndicated loan/financing; (ii) excluding domestic interbank loans/financing; (iii) minimum maturity of one year; and (iv) conducted based on a loan agreement. Those criteria were set considering the currency risk, liquidity risk and other prudential aspects. By expanding the components of loans/financing received, banks are expected to accelerate intermediation through a broader source of funds.

Table 4.1.1 Comparison of (Sharia) MIR Calculation

Bank	Before (PBI No. 20/4/PBI/2018)	After (PBI No 21/12PBI/2019 Amandement over PBI No.20/4/PBI/2018)
Conventional Commercial bank	$\text{MIR} = \frac{\textit{Loans + Securities Held}}{\textit{Third-Party Funds + Securities Issued}}$	$\text{MIR} = \frac{\textit{Loans + Securities Held}}{\textit{Third-Party Funds+Securities Issued + Loans Received}}$
Islamic Bank and Islamic Business Unit	$\text{Sharia MIR} = \frac{\textit{Financing + Securities Held}}{\textit{Third-Party Funds + Securities Issued}}$	$\text{Sharia MIR} = \frac{\textit{Financing + Securities Held}}{\textit{Third-Party Funds + Securities Issued + Financing Received}}$

Source: Bank Indonesia, processed

Notes:
SSB = Securities
SBS = Islamic Securities
BUK = Conventional Commercial Bank
BUS = Islamic Bank
UUS = Islamic Business Unit

As part of the prudential principles, Bank Indonesia is only stimulating credit/financing growth at banks that have good credit quality and adequate capital resilience. Bank Indonesia is focused on banks meeting the criteria and capacity to expand credit/financing. Banks with a low risk profile and adequate resilience, as well as a (sharia) MIR below the target threshold, are expected to optimize intermediation efforts. A low risk profile is indicated by a low gross NPL/NPF ratio, while adequate capital is based on the Capital Adequacy Ratio (CAR). Banks with a (sharia) MIR below the target threshold yet inadequate capital and/or credit quality are expected to bolster capital and/or improve credit quality first. The application of prudential principles is reflected in the disincentives based on risk profile and bank resilience (Table 4.1.2). The disincentive parameters determine the (sharia) MIR that must be met by the banks. The determination of the disincentive parameters below is set as tiered as the table below: (Table 4.1.3).

Adjustments to the Macroprudential Intermediation Ratio (MIR) are accompanied by a periodic evaluation at least once every six months based on the financial cycle and risk-taking behavior in the banking industry. In conditions where there is a tendency for procyclical behavior, evaluation will focus on efforts to prevent any escalation of systemic risk. Meanwhile, during a contractionary phase, the focus is on stimulating intermediation and strengthening economic growth.

Table 4.1.2 MIR Calculation Formula

Description	Formula
Demand Deposit MIR	Disincentive parameter x (MIR lower target threshold – MIR) x Third party funds
(sharia) Demand Deposit MIR	Disincentive parameter x (Sharia MIR lower target threshold – Sharia MIR) x Third party funds

Source: Bank Indonesia, processed

Table 4.1.3 MIR Disincentives Parameters

Disincentive Parameter	Previous Regulation (PBI No. 20/4/PBI/2016)	Current Regulation (PBI No. 21/12/PBI/2019, amendment to PBI No. 20/4/PBI/2018)
If gross NPL/NPF ≥ 5% or Minimum Capital Adequacy Requirement ≤ 14%	non regulated	0
If gross NPL/NPF ≥ 5% and 14% < Minimum Capital Adequacy Requirement ≤ 19%	non regulated	0.1
If gross NPL/NPF ≥ 5% and Minimum Capital Adequacy Requirement > 19%	non regulated	0.15
Regardless of gross NPL/NPF and Minimum Capital Adequacy Requirement	0.1	-

Source: Bank Indonesia, processed

Relaxing the Loan-to-Value and Financing-to-Value Ratios for Housing Loans and Down Payments on Automotive Loans

Consistent with efforts to stimulate bank lending and support sustainable development, Bank Indonesia relaxed the loan-to-value (LTV) ratio and financing-to-value (FTV) ratio for the housing credit/financing as well as down payments on automotive loans. Such accommodative macroprudential policies for the property and automotive sectors, including green financing, were issued based on several considerations. First, the need to extend the accommodative policy mix to specific sectors. Second, the property and automotive sectors have strong backward and forward linkages in the economy and, therefore, require stimulation through relaxed loan-to-value (LTV) and financing-to-value (FTV) ratios as well as down payments in compliance with prudential principles. Third, the macroprudential policy measure aims to support sustainable development through green financing in order to reduce the potential disruptions to financial system stability triggered by environmental degradation. Contained credit/financing risk was another consideration for the accommodative macroprudential policies extended to the property and automotive sectors. Relaxing the loan-to-value and financing-to-value ratios for property loans and down payments on automotive loans are expected to expand public access to bank credit/financing through less stringent requirements. The corresponding regulation is Bank Indonesia Regulation (PBI) No. 21/13/PBI/2019, dated 26th November 2019, as an amendment to Bank Indonesia Regulation (PBI) No. 20/8/PBI/2018 concerning the Loan-to-Value (LTV) Ratio for Property Loans, Financing-to-Value (FTV) Ratio for Property Financing and Down Payments on Automotive credit/financing.

In addition, Bank Indonesia also provided further green financing incentives for property and automotive credit/financing that meet specific criteria. Green property financing refers to the standards/certification published by a nationally or internationally recognized institution. On the other hand, green financing in the automotive sector refers to battery electric vehicles for road transportation in accordance with prevailing laws and regulations, including Presidential Regulation (Perpres) No. 55 of 2019 concerning Battery Electric Vehicles for Road Transportation.

The incentives provided for green finance represent Bank Indonesia's firm commitment to support sustainable development and the green economy. Consistent with Indonesia's commitment[1] as a member of G20 to implement the Paris Agreement on Climate Change (PACC) and the Sustainable Development Goals (SDGs), Bank Indonesia has a strategic role in supporting PACC and SDG implementation according to Bank Indonesia’s monetary, macroprudential and payment system mandate and jurisdiction. Bank Indonesia’s green financing policy in the property and automotive sectors (green LTV) represents the central bank’s contribution to sustainable development through green macroprudential policies in order to maintain the financial system stability against the threat of climate-related risk.

[1] As a member of G20, Indonesia is committed to the PACC and SDGs based on Act No. 16 of 2016 concerning Enactment of the Paris Agreement to the United Nations Framework Convention on Climate Change and Act No. 59 of 2017 concerning Implementation of the Sustainable Development Goals (SDGs).

By relaxing the LTV/FTV ratios and KKB / PKB down payments, Bank Indonesia has provided greater public access to loans/ financing in the property and automotive sectors. Bank Indonesia relaxed the LTV/FTV ratios on housing loans/financing to 85-95% from 80-90% previously. In other words, to access property loans/financing from a bank, the consumer would have to provide 5-15% of the value of the loan/financing, down from 10-20% previously. After the adjustment, the LTV/FTV ratios are presented in Table 4.1.4.

In addition, Bank Indonesia relaxed the down payment requirements for automotive loans to 10-25% from 20-30% previously. Meanwhile, an additional 5% incentive is available for green automotive financing. After the adjustment, the down payment requirements are presented in Table 4.1.5.

Bank Indonesia relaxed the LTV/FTV ratios and KKB/PKB down payment requirements on automotive loans in compliance with prudential principles, which aim to maintain the quality of loans/financing extended by the banking industry to the property and automotive sectors. The new LTV/FTV ratios are only applicable to banks maintaining a total NPL/NPF ratio and gross NPL/NPF ratio for property loans/financing below the 5% thresholds. This requirement is more conservative then the previous regulation and applicable to banks with a net total NPL/NPF ratio and gross NPL/NPF ratio for the property loans/financing below 5%. In addition to its impact on the LTV/ FTV ratios, the new NPL/NPF ratio requirements also impact installment payments (unfinished property). Furthermore, the new down payment requirements are also only applicable to banks maintaining a gross total NPL/NPF ratio and a net NPL/ NPF ratio for automotive loans below 5%. The requirements were amended in alignment with other regulations pertaining to automotive loans.

Table 4.1.4 Loan-to-Value (LTV) Ratio/Financing-to-Value (FTV) Ratio

Amended LTV/FTV Ratio

	Fulfilling NPL/NPF Criteria				Fulfilling NPL/NPF Criteria					
	Property Loans/ Financing based on Murabahah and Istishna Contracts		Property Financing based on MMQ and IMBT Contracts		Property Loans/ Financing based on Murabahah and Istishna Contracts			Property Financing based on MMQ and IMBT Contracts		
	1	≥ 2	1	≥ 2	1	2	≥ 3	1	2	≥ 3
Landed House										
Type > 70m²	-	85%	-	90%	85%	75%	65%	90%	80%	70%
Type > 21 – 70m²	-	90%	-	95%	-	85%	75%	-	85%	75%
Type ≤ 21m²	-	-	-	-	-	-	-	-	-	-
Flats/Apartments										
Type > 70m²	-	85%	-	90%	85%	75%	65%	90%	80%	70%
Type > 21 – 70m²	-	90%	-	90%	95%	85%	75%	95%	85%	75%
Type ≤ 21m²	-	90%	-	90%	-	85%	75%	-	85%	75%
Shophouse	-	90%	-	90%	-	85%	75%	-	85%	75%

LTV/FTV Ratio for Green Property Financing

	Fulfilling NPL/NPF Criteria				Not Fulfilling NPL/NPF Criteria					
	Property Loans/ Financing based on Murabahah and Istishna Contracts		Property Financing based on MMQ and IMBT Contracts		Property Loans/ Financing based on Murabahah and Istishna Contracts			Property Financing based on MMQ and IMBT Contracts		
	1	≥ 2	1	≥ 2	1	2	≥ 3	1	2	≥ 3
Landed House										
Type > 70m²	-	90%	-	95%	90%	80%	70%	95%	85%	75%
Type > 21 – 70m²	-	95%	-	-	-	90%	80%	-	90%	80%
Type ≤ 21m²	-	-	-	-	-	-	-	-	-	-
Flats/Apartments										
Type > 70m²	-	90%	-	95%	90%	80%	70%	95%	85%	75%
Type > 21 – 70m²	-	95%	-	95%	-	90%	80%	-	90%	80%
Type ≤ 21m²	-	95%	-	95%	-	90%	80%	-	90%	80%
Shophouse	-	95%	-	95%	-	90%	80%	-	90%	80%

Source: Bank Indonesia, processed

Table 4.1.5 Down Payments on Automotive Loans/Financing

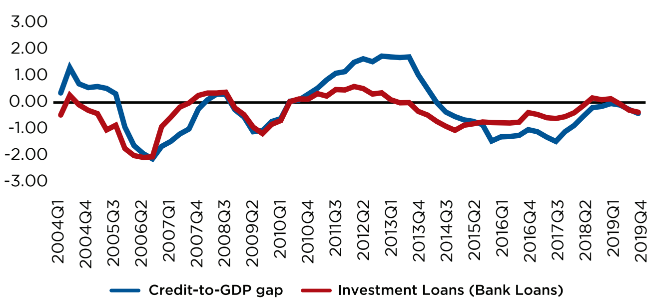
Vehicle Type	Down Payment		Down Payment on Green Financing	
	Satisfying NPL/NPF Criteria	Failing NPL/NPF Criteria	Satisfying NPL/NPF Criteria	Failing NPL/NPF Criteria
2-wheeled	15%	20%	10%	15%
3-wheeled or more (Private Vehicle)	15%	25%	10%	20%
3-wheeled or more (Commercial Vehicle)	10%	15%	5%	10%

Source: Bank Indonesia, processed

Holding the Countercyclical Buffer (CCB) and Macroprudential Liquidity Buffer (MPLB)
Bank Indonesia held the Countercyclical Buffer (CCB) and Macroprudential Liquidity Buffer (MPLB) at 0%, consistent with the accommodative macroprudential policy stance. The move provides space for the banking industry to increase lending capacity and contribute to building economic growth momentum. A rigorous assessment of the primary indicator, namely the credit-to-GDP gap, revealed no indications of excessive credit growth (Graph 4.1.2), while the supporting indicators, including macroeconomic indicators, banking risk indicators and asset prices, further confirmed such conditions.

Holding the countercyclical capital buffer at 0% is consistent with the accommodative macroprudential policy stance, as reflected by an expansion of the Macroprudential Intermediation Ratio (MIR) and relaxing the LTV/FTV ratios as well as down payment requirements on automotive loan/financing. By maintaining the CCB at 0%, the banks are not obliged to provide any additional capital as a buffer, thus affording additional space to increase intermediation capacity and stimulate economic growth momentum in line with Indonesia's financial cycle (IFCy). The CCB requirements will stimulate intermediation and mitigate systemic risk from procyclical lending. Through the CCyB, the banks can maintain a secure level of credit growth, backed by adequate capital. Consistent with the CCB ratio, after an evaluation conducted in 2019, Bank Indonesia also maintained a buffer requirement of 4% the MPLB and flexible repo of 4%. In an evaluation conducted in 2019, Bank Indonesia re-established the MPLB ratio and repo flexibility option as the results of the previous year's evaluation in order to provide space for the banks to manage liquidity, in line with the drive to expanding credit and economic financing.

Graph 4.1.2 Credit-to-GDP Gap



Source: Bank Indonesia, processed

4.2. Synergy and Coordination to Strengthen Financial System Resilience

Stronger synergy and coordination between Bank Indonesia and other domestic authorities contributed to maintaining financial system stability in the second semester of 2019. Under a bilateral a framework, stronger coordination between Bank Indonesia and the Indonesian Financial Services Authority (OJK) was focused on macroprudential and microprudential policy synergy. Meanwhile, follow-up actions to the Financial System Crisis Prevention and Mitigation (PPKSK) Act were the primary focus of bilateral coordination between Bank Indonesia and the Deposit Insurance Corporation (LPS). Furthermore, stronger synergy under a trilateral framework contributed to the manifestation of integrated bank reporting, which has also strengthened the decision-making process. Efforts to bolster synergy are always taken multilaterally under the auspices of the Financial System Stability Committee with a focus on safeguarding the financial system stability through coordinated financial system crisis prevention and handling. Internationally, Bank Indonesia strengthened synergy and coordination through active participation at various international forums.

Synergy and Coordination between Bank Indonesia and the Indonesian Financial Services Authority
Stronger macroprudential and microprudential policy synergy between Bank Indonesia and the Indonesian Financial Services Authority (OJK) during the second semester of 2019 contributed to maintain financial system stability amidst persistent global economic uncertainty. Seeking to build sustainable economic growth momentum in the face of global headwinds, Bank Indonesia and OJK strengthened regulatory harmonization between macroprudential and microprudential regulations. The following regulations were aligned, including the (sharia) MIR, LTV/FTV ratios, MSMEs loan ratio, revocation of the Indonesia Bank Accounting Guidelines (PAPI), draft of OJK regulation concerning the loan information management agency, draft of regulation concerning Bank Report Transparency and Publication, draft of OJK regulation concerning Islamic rural bank asset quality as a draft circular letter concerning the soundness (health) of Islamic rural banks. The closer synergy between the two authorities was also reflected in coordinated efforts to populate and update the list of systemically important banks (SIBs), as mandated by the Financial System Crisis Prevention and Mitigation (PPKSK) Act. To that end, Bank Indonesia submitted its recommendations to OJK concerning OJK's designation of systemically important banks. Furthermore, Bank Indonesia also submitted its recommendations concerning the methodology used by OJK to designate systemic banks. Strong synergy between the two authorities was also reflected in information sharing, the implementation of joint stress tests, coordinated bank inspections in the second semester of 2019 and a coordinated bank inspection plan for 2020. Joint stress tests are conducted annually through information exchange regarding the stress test scenarios of both institutions, encompassing bottom-up and top-down approaches. The recommendations produced by the joint stress tests are expected to improve policy quality at each institution, supported by bank inspections and the shared results by Bank Indonesia for macroprudential purposes and

OJK for microprudential purposes. In addition, the inspections are used as inputs to evaluate the coordination between both institutions. Such synergy supports smooth task implementation at both authorities in order to mitigate the macroprudential and microprudential risks. Tighter policy coordination and synergy between both authorities is also a clear reflection of an effective Macroprudential-Macroprudential Coordination Forum (MMCF). The exchange of macroprudential and microprudential data also reflects strong synergy and coordination to support the execution of duties at both authorities. During the second semester of 2019, macroprudential and microprudential data exchange was effective in terms of supporting policy analysis at both institutions. In the macroprudential area, Bank Indonesia exchanged data on the MIR and MPLB. Meanwhile, OJK reciprocated to provide data on the Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR). Data produced by Bank Indonesia's RR information system and Banking Information System (SIP) was also exchanged along with data from OJK's Finance Company Reporting Information System (SIPP). In addition, the two authorities also coordinated for OJK to utilize office space owned by Bank Indonesia in various regions as a form of Bank Indonesia support to maintain task continuity at OJK. Synergy and coordination with OJK were also strengthened in order to facilitate task implementation at Bank Indonesia as the authority responsible for the monetary sector, payment system and financial markets. Both authorities coordinated in order to harmonize financial market policies, including optimizing financial market infrastructures through central bank money (CeBM), which is expected to increase market liquidity and support financial market deepening, while strengthening financial market infrastructure (FMI) implementation. Bank Indonesia also coordinated with OJK to strengthen capital market monitoring and supervision, with a focus on products and services as well as financial market activity, including commercial securities, medium-term notes as well as central counterparty interest rate and exchange rate derivatives. Furthermore, as the payment system authority, Bank Indonesia also coordinated with OJK to accelerate digitalization of Bank Indonesia's payment system through open API (Application Programming Interface) standards for payment transactions. Reciprocal coordination was also conducted in the area of OJK policy relating to the digitalization of financial products and services, including implementation of electronic voting (e-voting), which is expected to provide greater transaction convenience for issuers in the capital market. Moving forward, coordination and cooperation between Bank Indonesia and OJK will be improved in order to strengthen policy synergy and effectiveness at both institutions as custodians of financial system stability.

Synergy and coordination between Bank Indonesia and the Deposit Insurance Corporation (LPS)

Bank Indonesia and LPS continuously strengthen synergy in the area of financial system crisis prevention and handling in order to maintain financial system stability.

The strong synergy between Bank Indonesia and LPS was supported by an amendment to the memorandum of understanding in order to strengthen task implementation at both institutions. As a follow-up action to the Financial System Crisis Prevention and Mitigation (PPKSK) Act, leaders of Bank Indonesia and LPS refined the memorandum of understanding in terms of the scope of coordination and cooperation in order to strengthen coordination between both institutions, harmonize PPKSK Act and capture the latest conditions. In addition to close coordination, Bank Indonesia and LPS have also strengthened data and/or information exchange; the handling and resolution of bank solvency issues under crisis conditions; coordinated revocation of bank operating licenses; employee assignments and competency development; joint research and socialization activities as well as other forms of coordination.

Coordinated data exchange represents a follow-up action to the memorandum of understanding in order to support financial system crisis prevention and handling.

Data and/or information is exchanged concerning the types of tradeable government securities (SBN) held by LPS that can be purchased by Bank Indonesia as well as LPS data regarding bank deposit rates, the special rates banks offer their customers in particular. Intensive coordination has also been used to prepare resources for full implementation of integrated reporting, including the development of interconnected infrastructure with the Integrated Information Repository and Exchange (SAPIT).

Coordination between Bank Indonesia and LPS has also been strengthened in terms of bridge bank regulations.

The two institutions have coordinated in order to harmonize regulations concerning bridge banks based on the results of simulations between BI and LPS concerning the process to set up or establish a bridge bank. To that end, Bank Indonesia and LPS have finalized the implementation guidelines for the coordination and cooperation mechanism between both institutions in relation to establishing a bridge bank. The implementation guidelines are also a follow-up action to a Bank Indonesia regulation concerning the operational relationship between bridge banks and Bank Indonesia[2] . Coordination in terms of the establishment mechanism for a bridge bank is a critical element for Bank Indonesia to ensure a smooth licensing and/or approval process in terms of the Bank Indonesia payment system, monetary operations and the transferral of payment system service providers from the original bank to a bridge bank.

[2] Bank Indonesia Regulation (PBI) No. 20/15/PBI/2018, dated 21st December 2018, concerning the Operational Relationship between Bridge Banks and Bank Indonesia.

Both institutions have also undertaken educational activities concerning the role and authority of Bank Indonesia and LPS in terms of safeguarding financial system stability.
To that end, a national seminar entitled "The Synergic and Strategic Role of BI and LPS as Custodians of Financial System Stability" was organized with the involvement of the Indonesian Economist Association (ISEI). Moving forward, joint educational activities will periodically be undertaken by Bank Indonesia and LPS with the participation of various stakeholders, including the banking industry, academia, business associations and the local government.

Trilateral Coordination between Bank Indonesia, OJK and LPS
Stronger synergy and coordination between Bank Indonesia, OJK and LPS has produced integrated bank reporting.
One-stop integrated bank reporting aims to improve data quality and strengthen the decision-making process. Integrated bank reporting was achieved through synergy and coordination between the three authorities. Towards fully-fledged implementation, the three institutions have refined and harmonized the respective regulations concerning commercial bank reporting. Furthermore, the launch in December 2019 by leaders from all three institutions was a clear reflection of firm inter-authority commitment and synergy towards integrated bank reporting. Implementation began in January 2020 through a parallel run with the existing reporting system. The three institutions are avowedly committed to synergy and coordination in order to ensure fully-fledged implementation of integrated reporting.

Continuous Trilateral Coordination through Joint Research
Joint research is conducted to support policy effectiveness at each respective authority, with the results expected to bolster comprehensive and credible policy-making based on quality research. Furthermore, the final research findings are published as monographs by the three institutions. Coordination and cooperation between the authorities, including policy harmonization, is constantly pursued by Bank Indonesia in order to maintain financial system stability. Moving forward, Bank Indonesia will continue to strengthen synergy with the government and other relevant authorities in order to accelerate payment system development, financial market deepening as well as financial crisis prevention and resolution. In addition, Bank Indonesia will continue to harmonize policies towards building economic growth momentum in the face of global economic challenges and the relentless flow of digitalization.

Coordination in the Financial System Stability Committee
Multilaterally, synergy and coordination through the Financial System Stability Committee has been improved in accordance with the respective contribution of each member authority in terms of crisis prevention and handling.
In terms of maintaining financial system stability in compliance with the mandate of the Financial System Crisis Prevention and Mitigation (PPKSK) Act, each respective member authority of the Financial System Stability Committee coordinates in order to: (i) monitor and maintain financial system stability; (ii) mitigate financial system crises; and (iii) resolve issues at systemically important banks (SIB) during normal and crisis conditions. Monitoring and maintaining financial system stability are conducted on a quarterly basis, encompassing aspects of fiscal, monetary, macroprudential, microprudential, financial market, financial infrastructure (including the payment system) and bank resolution. The monitoring framework is implemented in accordance with the respective Crisis Management Protocol (CMP) of each member authority. Based on assessments conducted in the fourth quarter of 2019, the Financial System Stability Committee concluded that financial system stability had been maintained despite global economic moderation due to widespread uncertainty as well as public attention in Indonesia regarding CMP issues at domestic financial services institutions. In response, the Financial System Stability Committee will increase policy synergy in order to mitigate potential risks from the global and domestic economies in order to safeguard financial system stability and maintain sustainable economic growth momentum.
As a follow-up action to the Financial System Crisis Prevention and Mitigation (PPKSK) Act, each institutional committee member will improve preparations in terms of financial crisis prevention and resolution by strengthening the inter-institutional CMP framework. To that end, fully dressed national crisis simulations are organized regularly, which have garnered international appreciation and recognition, with all four institutional leaders in attendance. Such synergy has confirmed Indonesia's status as the only country to regularly hold an annual national crisis simulation with observers from international institutions, including the World Bank and International Monetary Fund (IMF), amongst others. The success of the simulation is also attributable to the design of the scenarios that can replicate crisis conditions yet remain balanced across all member institutions. In order to improve the financial system stability committee preparedness in terms of resolving solvency issues at systemically important banks (SIB), a bespoke crisis simulation was organized in 2019 concerning the licensing and establishment process for a bridge bank. All three institutions involved in the licensing process for bridge banks, namely Bank Indonesia, the Indonesian Financial Services Authority (OJK) and Deposit Insurance Corporation (LPS), participated in the simulation, with the Ministry of Finance acting as observer. The simulation aimed to test the applicability of the licensing and establishment process for bridge banks at each respective institution, while testing the licensing timeframe as well as coordination between committee members. The simulation also aimed to identify gaps in the licensing and establishment process for bridge banks. A thematic evaluation of the simulation found that the licensing and establishment framework for bridge banks is robust and that the simulation process encountered no issues. Several inputs to strengthen the bridge bank framework as a resolution option were put forward, including the need to consider the timeframe and an appropriate communication strategy to publicly announce the resolution actions in order to maintain market confidence in financial system stability. The evaluation will be used as inputs to strengthen coordination between institutions and to strengthen the CMP at each member institution of the Financial System Stability Committee. Moving forward, bilateral and multilateral synergy and coordination between committee members will be improved in order to anticipate various pressures that could influence the economy and financial system stability, including a synergic and coordinated policy response to the COVID-19 pandemic.
Synergy and coordination between Financial System Stability

Committee members also aim to increase public understanding of crisis prevention and resolution in terms of the Financial System Crisis Prevention and Mitigation (PPKSK) Act. This is achieved through dissemination activities in the form of policy dialogue between committee members and stakeholders, including academics and practitioners, in order to discuss CMP issues and each committee member's role in terms of maintaining financial system stability.

Bank Indonesia's Active Role at International Forums in the Financial Sector

Bank Indonesia plays an active role at various international forums in the financial sector as part of its efforts to synergize and coordinate with other authorities globally. As a member of the Financial Stability Board (FSB) and other forums, including the Basel Committee on Banking Supervision (BCBS), Bank Indonesia's commitment has been realized through active participation in formulating global financial sector reforms as well as implementation at the domestic level. In addition, Bank Indonesia is also involved with evaluating the impact of the global financial sector reforms in order to ensure the intended consequences as well as maintain a balance between commitment to the reforms and the complexity of the financial sector in each country because no one size fits all. Regionally, Bank Indonesia is an active member of several forums, including the Executives' Meeting of East Asia Pacific Central Banks (EMEAP) as a discussion medium for regional opinions concerning the global financial sector reform agenda. Bank Indonesia's active contribution to international forums is supported by strong coordination across domestic authorities. Strong coordination is important in order to formulate Indonesia's international posture, accelerate global financial sector reforms and disseminate information. Coordination is extended between leaders through high-level meetings and technical meetings. In terms of high-level meetings, bilateral forums between authorities or the Financial System Stability Committee are a reliable discussion media to formulate Indonesia's position and implementation strategy, while offering an opportunity to disseminate information concerning the strategic issues discussed at international forums. At the technical level, coordination meetings between authorities concerning the global financial sector reform agenda, with the participation of officials from the Financial System Stability Committee's institutional members, provide a means to more intensively disseminate information, facilitate discussions and formulate Indonesia's posture regarding emerging issues at international forums. Coordination meetings with various authorities concerning the global financial sector reform agenda intend to discuss the developments, challenges and impediments facing Indonesia in terms of implementing the global financial sector reform recommendations. During the second semester of 2019, the intensity of inter-authority coordination was increased in line with preparations for Indonesia's FSB Country Peer Review in the area of OTC derivatives market reforms. Congruent with the broad scope of asset classes in the derivatives market, which includes exchange rate, interest rate, equity and commodity derivatives, coordinated preparations for the FSB Country Peer Review not only involve members of the Financial System Stability Committee but also the Commodity Futures Trading Regulatory Agency (BAPPEBTI). In addition, Bank Indonesia and the Indonesian Financial Services Authority (OJK) are actively implementing the Global Monitoring Report on Non-Bank Financial Intermediation, which aims to monitor the performance and risks associated with non-bank financial intermediation. In general, such close coordination has increased synergy amongst the authorities, while expediting policymaking and decision-making as well as formulating Indonesia's posture at international forums. The advantages have been felt by all authorities and reflected in their commitments, backing and active participation during various discussions at various strategic international forums for Indonesia.

FSB Country Peer Review of OTC Derivatives Market Reforms

Leading by example, Bank Indonesia is firmly committed to FSB Country Peer Review implementation as well as the publication of results in terms of the global financial sector reform recommendations. Implemented periodically every two or three years after the Financial Sector Assessment Program (FSAP), the FSB Country Peer Review aims to assess the implementation of the global financial sector reform recommendations in jurisdictions under G20/FSB membership. The FSB Country Peer Review 2019/2020, with a focus on OTC derivatives market reforms, is the second country peer review for Indonesia since the global financial sector reform recommendations were published. In Indonesia, synergy and coordination between the authorities have been conducted in preparation for smooth country peer review implementation. Intensive synergy and coordination have been prioritized since 2019, involving Bank Indonesia, the Indonesian Financial Services Authority (OJK), Deposit Insurance Corporation (LPS) and the Commodity Futures Trading Regulatory Agency (BAPPEBTI) under the auspices of the Ministry of Finance as Indonesia's representative in the Standing Committee on Standards Implementation (SCSI) of the Financial Stability Board (FSB). Synergy is required for all aspects and during each stage of the peer review, beginning with appointing a person in charge (PIC) for each authority, to disseminating the OTC derivatives market recommendations to each area in order to ensure universal understanding, preparations to complete and submit the peer review questionnaire to the relevant authorities, regulatory mapping, fulfilling data and information in relation to each respective authority as well as a consolidated response from the Indonesian authorities. The Country Peer Review will observe the current status of OTC derivatives market reforms implemented by Indonesia. The assessment involves mandatory reporting to a trade repository, mandatory clearing through a central counterparty (CCP), mandatory trading through an electronic trading platform (ETP) and the imposition of stricter capital and margin requirements for OTC derivative transactions that do not involve clearing. The country peer review is expected to produce a number of recommendations to strengthen the regulation and supervision of the OTC derivatives market in Indonesia, while simultaneously providing a reference to adopting OTC derivatives market recommendations more in line with the comparatively small and underdeveloped derivatives market in Indonesia. The results of the FSB Country Peer Review will be published towards the end of 2020. Indonesia's participation in the country peer review, along with the publication of the results, demonstrate Indonesia's firm commitment as part of the international community to lead by example in terms of implementing global financial sector reforms.

BOX 4.2.1

Integrated Reporting to Improve Data Quality and Strengthen Decision-Making Process

The introduction of integrated bank reporting is a product of synergy and coordination amongst financial sector authorities in Indonesia to improve the quality of banking data and strengthen the decision-making process concerning the authorities' policy direction. Agreement to integrate banking sector reporting through a single portal involves three financial sector authorities in Indonesia, namely Bank Indonesia, the Indonesia's Financial Services Authority (OJK) and Deposit Insurance Corporation (LPS) (Figure B4.2.1.1). Integrated bank reporting is expected to improve efficiency through higher-quality data, while minimizing redundancies in the reports submitted to Bank Indonesia, OJK and LPS through several separate applications. In addition, one-stop integrated reporting provides greater convenience for the banking industry to access the authorities' reporting applications. No longer are banks required to manage several usernames for each respective authority, which have been replaced by a single user ID for the various reporting applications. For the authorities, integrated reporting provides a more efficient means to access and exchange higher quality banking data to meet the needs and jurisdiction of each respective authority. The various advantages are expected to underlie the policymaking process at each institution.

The development of integrated reporting refers to the FLEKSI principles, namely Flexible, Efficient, Consistent and Collaborative. The term FLEKSI infers several important principles. Flexible implies meeting the authorities dynamic' business needs conveniently and quickly. Efficient eliminates redundancies in the information requested by the authorities and submitted through one reporting portal. Consistently ensures that the data and information reported are accurately formulated referring to standardized metadata, thus allowing banks to produce quality data. Collaborative signifies the cooperation and synergy built up between the authorities to realize integrated reporting.

Integrated bank reporting minimizes inconsistencies and redundancies. Reporting through a single portal has changed the submission procedure from form-based to information-based, referring to standardized metadata. The information-based approach reduces information inconsistencies and redundancies caused by ambiguous/inconsistent data definitions. Using an information-based approach means that banks are no longer required to report certain information that can be derived from the other data. In addition, the data submitted is also more granular (detailed) in nature. Such changes will reduce the reporting burden placed on the banks, while simultaneously improving data quality, which is expected to create 'one data' for the banking industry to support policy analysis and safeguard financial system stability.

From Bank Indonesia's perspective, integrated reporting through a single portal will be submitted through the National Metadata-Based Integrated Reporting Application (BI-ANTASENA). BI-ANTASENA represents the development of an integrated reporting system under the authority of Bank Indonesia that contains information from six[4] of the eight reports submitted through the single portal. The reports submitted to Bank Indonesia through BI-ANTASENA contain a wealth of daily, weekly, monthly, and quarterly banking information concerning the conditions and financial performance of individual banks. In general, the information submitted to Bank Indonesia contains financial information from the balance sheet and profit and loss account, along with information on risk and capital, payment system and financial services activities as well as core data.

BI-ANTASENA has significantly altered the bank reporting architecture to Bank Indonesia and provided various breakthroughs and technical solutions as follows:BI-ANTASENA implementation

1 **Information-based reporting format**, replacing form-based submissions, with the information compiled based on metadata previously agreed by the authorities.
2 **The availability of different report submission channels based on the technological level of the bank,** including the upload mechanism, managed file transfer (MFT) and application programming interface (API).
3 Integrated **Data Quality Management (DQM)** within BI-ANTASENA, which provides automated monitoring of data quality and consistency, while checking data integrity, thus obviating the need for manual checking or the utilization of applications external to the reporting system.

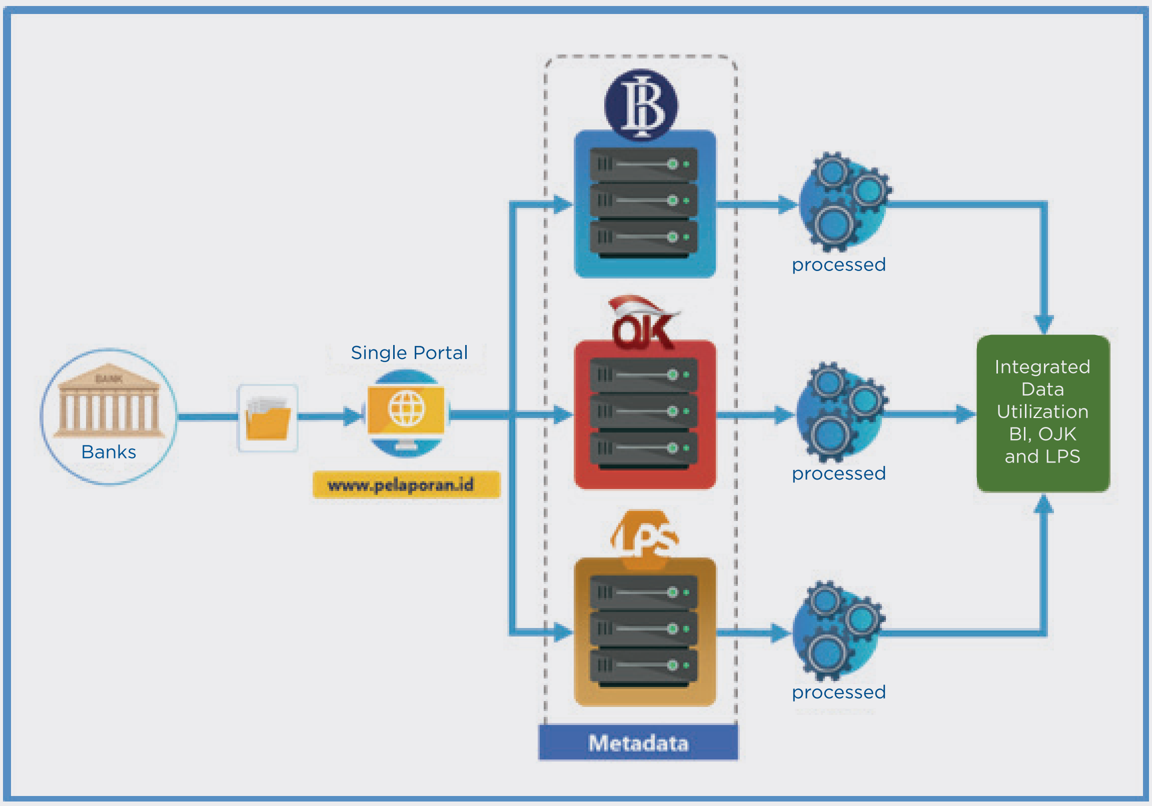
[3] The scope of BI-OJK-LPS integrated reporting includes eight reports currently submitted by the banking industry, namely: Commercial Bank Daily Report (LHBU), Commercial Bank Periodic Report (LBBU), Islamic Bank Periodic Report (LBBUS), Commercial Bank Monthly Report (LBU), Monthly Monetar y and Financial System Stability Report by Islamic Banks and Islamic Business Units (LSMK), Commercial Bank Head Office Report (LKPBU), Rural Bank Monthly Report (LBBPR) and Islamic Rural Bank Monthly Report (LBBPRS).

[4] Commercial Bank Monthly Report (LBU), Monthly Monetary and Financial System Stability Report by Islamic Banks and Islamic Business Units (LSMK), Commercial Bank Periodic Report (LBBU), Islamic Bank Periodic Report (LBBUS), Commercial Bank Daily Report (LHBU) and Commercial Bank Head Office Report (LKPBU).

BI- ANTASENA implementation for reports submitted to Bank Indonesia affords several benefits to the banking industry and authorities. First, greater efficiency in terms of application development and maintenance. Second, greater flexibility and convenience for different and additional data needs. Third, guaranteed data and information consistency, clarity and quality. And, fourth, utilization of the latest technology, while providing various reporting channels for different formats based on the technological level of the respective bank, including the use of API.

Integrated reporting by the banking industry to Bank Indonesia through BI-ANTASENA will be implemented gradually, commencing with a parallel run with the existing reporting system from 31st December 2019 until August 2020 in accordance with Bank Indonesia Regulation (PBI) No. 21/9/PBI/2019 concerning Integrated Commercial Bank Reporting. As implementation guidelines, Bank Indonesia also issued a Board of Governors Regulation (PADG) No. 21/23/PADG/2019 concerning Integrated Commercial Bank Reporting, which contains the submission procedures and report formats (Figure B4.2.1.1).

Figure B4.2.1.1 Integrated Reporting Mechanism through a Single Portal



Source: Bank Indonesia, processed

BOX 4.2.2

Leading by Example through Bank Indonesia Regulation (PBI) concerning Over-the-Counter (OTC) Interest Rate and Exchange Rate Derivatives by a Central Counterparty

Mandatory clearing of OTC derivatives through a central counterparty (CCP) represents part of the global OTC derivatives market reform agenda since the global financial crisis in 2008. The GFC of 2008 provided a valuable lesson concerning the risks that may emerge due to a high volume of OTC derivatives. If unchecked, the authorities will be unable to anticipate intense pressures in the financial markets due to spikes in counterparty risk. In response to the GFC, G20 leaders agreed in September 2009 to change the regulatory and supervisory paradigms governing the OTC derivatives market. The agreement produced the OTC Derivatives Market Reforms, with a primary focus on increasing transparency, risk management and governance for OTC derivatives (Table B4.2.2.1).

The reform recommendations for OTC derivatives are part of the commitments by G20 and FSB members to lead by example and create more secure and transparent derivatives markets. After more than a decade, implementation of the recommendations has shown global progress despite proceeding more slowly than initially targeted. Varying levels of derivatives market development and complexity amongst the G20 and FSB members have also contributed to slower progress.

The adoption of the CCP recommendations is a primary focus of Bank Indonesia in the area of OTC derivatives reforms. A central counterparty (CCP) would help to expedite the domestic development and financial market deepening process, specifically in terms of developing derivatives transactions and reducing market segmentation. In Indonesia's context, although trade in OTC derivatives remains limited, domestic foreign exchange market trends have demonstrated robust growth. The adoption of global recommendations concerning CCP are required in order to create a secure and transparent derivatives.

Using a central counterparty (CCP) for derivatives transactions is expected to mitigate counterparty risk and interconnectedness risk, thus reducing the risk of derivatives transactions on financial system stability. A CCP is a financial institution that provides clearing and settlement services and takes on counterparty credit risk between parties to a transaction through novation[5] and multilateral netting[6]. A CCP places itself between the transacting parties, namely the buyer and seller. Prior to a CCP, a bilateral contract would be agreed between the buyer and seller, as was common for over-the-counter derivatives trading. Nevertheless, the presence of a CCP has changed the bilateral contract mechanism, replaced by two new contracts: i) a contract between the buyer and CCP; and ii) a contract between the seller and CCP. With a concentration of risk, therefore, at the CCP, tighter regulation and supervision is required, particularly in terms of risk management, capital and governance.

The clearing and settlement mechanism through a CCP is supported by a solid capital base and strong risk management to mitigate the risk of derivatives transactions on financial system stability (Figure B4.2.2.1). A CCP is expected to reduce interconnectedness between buyers and sellers considering that one buyer may be connected to several sellers and vice versa.

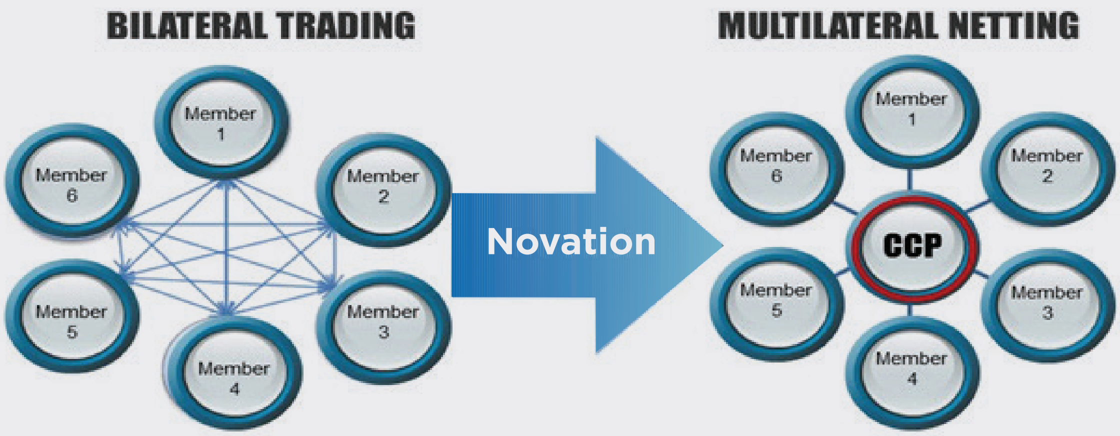
Table B4.2.2.1 OTC Derivatives Market Reforms

	Mandate
All standard OTC Derivatives Transactions	1. Mandatory trading through an exchange or electronic trading platform (ETP) 2.Mandatory clearing through a central counterparty (CCP)
All OTC Derivatives Transactions	3.Mandatory reporting to a trade repository
All OTC Derivatives Transactions	4.Subject to higher capital requirements 5.Subject to higher margin cost

Source: Bank Indonesia, processed

[5] Novation is the process of replacing an initial contract between a buyer and seller with two new contracts, namely between the CCP and buyer as well as the CCP and seller.
[6] Multilateral netting is a settlement mechanism to sum the net rights and obligations between parties transacting multilaterally, rather than settling individually, in terms of the total financial instruments transacted and the payment value, which underlies the settlement of the transactions.

Figure B4.2.2.1 Novation and Multilateral Netting in CCP



Source: Bank Indonesia, processed

Furthermore, a CCP is expected to alleviate credit risk because the buying and selling parties are transacting with a stronger entity that is more organized and prudent. A CCP also increases transaction transparency and efficiency due to data available concerning the transactions cleared through the CCP.

Consistent with the commitment of G20 and FSB members to implement OTC Derivatives Market Reforms, Bank Indonesia has promulgated regulations as a legal basis for the clearing and settlement of interest rate and exchange rate derivatives through a central counterparty (CCP). The provisions are contained in Bank Indonesia Regulation (PBI) No. 21/11/PBI/2019 concerning A Central Counterparty for Over-the-Counter Interest Rate and Exchange Rate Derivatives Transactions (CCP SBNT), issued on 9th September 2019. The salient provisions of the regulation are as follows:

1 The requirements for a financial institution acting as a central counterparty (CCP) for OTC interest rate and exchange rate derivatives in accordance with international standards (Principles for Financial Market Infrastructures – PFMI);
2 The licensing process for financial institutions acting as a central counterparty (CCP) for OTC interest rate and exchange rate derivatives;
3 Bank Indonesia's supervisory framework for financial institutions acting as a central counterparty (CCP); and
4 References concerning the crucial business aspects for a financial institution acting as a central counterparty (CCP), including novation and close-out netting.

Adoption of the CCP recommendations for interest rate and exchange rate derivatives transactions by Bank Indonesia reflects the prioritized yet gradual implementation of the global financial reform agenda consistent with the derivatives market conditions and performance in Indonesia. Furthermore, Bank Indonesia issued the regulations after broad discussions with the different authorities in Indonesia, under the auspices of the CCP Derivatives Task Force (TF – CCP), concerning the adoption of the CCP recommendations since 2017 . Membership of the TF – CCP is limited to financial sector authorities in Indonesia, namely Bank Indonesia, the Indonesian Financial Services Authority (OJK) and the Ministry of Finance. The TF-CCP is tasked with preparing for central counterparty (CCP) in Indonesia with a focus on the following aspects: i) legal and institutional aspects; ii) products, mechanisms and collateral management; iii) risk management and governance; iv) trade repository and information technology; v) membership; and vi) supervision.

Since the promulgation of the Bank Indonesia Regulation on CCP (PBI CCP), Bank Indonesia's focus in 2020 is to support the institutional preparations for a CCP. One of the follow-up actions is to formulate implementation rules and guidelines for the Bank Indonesia Regulation on CCP in the form of a Board of Governors Regulation (PADG), which is targeted for release in May 2020. Consistent with the global recommendations in the area of OTC derivatives and to support the operationalization of a CCP in Indonesia, mandatory clearing through a CCP for standard OTC derivatives instruments are required. In addition, regulatory support is required for mandatory trading of standard OTC derivatives through an electronic trading platform (ETP). Moreover, mandatory reporting is required through a trade repository for all OTC derivatives in order to ensure the transaction transparency. The series of follow-up actions demonstrate Indonesia's tangible commitment to phased implementation of the G20 agenda concerning OTC Derivatives Market Reforms in line with derivatives market conditions and performance in Indonesia. Implementation of the reform agenda in the area of OTC derivatives is expected to help create deep, transparent and secure domestic financial markets and, thus, underpin financial system stability in Indonesia in accordance with best international practices and standards (Principles for Financial Market Infrastructures – PFMI).

[7] CPSS-IOSCO – Principles for Financial Market Infrastructures – April 2012

[8] Membership of the TF- CCP was finalizes through Bank Indonesia Gubernatorial Decree No 19/7/KEP.GBI/2017, dated 29th September 2017, with the approval and backing of the Financial Market Development and Deepening Coordination Forum (FK-PPPK)

BANK INDONESIA

Chapter V

OUTLOOK AND POLICY DIRECTION

Growing global economic recovery optimism at the end of 2019 has been severely curtailed by COVID-19. The global economy is reeling from the rapid transmission of COVID-19 in China and across the world in the first quarter of 2020, which led to the outbreak being declared a global pandemic. Consequently, the world economic growth outlook has been downgraded due to disruptions in the global supply chain and compressed international demand, coupled with unprecedented measures to contain the outbreak that has brought economic activity to a standstill in many jurisdictions. Such inauspicious conditions have prompted significantly lower commodity prices and heightened global financial market uncertainty as well as increased the volatility of capital flows in developing countries. The economic impact was quickly felt in Indonesia through the trade, tourism and investment channels. Pressures on the domestic economy have intensified in 2020 after COVID-19 was transmitted to Indonesia. Based on such conditions, Bank Indonesia revised its domestic economic growth projection down for 2020.

Despite the onerous domestic and global challenges that have emerged, financial system stability in Indonesia has been maintained with the support of banking industry resilience. Nevertheless, growth of new loans in the first half of 2020 has been subdued with potentially higher credit risk due to the impact of COVID-19. Similarly, the corporate sector is under immense pressure due to lower world trade volume, disruptions in the global production chain, rupiah exchange rate depreciation and compressed domestic demand. Efforts to break the COVID-19 chain of transmission have drastically reduced production and economic activities, eroded demand for labour and impacted incomes and consumption, thus undermining domestic demand. Given the heightened uncertainty, investors have been forced to adjust their portfolios, triggering capital outflows and currency pressures on the rupiah. If spillover from the COVID-19 pandemic persists, credit risk in the corporate and household sectors will intensify and spread to multiple sectors, which could potentially impact financial industry performance, including the banking sector.

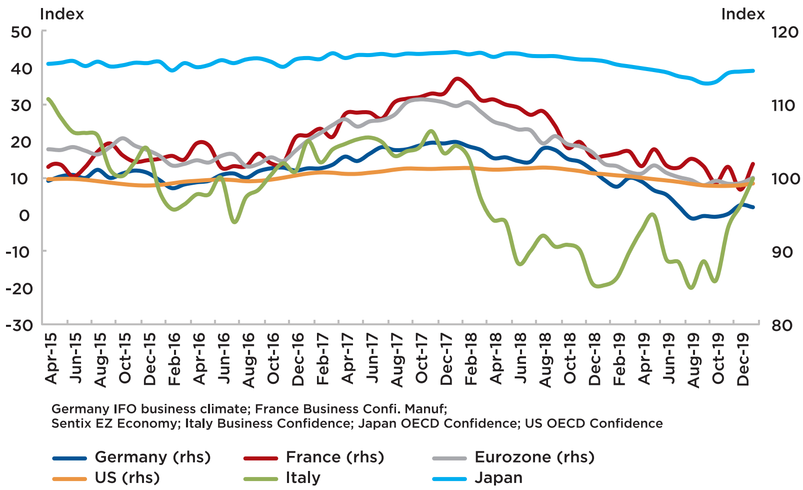
Anticipating a potential build-up of pressures on domestic economic and financial stability as the COVID-19 pandemic worsens, Bank Indonesia has instituted an optimal policy mix in close coordination with the OJK. The President of the Republic of Indonesia has signed Government Regulation in Lieu of Law No. 1 of 2020 concerning State Financial and Financial System Stability Policies to Contain the Coronavirus Disease 2019 (Covid-19) Pandemic and/or Confront Threats to the National Economy and/or Financial System Stability. Furthermore, Bank Indonesia will continue to strengthen policy coordination and synergy with the Government, OJK and LPS in order to maintain macroeconomic and financial system stability, while sustaining economic growth momentum. Internationally, cooperation and coordination with other monetary authorities has also been strengthened, amongst others, to maintain adequate foreign exchange liquidity in domestic markets as well as to exchange ideas and opinions concerning financial system conditions and the policy responses taken.

5.1 COVID-19 delays Global and Domestic Economic Recoveries

Economic confidence in the global economic recovery outlook strengthened towards the end of 2019 as trade tensions between the United States and China eased. Economic players were confident that the phase one trade deal[1] agreed between the United States and China in January 2020 would strengthen optimism and catalyze global economic recovery momentum. Furthermore, several global economic indicators and financial market developments also pointed to growing economic confidence. Indexes for manufacturing, export orders, production and economic confidence tended to improve towards the end of 2019 and beginning of 2020 (Graph 5.11, Graph 5.12, Graph 5.13 and Graph 5.14).

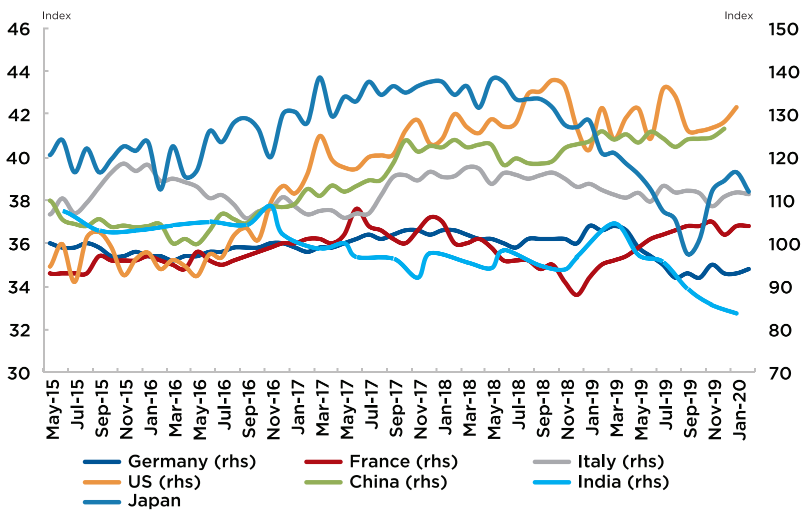
In the financial markets, improving global investor sentiment lowered financial market risk perception in emerging economies, reaching its lowest level in the past five years, thus attracting capital flows and triggering currency appreciation in developing economies.

Graph 5.1.1 Global Business Confidence Indicators



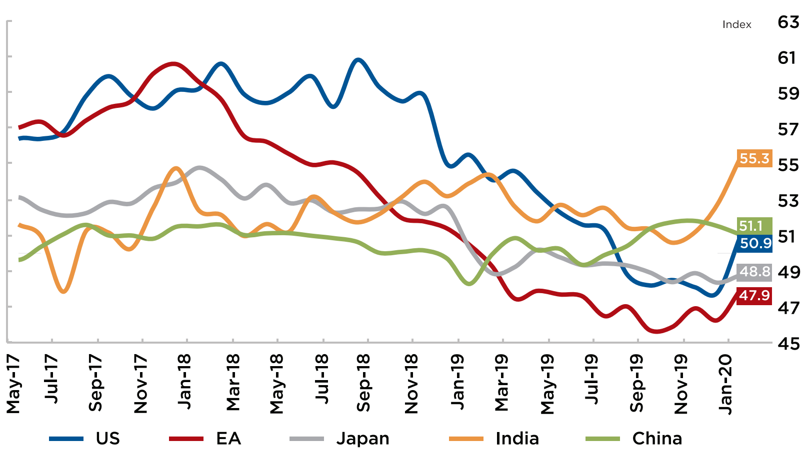
Source: Bloomberg, processed

Graph 5.1.2 Global Consumer Confidence Indicators



Source: Bloomberg, processed

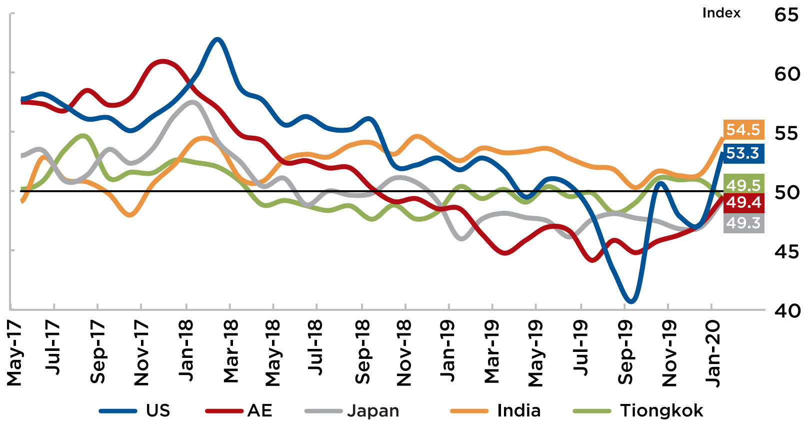
Graph 5.1.3 Global Manufacturing Indexes



Source: IHS Markit, ISM (data AS PMI Manufacturing), processed

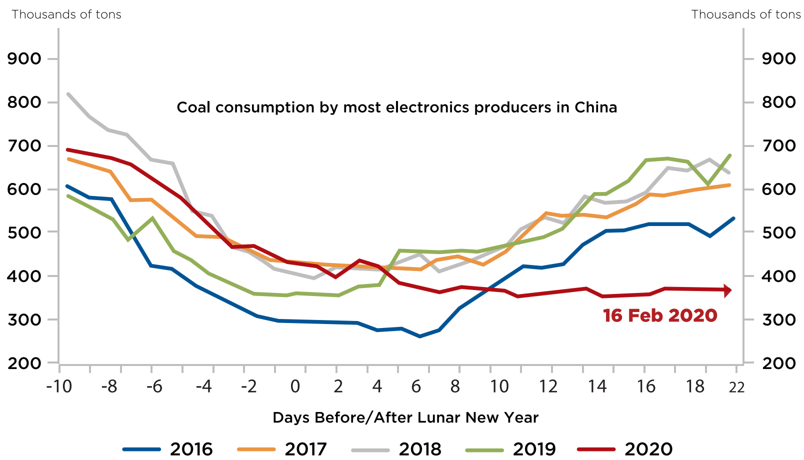
[1] According to the agreement, China pledged to increase purchases of US goods and services by at least USD200 billion over the next two years and renew commitments to intellectual property rights for US products marketed in China. On the other hand, the United States agreed to reduce tariffs on USD120 billion of Chinese products entering the United States from 15% to 7.5%.

Graph 5.1.4 Global Export Orders



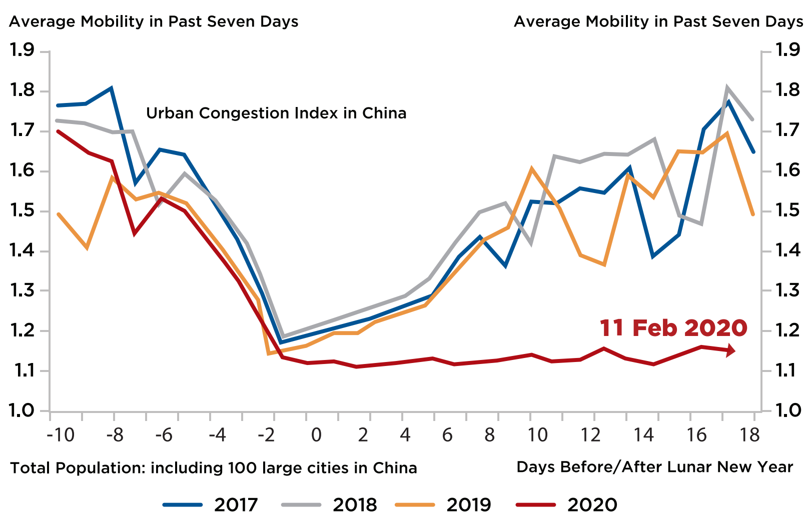
Source: IHS Markit, ISM (US New Export orders PMI data), processed

Graph 5.1.5 Coal Consumption Indicators



Source: Wind (dari Goldman Sachs), processed

Graph 5.1.6 Mobility Indicators



Source: Wind (from Goldman Sachs), processed

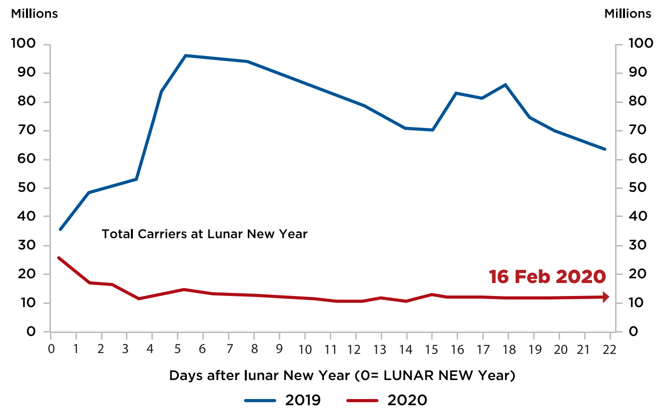
Economic optimism concerning the global recovery began to fade with the COVID-19 outbreak in China. Originating in Wuhan city, Hubei province in December 2019, COVID-19 has spread rapidly to various regions in China and beyond, affecting all corners of the world. The rapid transmission of COVID-19 has severely impacted economic activity in China, which was already languishing on trade tensions. Efforts by China's Government to contain COVID-19 through lockdown policy in Wuhan and 12 other cities in Hubei province, coupled with individual mobility restrictions have disrupted production and brought economic activity to a standstill, as confirmed by several indicators, namely coal consumption, total passengers and urban mobility (Graph 5.15, Graph 5.16 and Graph 5.17).

The global economic outlook has also been downgraded due to disruptions in the global supply chain and compressed international demand. Economic moderation in China is undermining the global economic recovery outlook due to China's significant contribution to international trade and commodity consumption. In addition to sharp international commodity price declines, such conditions will interrupt production and manufacturing activities in the global supply chain. The risks associated with disruptions to production and manufacturing activities will primarily be felt in countries with a higher dependence on raw materials and capital goods from China, including the United States, Japan and several European and Asian countries.

The rapid transmission of COVID-19 to numerous countries outside China is placing unprecedented distress in the global economy. Just as COVID-19 transmission in China started to ease and the domestic economic recovery began to gain momentum, the World Health Organisation (WHO) declared COVID-19 a global pandemic[2] due to a rapid increase in the number of cases worldwide. In fact, several countries in Europe and the United States have become new epicenters of the virus. Similar to China, the impact of COVID-19 in advanced economies has also impacted world trade volume, tourism and investment, thus amplifying pressures in the global economy (Table 5.1.1).

Pressures intensified after countries in Europe, the US and several developing economies introduced unprecedented measures to contain COVID-19 transmission, bringing economic activity to a sudden standstill. Governments in various jurisdictions introduced travel and mobility restrictions (including lockdowns) in order to break the chain of transmission. Cross-border travel restrictions, affecting land, sea and air travel, including social restrictions have also drastically curbed economic activity and, ultimately, increased pressure on financial system stability through liquidity pressures and a higher risk of default. Although it remains challenging to accurately measure the impact of COVID-19, an OECD[3] study indicates economic losses due to COVID-19 at around 0.5% of global GDP, which could potentially increase to 1.5% of GDP under a worst-case scenario. Meanwhile, the International Monetary Fund (IMF) has projected a global economic contraction in 2020 due to COVID-19, with a potential global economic and financial recession predicted.

Graph 5.1.7 Total Passengers



Source: China's Ministry of Transportation (dari Goldman Sachs), processed

Table 5.1.1 World Economic Growth Projections

Description	WEO January 2020				Deviation from WEO October 2019	
	2018	2019*	2020*	2021*	2020*	2021*
World GDP	3.6	2.9	3.3	3.4	-0.1	-0.2
Advanced Economies (AE) GDP	2.2	1.7	1.6	1.6	-0.1	0.0
US	2.9	2.3	2.0	1.7	-0.1	0.0
Euro Area	1.9	1.2	1.3	1.4	-0.1	0.0
Japan	0.3	1.0	0.7	0.5	0.2	0.0
Emerging Market Economies (EM) GDP	4.5	3.7	4.4	4.6	-0.2	-0.2
China	6.6	6.1	6.0	5.8	0.2	-0.1
India	6.8	4.8	5.8	6.5	-1.2	-0.9
Brazil	1.3	1.2	2.2	2.3	0.2	-0.1
Mexico	2.1	0.0	1.0	1.6	-0.3	-0.3
Rusia	2.3	1.1	1.9	2.0	0.0	0.0
South Africa	0.8	0.4	0.8	1.0	-0.3	-0.4
Consumer Price Index						
Advanced Economies (AE)	2.0	1.4	1.7	1.9	-0.1	0.1
Emerging Market Economies (EM)	4.8	5.1	4.6	4.5	-0.2	0.0
World Trade Volume	3.7	1.0	2.9	3.7	-0.3	-0.1

*Projection

Source : IMF, processed

[2] On 11th March 2020, the World Health Organisation (WHO) declared COVID-19 a pandemic due to a rapid increase in the number of cases to 118,000 in 110 countries, with the potential risk of further transmission globally.

[3] Organisation for Economic Co-operation and Development (OECD) Economic Outlook, Interim Report March 2020.

The impact of COVID-19 has heightened uncertainty in global financial markets and exacerbated capital flow volatility to developing economies. Despite global investors' concerns regarding the massive economic impact of the COVID-19 pandemic, limitations in terms of accurately measuring the impact of COVID-19 have forced global investors towards risk-off behavior by withdrawing their funds from higher-risk investments or financial markets in developing economies in favor of safe-haven assets and commodities (flight to quality), such as UST bonds and gold. Such conditions have hurt global financial market performance as well as triggered broad-based currency depreciation and a capital reversal towards safe-haven assets. US stock markets experienced sharp corrections in the second week of March 2020, representing the largest decline[4] since Black Monday in 1987, while UST bond yields have fallen since the beginning of 2020 and gold prices have traded higher despite lower prices of other commodities. Commodity prices have also experienced deep declines, with the global oil price recording a weekly drop of 30% in the second week of March 2020. A surge of foreign capital outflows intensified pressures and increased global currency volatility, including developing economies.

Seeking to contain COVID-19 and prevent further economic decline, governments and authorities in most countries responded through accommodative monetary policy and emergency fiscal stimuli. The US Federal Reserve trimmed its reference rate to 0% in the middle of March 2020 as an emergency measure to stimulate an economy under intense pressure. Such policies also aimed to prevent a credit crunch and financial market disruptions. Authorities in other advanced economies were expected to replicate the policy rate cut implemented by the US Federal Reserve, which would be expected to drive capital inflows to developing economies, particularly those offering attractive yields. The volatility of portfolio investment flows remained comparatively high against a backdrop of economic moderation in advanced economies, the accommodative monetary policy response and heightened financial market uncertainty.

The global economic recovery delayed by COVID-19 transmission has affected Indonesia's economic outlook. Global COVID-19 contagion has hit Indonesia through the trade, tourism and investment channels. Economic moderation in Indonesia's main trading partners, including China, the European Union and United States, due to COVID-19 has compressed global demand and undermined commodity prices. Such conditions will impact manufacturing and commodity exports from Indonesia.

Domestic trade will also be impacted due to corporate cash flow management issues as a result of significantly lower sales during the COVID-19 containment period. Furthermore, travel and mobility restrictions have temporarily halted international travelers visiting Indonesia due to COVID-19 transmission concerns, which will also impact the tourism sector and supporting industries, including transportation and trade in and around travel destinations. Meanwhile, flight to quality by international investors will delay investment in the Asian region, including Indonesia, and impact financial market performance.

Domestic economic pressures have intensified in 2020 since COVID-19 spread to Indonesia. COVID-19 transmission has disrupted production and economic activities in the affected countries, including Indonesia. Physical distancing and other policies that aim to restrict public interaction in order to contain COVID-19, including restrictions on mass gatherings, closures of educational facilities, fewer passengers on public transport and working from home as well as cross-border travel restrictions, have disrupted economic activity and restricted the supply of raw materials from other countries for production. Such conditions have compressed demand for labor and eroded incomes, while reducing consumption, thus undermining domestic demand. In addition, investor appetite towards developing economies, including Indonesia, has decreased in line with weak demand for commodities and manufacturing in addition to lower domestic demand. Increasing uncertainty, which has triggered portfolio rebalancing and capital outflows from developing economies, including Indonesia, has exacerbated currency risk. Bank Indonesia expects COVID-19 to intensify downside pressures on the national economy before gradually recovering. Consequently, Bank Indonesia projects national economic growth in Indonesia in 2020 at 4.2-4.6%, before accelerating to 5.2-5.6% in 2021.

Restrained export performance is predicted for 2020 in line with subdued global demand as well as lower trade volume and commodity prices. Therefore, the performance of commodity-based corporations will be restrained, CPO, rubber and nickel in particular. Coal exports are expected to contract in 2020 on muted demand from key importers, particularly China. Disruptions in the global supply chain due to COVID-19 will also weigh on manufacturing exports due to limited raw materials from other countries for production. In addition to goods exports, services exports will also be impacted by COVID-19 through the tourism channel.

[4] The Dow Jones Industrial Average experienced a 21.95% correction on closing prices in the previous week.

BOX 5.1

Open Application Programming Interface (API) Standards for Payment Transactions as Bank Indonesia Support for Digital Transformation in the Banking Industry

Financial digitalisation demands banking industry transformation in order to increase consumer digital services. Technological support in terms of banking industry transformation will provide consumers access to services through convenient platforms with broad reach. One effort to increase digital services involves collaboration with FinTech through open banking. Such collaboration utilises Open Application Programming Interface (Open API[5]) that connects banking services to the products and services offered by other providers, including FinTech.

The growing use of Open API technology in the banking industry, particularly in terms of payment services, has necessitated the introduction of standards to create ecosystem integrity. Currently, the banking industry in Indonesia uses Open API in the context of open banking with FinTech to provide convenient payment services for consumers. Consequently, the implementation of Open API standards is required to ensure payment services integrity. In addition, the application of standards would expedite the adoption of Open API and support digital services innovation for the consumer.

Open API standards, as developed by Bank Indonesia, are focused on payment transactions, which play an important role in the digital financial ecosystem, while reflecting Bank Indonesia's backing for digitalisation in the banking industry as well as interlinkages between FinTech and the banking sector. Open API standards aim to improve payment system transaction efficiency, stimulate innovation and healthy competition as well as expand financial inclusion, while simultaneously mitigating shadow banking risk and other potential risks from non-standardised Open API. Open API standards in Indonesia represent the manifestation of the second[6] and third[7] Visions contained in the Indonesia Payment System (SPI) Blueprint for 2025[8] formulated by Bank Indonesia. Both visions are oriented towards reciprocal data and information disclosure between banks and FinTech in order to conduct open banking through Open API standards. Open API standards will guide digital transformation of the banking industry, while maintaining a level playing field between the banking industry and FinTech.

Open API standards consist of standards for data, security and governance as well as technical standards. Data standards aim to ensure data uniformity and consistency in order to increase payment system transaction interoperability and efficiency. This is supported by technical standards that cover the communication protocol, architecture and format of the data. In addition, security standards aim to ensure data confidentiality, data and system integrity as well as services availability. To support the creation of Open API ecosystem integrity, governance standards cover leadership standards, contract standards, consumer protection principles and the minimum requirements for third parties wishing to cooperate with Open API partners

Open API standards for payment transactions are formulated based on prevailing principles to create Open API ecosystem integrity. The principles include openness/disclosure, interoperability, flexibility, independence, governance, consumer consent and protection, innovation and security. Furthermore, Open API standards are also formulated based on best international practices as well as domestic practices to support the implementation and adoption of the standards by payment transaction providers through domestic and international partnerships and cooperation.

[5] In the context of the consultative paper on Open API standards for payment transactions in Indonesia, Open API is the use of Open API technology that provides access to API users as Open API partners in a system owned by a provider to access or use consumer data based on consumer consent for the purposes or services agreed by the consumer.
[6] SPI 2025 supports digitalisation in the banking industry as the dominant institution in terms of the digital economy and finance through open banking and/or the use of digital technology and data in the financial business.
[7] SPI 2025 safeguards the interlinkages between FinTech and the banking industry in order to avoid shadow banking risk through digital technology regulations (such as API), business cooperation and collaboration as well as corporate ownership.
[8] The SPI Blueprint for 2025 is fully oriented towards developing a healthy ecosystem to guide development of the digital economy and finance in Indonesia. SPI Blueprint 2025 is manifested through five Visions to be realised through five initiatives, namely open banking, retail payment system, financial market infrastructures (FMIs), data, as well as regulation, licensing and supervision.

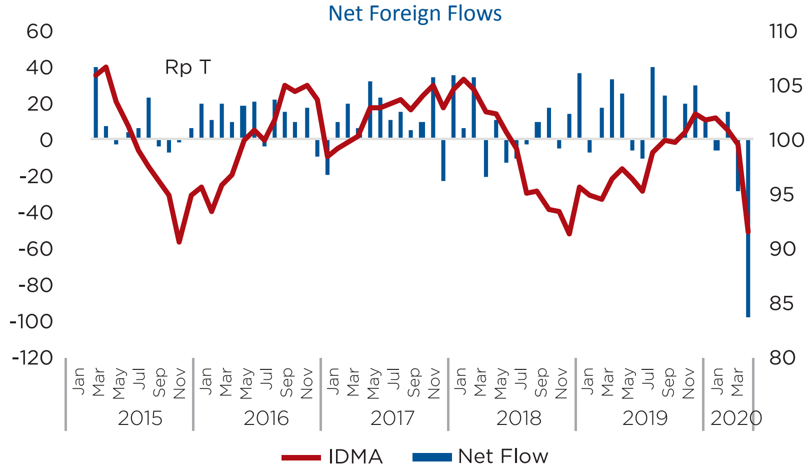
Open API standards are being applied gradually considering the diversity of the payment system industry in Indonesia. Implementation will be phased in terms of the players and implementation based on size and scale and business complexity (scope). Open API standards will be applied to payment system service providers licensed in Indonesia as Open API partners for payment transactions as data attribute providers or third-party providers initiating and/or forwarding and/or authorising domestic and cross-border transactions. Open API standards will also be applicable to supporting institutions cooperating with payment system service providers. Bank Indonesia will publish a consultative paper on Open API Standards to provide greater clarity concerning the regulations and implementation schedule. Input from the industry is welcome until 30th April 2020 for subsequent use by Bank Indonesia as a reference when finalising the Open API standards for payment transactions in Indonesia.

5.2 Financial Stability Risk to Increase yet Remain Under Control

Moving forward, pressures on financial system stability will intensify as the impact of the COVID-19 pandemic spreads. Nevertheless, Bank Indonesia expects the pressures to remain under control. Amidst several global and domestic challenges caused by COVID-19, financial system stability in Indonesia will be maintained with the support of banking sector resilience. Simultaneously, however, financial market risks in Indonesia are expected to escalate due to COVID-19 in line with growing uncertainty in global financial markets. At the end of March 2020, external sector stability in Indonesia was tested by large-scale capital outflows from the bond market, government debt securities (SUN) and stock market in particular. Since the beginning of 2020, capital outflows from the SUN and stock markets have topped Rp100 trillion (Graph 5.1.8). Consequently, the capital flow reversal has amplified pressures on rupiah exchange rates, thus raising SUN yields and the risk premium requested by global investors (Graph 5.1.9). Notwithstanding, as the dominant institution in Indonesia's financial system, the banking industry is expected to maintain solid resilience in order to absorb the risks that emerge from the various economic challenges on the horizon. The banking industry has maintained a Capital Adequacy Ratio (CAR) well above the minimum threshold at 23.31%. Furthermore, non-performing loans remain low at 2.53% (gross) or 1.18% (nett). Meanwhile, the banking industry is expected to maintain adequate liquidity to help stimulate the financial cycle, which is currently suboptimal. The ratio of liquid assets to third-party funds was recorded at a level of 20.86%, above the minimum threshold. In addition, the Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR) were also recorded well above the minimum 100% threshold at 209.2% and 128.7% respectively.

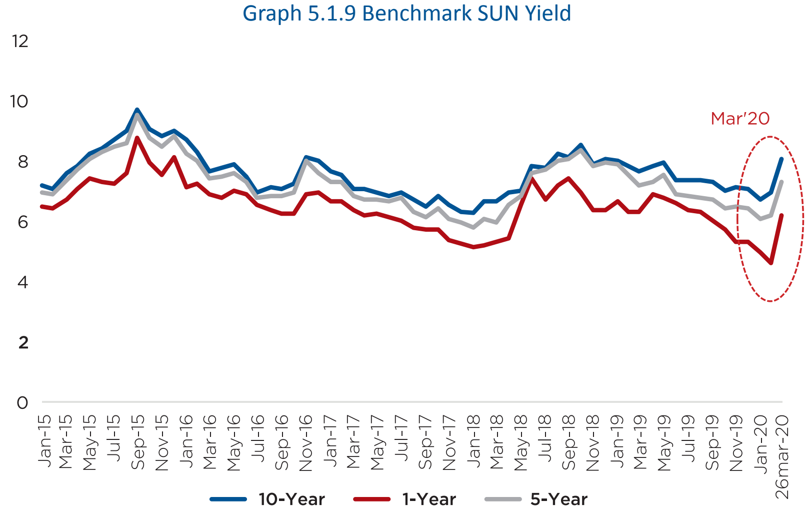
The bank intermediation function is expected to experience moderation in 2020 in line with compressed demand for new loans and sluggish growth of third-party funds. Outstanding loans disbursed by the banking industry are projected to grow in the 6-8% range in 2020, down slightly from the previous 9-11% projection in line with the downgraded global economic growth outlook to 2.5%. The main drag on demand for loans, including working capital loans and investment loans, stems from corporations operating in sectors impacted directly by COVID-19, such as manufacturing, commodities and tourism. Given the limited raw materials and higher prices, coupled with contracting international commodity prices and declining domestic sales, businesses have adopted a wait-and-see attitude, while increasing cost efficiency, including the cost of funds. On the supply side, the spread of COVID-19 during a period of global economic moderation has forced the banks to take anticipatory measures, although the impact on credit quality was not yet evident at the beginning of 2020. The banking industry has strengthened risk management practices through more selective lending, while providing relief to existing borrowers in sectors impacted directly by COVID-19 in the form of loan restructuring to provide a longer maturity period. Meanwhile, third-party funds in the banking industry are predicted to grow in the 6-8% range, with adequate liquidity maintained. Corporate demand for new loans is not expected to pick up until the latter half of 2020 in line with the gradual recovery of global demand and rising prices of major commodities.

Graph 5.1.8 Inter-Dealer Market Association (IDMA) Index and Net Foreign Flows



Source : CEIC, processed

Graph 5.1.9 Benchmark SUN Yield



Source: Bloomberg, processed

The impact of COVID-19 is expected to suppress corporate performance moving forward. Under a worst-case scenario, based on a prolonged pandemic impact, corporate performance could be further impaired through contagion with corporate repayment capacity thus impacted, including corporate obligations to the banking industry. Disruptions in the global supply chain due to COVID-19 will affect manufacturing export performance due to limited raw materials for production from other countries. Consequently, production costs could potentially increase by 10-20% if companies are forced to import raw materials from other countries. In addition, the lead time required to import raw materials would be extended, thereby raising the costs incurred by the corporate sector. In addition to goods exports, services exports will also come under pressure as visits by international and domestic travelers decline. Businesses involved with tourism, such as hotels, airlines, the entertainment industry, food and beverages as well as other sectors are expected to contract if the COVID-19 containment measures persist for long.

Pressures on corporate performance will also stem from falling domestic demand caused by COVID-19. As experienced in a number of countries impacted by COVID-19, various efforts to restrict personal mobility, including social distancing and lockdown measures, have had a significant impact in terms of breaking the chain of transmission. In the near the term, however, large-scale social restrictions have reduced demand amidst restrained supply. On the demand side, a shift has been observed from offline to online transactions in line with the closure of markets, shops, and malls as well as social restrictions, while household consumption has slowed in terms of secondary and tertiary needs despite a surge of basic necessities. On the supply side, reduced operating hours, supply disruptions, and cash flow management challenges are the most binding constraints. The demand and supply-side challenges could potentially undermine household income, with more people working from home, furloughed, or laid off. Household repayment capacity is also expected to decrease and credit risk increases if no policy actions are taken by the authorities. Notwithstanding, the latest developments in China have stoked optimism that stringent policies to contain COVID-19 transmission have been successful, with economic activity slowly returning.

Pressures on corporate performance have been felt by all segments, including MSMEs. The COVID-19 pandemic has disrupted all economic sectors, especially trade, manufacturing, and services. The pressures have not only been felt by large and medium enterprises, micro and small enterprises have also been affected. MSMEs are facing declining sales due to less economic activity throughout society due to large-scale social restrictions. The distribution of goods and raw materials has also been delayed with potential scarcity raising acquisition costs and impairing production. Consequently, profitability is expected to decline and a portion of MSMEs are predicted to experience difficulties in terms of principal and interest repayments to the banking industry. Such conditions differ from those during the monetary crisis of 1998 because at that time, MSMEs, as the backbone of the economy, had the opportunity to exploit weak exchange rates for exports to the United States and Europe. Currently, however, COVID-19 has triggered broad-based economic decline globally and compressed global demand for MSME products.

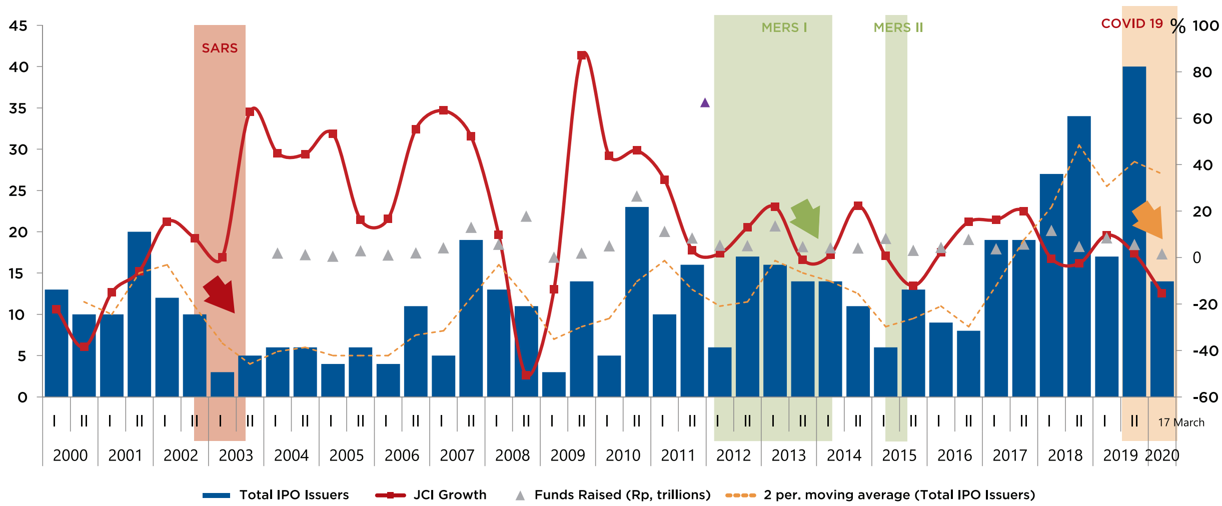
Cash flow management and access to liquidity will affect corporate resilience during this period of distress. Declining corporate sales due to fading global demand intensified in March 2020 as domestic demand for goods and services also fell sharply. Declining sales will affect cash flow, particularly at corporations with short-term obligations maturing in 2020. Corporate risk will intensify further at businesses with rupiah earnings and external debt maturing in the near term. On the other hand, cooperates with a solid capital base, sound liquidity management and access to liquidity are expected to maintain strong resilience. The corporate sector has taken various efforts to manage liquidity during periods of distress, including reducing operational expenditure (OPEX) through efficiency gains, adjusting capital expenditure (CAPEX), debt restructuring (extending the maturity period, relaxing principal payments and lowering lending rates), negotiating repayment terms with the lenders and collecting outstanding receivables from customers.

Pressures in financial markets are expected to ease in line with investor confidence in the COVID-19 containment measures. Global financial market uncertainty stoked by concerns over COVID-19 transmission has amplified pressures in domestic financial markets. Global funds in developing economies, including Indonesia, have experienced flight to quality in the form of safe-haven assets and commodities, such as UST bonds and gold. Pressures in Indonesia's financial markets prompted a capital outflow totaling Rp126.8 trillion in March 2020, representing the largest monthly outflow since 2007. Nevertheless, solid economic fundamentals and sound economic infrastructure, along with less global financial market risk and clear preventative government measures to contain the virus, will alleviate pressures in domestic financial markets

Economic financing through the financial markets is expected to decrease in 2020 in terms of stock and bond issuances. Corrections to the Jakarta Composite Index (JCI) during the first quarter of 2020 are not expected to recover quickly. Compared to 1998 and 2008, the JCI corrections at the beginning of 2020 were more moderate. Nevertheless, sharp corrections were experienced by accommodation and food service activities, CPO and the financial sector. Such inauspicious conditions have reduced the incentives for issuers to conduct initial public offerings (IPO) and rights issues. Furthermore, historical data has also shown a positive correlation between the JCI and IPO volume (Graph 5.1.10). Similar conditions have occurred in the corporate bond market, where higher yields due to financial market uncertainty have constrained corporate refinancing through bond issuances due to higher costs.

The global economy is expected to rebound in 2021 after the COVID-19 pressures have passed. In line with the promising global outlook and accommodative policy response is taken by the Government in conjunction with Bank Indonesia and other relevant authorities during 2020, national economic growth in Indonesia is projected to recover in the 5.2-5.6% range in 2021. Consistent with the favorable economic outlook, inflation is expected to remain under control and within the 3.0%±1% target corridor. Furthermore, improving global and domestic conditions will boost corporate and household performance, which is expected to stimulate credit and third-party fund growth in the 9-11% and 8-10% range respectively in 2021.

Graph 5.1.10 Financing through Initial Public Offerings



Source : Bloomberg, OJK, processed

BOX 5.2

Joint Policy Response of Bank Indonesia in Conjunction with the Government and Other Relevant Authorities to Maintain Financial System Stability and Mitigate COVID-19 Risk

In response to the unfavourable global dynamics and impact of COVID-19 on the financial sector and domestic economy, a range of policies are required to maintain economic and financial sector stability. The COVID-19 pandemic, which began in China, has spread rapidly to numerous countries, stifling global economic growth, lowering commodity prices and increasing uncertainty in global financial markets. In anticipation of escalating risk from the impact of the COVID-19 pandemic on the economy and financial stability, Bank Indonesia, in conjunction with the Government and other relevant authorities, has instituted an accommodative policy mix through close coordination as part of the national policy response.

Supporting domestic growth momentum and maintaining financial sector stability at the beginning of the COVID-19 outbreak, Bank Indonesia introduced a series of policies in February 2020. Accommodative monetary policy was achieved by lowering the BI 7-Day (Reverse) Repo Rate by 25bps to 4.75%. The monetary operations strategy was also strengthened in order to maintain adequate liquidity in the banking system and support the transmission of an accommodative policy mix. In addition, Bank Indonesia also refined the way the Macroprudential Intermediation Ratio (MIR) is calculated by expanding the scope of funding and financing to bank branches abroad intended for the Indonesian economy.

To stabilise rupiah exchange rates and mitigate the economic impact of COVID-19 risk, on 2nd March 2020 Bank Indonesia strengthened exchange rate policy to maintain rupiah stability in line with the currency's fundamental value and market mechanisms. Uncertainty in the global financial markets stoked by COVID-19 spread to the domestic financial markets and began to intensify currency pressures on the rupiah in the middle of February 2020. Capital outflows were recorded as global investors withdrew funds from developing economies, including Indonesia. Bank Indonesia's policy response to stabilise rupiah exchange rates is expected to dampen the adverse impact of selling actions by foreign investors in the domestic SBN market on rupiah pressures and volatility through triple intervention policy in the spot market and Domestic Non-Deliverable Forwards (DNDF) market as well as purchasing SBN in the secondary market.

Exchange rate policy was complemented by foreign exchange liquidity policy, lower reserve requirements and foreign exchange market deepening through hedging. Policy to increase foreign exchange liquidity in the banking industry was instituted by lowering the foreign currency reserve requirements from 8% to 4% (effective 16th March 2020). The move provided USD3.2 billion of additional liquidity in the banking industry and thus alleviated pressures in the foreign exchange market. Meanwhile, Bank Indonesia also lowered the rupiah reserve requirements by 50bps applicable to banks engaged in export-import financing, which is expected to boost export-import activity through lower costs. The policy is effective for nine months from 1st April 2020, when it will be re-evaluated. In addition, Bank Indonesia is deepening the domestic foreign exchange market by expanding the types of underlying transactions available to foreign investors as an alternative hedging mechanism on rupiah holdings. Furthermore, Bank Indonesia has reiterated that global investors can use domestic and global custodian banks for investment purposes in Indonesia.

As a pre-emptive measure to maintain economic growth momentum, Bank Indonesia decided to lower the BI 7-Day (Reverse) Repo Rate by another 25bps to 4.50% at the monthly Board of Governors (RDG) meeting held on 18-19th March 2020, while also lowering the deposit facility rate by 25bps to 3.75% and the lending facility rate by 25bps to 5.25%. Such monetary policy measures were accommodative and consistent with inflation, which is projected to remain under control and within the target corridor.

In March 2020, Bank Indonesia also issued seven follow-up policy measures to strengthen the existing policy mix instituted in February 2020. The policy mix aimed to support containment measures against the COVID-19 pandemic, maintain money market and financial system stability, as well as stimulate economic growth momentum. First, Bank Indonesia strengthened the intensity of triple intervention policy to maintain rupiah exchange rate stability in line with the currency's fundamental value and market mechanisms, including the spot and DNDF markets as well as purchasing SBN in the secondary market. Second, Bank Indonesia extended the SBN repo tenor to 12 months and provided daily auctions to loosen rupiah liquidity in the banking industry, effective from 20th March 2020. Third, Bank Indonesia increased the frequency of FX swap auctions for 1, 3, 6 and 12-month tenors from three times per week to daily auctions in order to ensure adequate liquidity, effective from 19th March 2020. Fourth, Bank Indonesia strengthened foreign currency term deposit instruments in order to enhance foreign currency liquidity management in the domestic market, while encouraging the banks to utilise the foreign currency reserve requirements lowered by Bank Indonesia for domestic purposes. Fifth, Bank Indonesia expedited the enforcement of domestic vostro rupiah accounts for foreign investors as underlying transactions for Domestic Non-Deliverable Forwards (DNDF), thus increasing hedging alternatives against rupiah holdings in Indonesia, which has been brought forward from 1st April 2020 to no later than 23rd March 2020. Sixth, Bank Indonesia expanded the incentive of a 50bps looser daily rupiah reserve requirement beyond banks that are engaged in export-import financing to include the financing of MSMEs and other priority sectors, effective from 1st April 2020. Seventh, Bank Indonesia strengthened payment system policy to support COVID-19 mitigation efforts by providing hygienic currency fit for circulation, alternative cash and backup services, and urging the public to prioritise cashless payment transactions, while reducing the cost of the National Clearing System (SKNBI), effective from 1st April 2020 until 31st December 2020, and supporting cashless disbursements for government programs.

Bank Indonesia's accommodative policy mix was also supported by OJK relaxing microprudential policy. To alleviate the impact of COVID-19 on borrower performance and capacity, including MSMEs, OJK issued countercyclical economic stimuli in accordance with prudential principles. Further declines in terms of debtor performance and capacity could potentially undermine banking industry performance and financial system stability, thus affecting economic growth. Therefore, OJK relaxed regulations on evaluating borrower loan quality, including restructured loans due to COVID-19 . During the period of relief, namely until 31st March 2021, borrower asset quality is evaluated on loans of less than Rp10 billion based on the punctuality of principal and/or interest payments. In addition, loans restructured due to COVID-19[9] will be considered current from the date of restructuring. The scope of loan restructuring includes lower lending rates, longer maturity periods, reduced principal in arrears and interest in arrears, additional loan facilities or loan conversion to temporary equity participation.

Additionally, the president of the Republic of Indonesia signed Government Regulation in Lieu of Law of the Republic of Indonesia Number 1 of 2020 concerning State Financial and Financial System Stability Policies to Contain the Coronavirus Disease 2019 (Covid-19) Pandemic and/or Confront Threats to the National Economy and/or Financial System Stability. Several considerations underlie promulgation of the government regulation in lieu of law, including the impact of the COVID-19 pandemic on national economic moderation, decreasing state revenues and increasing state expenditure, thus necessitating various government initiatives to save lives and recover the national economy. In addition, COVID-19 has impacted the financial system, as evidenced by significant declines of domestic economic activity that require joint and forward-looking mitigation efforts between the Government and Financial System Stability Committee in order to maintain financial sector stability.

The government regulation in lieu of law granted unprecedented anticipatory powers to Bank Indonesia. First, Bank Indonesia was given the authority to purchase long-term government securities (SUN) and government Islamic securities (SBSN) in the primary market in order to assist the Government contain the COVID-19 impact on financial system stability. The jurisdiction to purchase SBN in the primary market by Bank Indonesia is considered a last resort if the market is unable to fully absorb the SBN issued by the Government based on financial market conditions and the impact on inflation. Second, Bank Indonesia can purchase repo securities held by the Deposit Insurance Corporation (LPS) in order to resolve solvency issues in the banking industry. In terms of the banking industry, Bank Indonesia may also provide short-term liquidity loans or short-term liquidity financing facilities in compliance with sharia principles to systemic and non-systemic banks. Finally, Bank Indonesia is authorised to regulate foreign exchange flow management for residents, including the use of foreign exchange by residents, including provisions for the surrender, repatriation and conversion of foreign exchange to maintain macroeconomic and financial system stability. Nevertheless, it is important to emphasise that this measure is not a form of foreign exchange control and only applicable to residents (excluding non-residents/foreign investors).

[9] OJK Regulation (POJK) No. 11/POJK.03/2020, dated 13th March 2020, concerning National Economic Stimuli as Countercyclical Policy to the Impact of COVID-19 Transmission.

The government regulation in lieu of a law also provides a broad legal basis for state financial policy during the COVID-19 containment period. With an additional budget requirement totalling Rp405.1 trillion from the 2020 State Revenue and Expenditure Budget (APBN), the budget deficit is expected to exceed 3% of gross domestic product (GDP). The fiscal deficit deviation is only expected to remain until the 2022 fiscal year before gradually returning to normal in 2023 at a maximum of 3% of GDP. The additional COVID-19 budget will prioritise the use of accumulated cash surplus (SAL), the endowment fund for education managed by the Public Service Agency (BLU) and funds earmarked for state capital investment in state-owned enterprises. Furthermore, the Government will also issue special-purpose debt papers in the form of tradeable government securities (SBN) and Government Islamic Securities (SBSN) available to purchase by Bank Indonesia, state-owned enterprises, corporate investors and retail investors. The Government is also authorised to extend loans to the Deposit Insurance Corporation (LPS), refocus and/or trim/postpone regional transfers and village fund disbursements, allocate grants to local governments as well as streamline and simplify the state finance mechanism and documentation. Meanwhile, local governments have been authorised to refocus budget allocation in accordance with a Minister of Home Affairs regulation.

The government regulation in lieu of a law also provides tax relief and extends the tax rights and obligations period during COVID-19 containment. The Government has adjusted income tax tariffs for domestic corporate taxpayers and permanent business entities, namely to 22% in 2020-2021 and 20% commencing in 2022. For domestic taxpayers incorporated as a limited liability company (PT) with at least 40% of shares traded and meeting other specific requirements, a further 3% of tax relief will be provided through a government regulation. Meanwhile, the e-commerce tax on Trade Activities through Electronic Systems (PMSE) and value added tax (VAT) for taxable goods/services originating outside the customs area of the Republic of Indonesia will be collected by foreign traders/services providers, foreign Electronic Trading Providers (PPMSE) and domestic Electronic Trading Providers (PPMSE) approved by the Ministry of Finance. In addition, income tax and the e-commerce tax on Trade Activities through Electronic Systems will be collected by foreign taxable subjects. Foreign providers of goods/services and foreign Electronic Trading Providers meeting certain criteria may act as a permanent business entity subject to income tax in accordance with a government regulation and Minister of Finance regulation. Sanctions for violations will be incurred in the form of termination of access after receiving a written reprimand in accordance with a Minister of Finance regulation. The Government has also extended the tax rights and obligations period for the duration of the COVID-19 containment measures, such as the submission of tax objections which may be extended to a maximum of six months. In addition, the rebate on over payment of taxes may be extended for a maximum of one month. Taxpayers' rights (overpayment, objections, sanction relief) have been extended by a maximum of six months. The declaration of a force majeure due to the COVID-19 pandemic refers to the Natural Disaster Management Board (BNPB). In addition, the Ministry of Finance is authorised to provide customs facilities in the form of lower import duties or the removal of import duties.

Bank Indonesia will continue to strengthen policy coordination and synergy with the Government, Indonesian Financial Services Authority (OJK) and Deposit Insurance Corporation (LPS) in order to maintain macroeconomic and financial system stability, while preserving economic growth momentum. Bank Indonesia will continue to monitor the dynamics of COVID-19 transmission and its impact on the national economy and financial system stability over time. Furthermore, the national policy mix will be oriented towards managing aggregate demand through accommodative monetary policy and countercyclical fiscal policy in the near term, while anticipating the downside risks of the COVID-19 pandemic as well as structural reforms to boost economic capacity in the long term.

The Government, Bank Indonesia and other relevant authorities will continue to monitor cash flow pressures stemming from declining corporate sales. Cash flow management and access to liquidity affect corporate resilience during periods of distress. Corporations are expected to implement efficiency gains, optimise accounts receivable, lower CAPEX and restructure debt with the banking industry or other financial institutions. Loan restructuring policy issued by OJK will provide relief to borrowers during this difficult time. Several countries have responded to COVID-19 by providing liquidity facilities. For example, Japan has increased monetary easing through corporate financing facilities, Thailand has purchased corporate securities in accordance with stringent requirements, UK has purchased short-term securities and Sweden has provided corporate loans through the banking industry.

Internationally, Bank Indonesia will continue to strengthen cooperation and coordination with monetary authorities in other countries in order to mitigate the impact of COVID-19 on macroeconomic and financial system stability. Bank Indonesia will continue to communicate and exchange views with monetary authorities in the ASEAN and Asia-Pacific regions concerning financial system conditions and the policy response taken. In addition, Bank Indonesia will continue to strengthen cooperation and coordination in order to support external sector resilience and ensure adequate foreign exchange liquidity in domestic markets. To that end, Bank Indonesia has several swap lines and repo lines with other monetary authorities in the region and internationally, which may be used to support external sector stability. Most recently, Bank Indonesia secured a repo line with the US Federal Reserve worth USD60 billion on 6th April 2020, thus reflecting international confidence in Indonesia's economic outlook as well as the policy credibility of domestic authorities. Such cooperation will strengthen the existing swap lines agreed by Bank Indonesia with the authorities in China, Japan, Australia and Singapore.

Table B5.2.1 Comparison of Central Bank Policies in Response to COVID-19

Jurisdiction	Sweden	Japan	United Kingdom	Thailand
Central Bank Program	The Riksbank's loans to companies via the banks	The Special Funds-Supplying Operations a.k.a. Special Operations	COVID corporate financing facility (CCFF) – BofE and HM Treasury	Corporate Bond Stabilisation Fund (BSF)
Date	20th March 2020	16th March 2020	23rd March 2020	22nd March 2020
Budget	SEK500 billion (27th March – 17th April totalling SEK400 billion)	SEK500 billion (27th March –17th April totalling SEK400 billion)	NA	THB70-100 billion
Mechanism	Riksbank guaranteed money to the banks a.k.a. monetary policy counterparties, which the banks then guarantee to the corporate sector	BoJ increased monetary easing through corporate financing facilities by introducing special operations	Large non-financial corporations (including subsidiaries) can sell short-term bonds (commercial papers) to the Bank of England	BOT purchased newly issued, high quality (investment-grade corporate bonds
Target	Open to all corporations	Counterparts in the Funds-Supplying Operations	Healthy, investment-grade corporations as of 1st March 2020 (Fitch, Moody's, S&P or DBRS Morningstar)	Corporations meeting specific quality criteria
Notes	• Risk at bank counterparties • Loan rate is the Riksbank repo rate of 0% p.a. • 2-year maturity	• Lending rate of 0% • 1-year maturity • Collateralised, program extended until 30th September 2020	Minimum size commercial paper of £1 million up to maximum of £1 billion (rating dependent)	• Size of corporate bond market exceeds 20% of GDP. Corporate bond market is primary source of corporate funds and alternative for households • Corporate bond issuers meeting certain requirements must have long-term financing plan

Source: Bank Indonesia, processed

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APPENDIX

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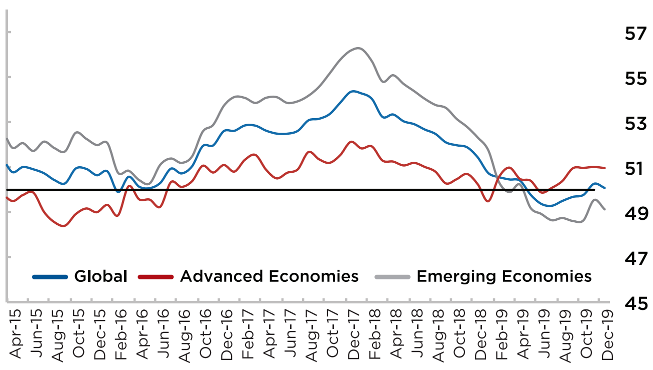
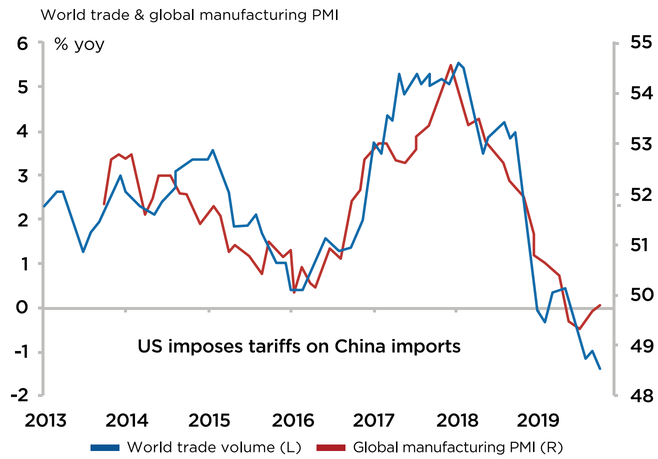
Series of Graphs showing Global Economic Moderation

Decreasing Manufacturing PMI



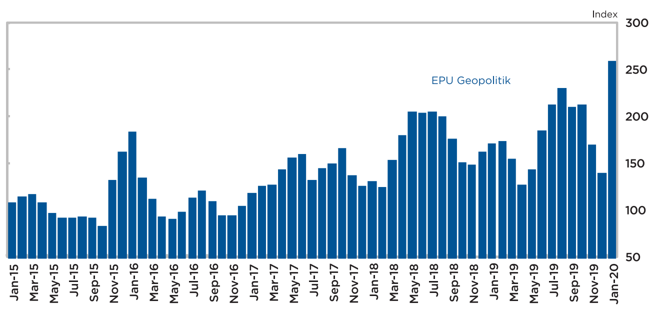
Source: IHS Markit, processed

Declining World Trade Volume



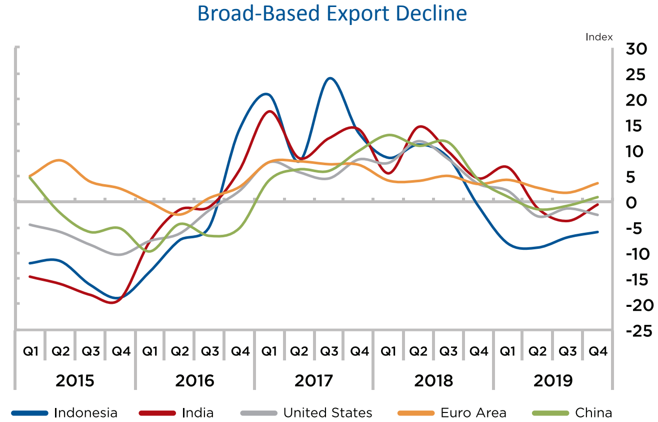
Source: IHS Markit, ISM, processed

Increasing Geopolitical Risk



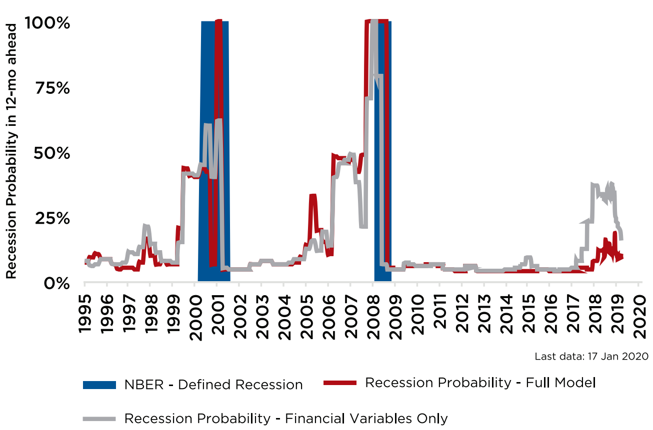
Source: "Measuring Geopolitical Risk" by Dario Caldara and Matteo Iacoviello at https://www2.bc.edu/matteo-iacoviello/gpr.htm.

Broad-Based Export Decline



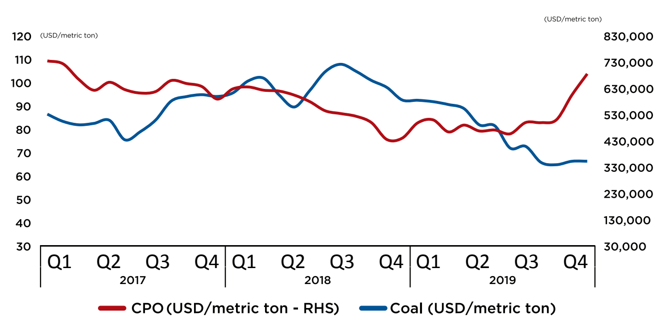
Source: CEIC, calculated

Increasing Global Risks



Source: DMM Morgan Stanley, NBER, processed

Coal Price Trending Lower



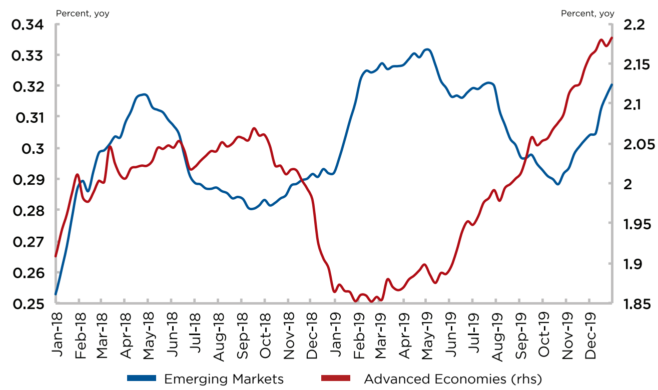
Source: Ministry of Finance, processed

Appendix

Series of Graphs showing Looser Global Financial Conditions and Risk-Taking Behavior as Key Drivers of Capital Flows

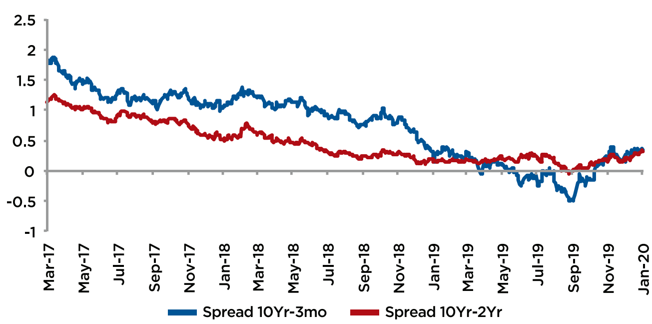
Phase One Trade Deal

Looser Global Financial Conditions (GFC) Driving Foreign Capital Flows to Emerging Markets



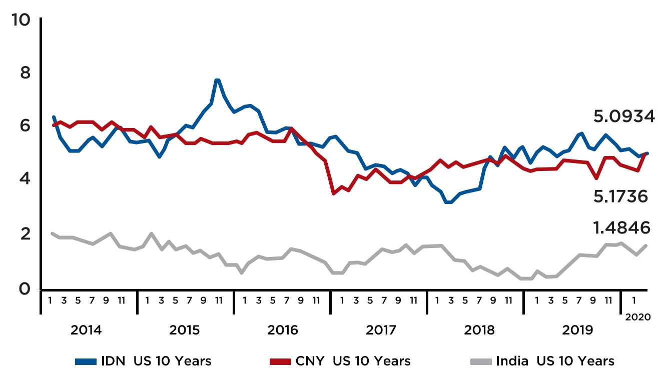
Source: EPFR, Fund Flows, processed

Risk-Taking Behavior indicated by Inverted Yield Curve



Source: Bloomberg, processed

Attractive Yields also Drawing Foreign Capital Flows to Indonesia



Source: Bloomberg, processed

Restrained Transmission of Global Shocks Evidenced by Maintained External Resilience

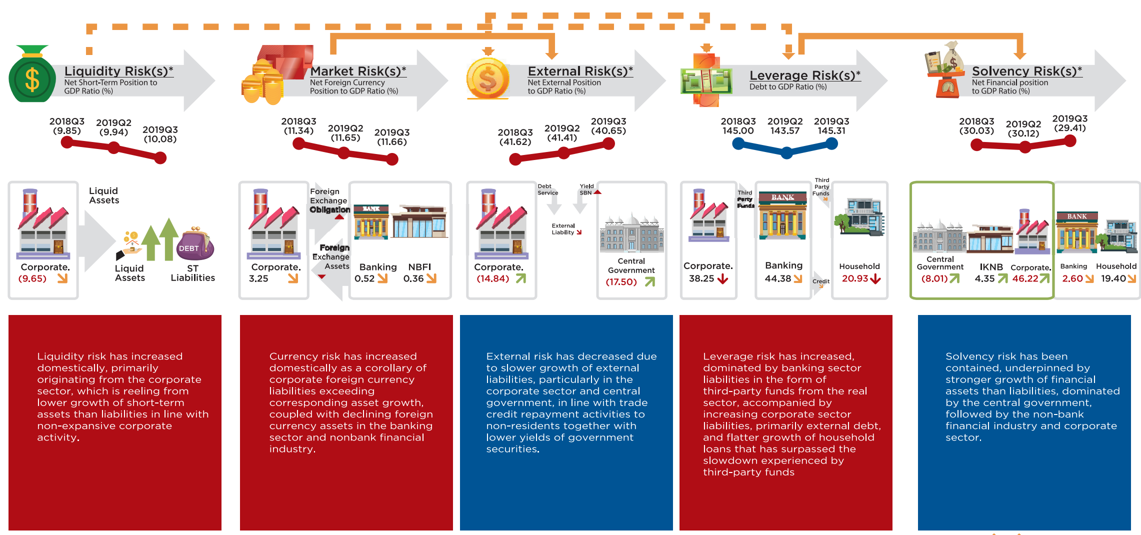
INDICATOR		EXPLANATION	2011	2012	2013	2014	2015	2016	2017	2018*	2019**
Solvency Ratio	1. Reserve Assets; Goods and Services Imports	A measure of reserve assets in terms of meeting the requirement for goods and services imports.	58.3	53.0	47.0	55.4	63.8	72.9	71.2	55.2	60.8
	2. Reserve Assets; Broad Money (M2)	A measure of potential impact from retreating confidence in the domestic currency.	33.3	31.9	32.5	33.3	32.1	31.2	32.5	31.0	29.6
	3. Short-Term External Debt; Reserve Assets; Short-Term External Debt (residual maturity)	A measure of reserve assets in terms of servicing short-term external debt based on residual maturity.	235.5	206.4	176.6	188.8	190.9	212.7	237.5	200.5	204.4

INDICATOR		EXPLANATION	2011	2012	2013	2014	2015	2016	2017	2018*	2019**
Solvency Ratio											
	1. Indonesia's Net International Investment Position (IIP)	A measure of Indonesia's net international investment position as a portion of the overall domestic economy.	35.3	39.2	-40.6	-43.1	-43.8	-35.8	-31.9	-30.5	-29.1
	2. Indonesia's Net International Investment Position (IIP); Current Account Receipts 1	External debt contribution to domestic economic financing.	142.6	162.9	171.8	182.6	192.5	207.5	180.9	-136.2	-148.2
	3. External Debt; GDP	External debt contribution to domestic economic financing.	25.0	27.4	29.1	32.9	36.1	34.3	34.7	36.0	36.1
	4. External debt; Goods and Services Exports	A measure of external debt repayment capacity from goods and services export receipts.	105.8	119.6	129.8	146.8	181.3	190.7	181.5	177.1	202.1
	5. Net External Debt; Current Account Receipts 2	A measure of net external debt repayment capacity from current account receipts.	31.2	36.5	49.3	56.7	70.5	37.0	33.3	38.9	43.0
	6. Direct Investment Net Liability; GDP	A measure of direct investment to the domestic economy.	22.1	24.7	27.4	25.8	27.2	28.0	23.9	22.0	21.1
	7. Non-Debt Creating Inflows (Direct Investment Liabilities + Portfolio Investment Equity); GDP	A measure of non-debt creating inflows to domestic economic financing.	32.0	35.6	35.9	37.3	37.0	38.2	34.9	30.6	20.9

1) Difference between debt components on the Foreign Financial Liability (FFL) and Foreign Financial Asset (FFA) sides of Indonesia's International Investment Position (IIP).
2) Total goods and services export receipts as well as primary and secondary income accounts
*preliminary value; ** projected value

Series of Graphs showing Maintained Financial System Stability

Solid Domestic Growth and Resilience Offsetting External Dynamics



Risk indicator decreasing/improving
Risk indicator increasing/deteriorating

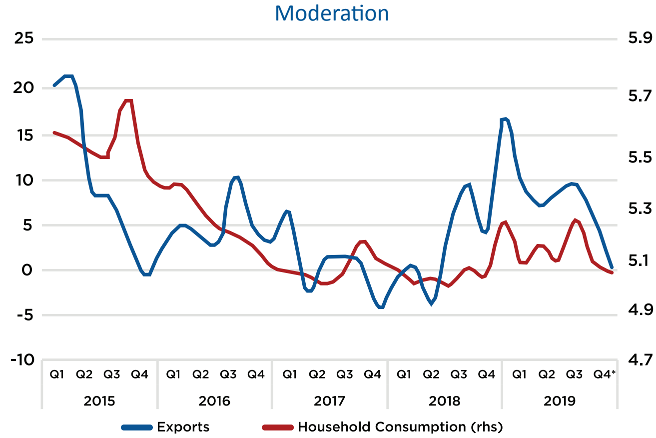
*Indicators of total domestic risk are based on the balance sheet position (excluding the central bank sector)

Resilient Economic Growth Maintained

Component of GDP	2015	2016	2017	2018	2019*				
					I	II	III	IV	V
Domestic Demand*	4.94	4.30	5.13	5.62	5.18	5.34	4.44	4.16	4.76
Private Consumption	4.84	5.04	4.90	5.14	5.27	5.40	5.06	4.95	5.26
Household Consumption	4.96	5.01	4.94	5.05	5.02	5.18	5.01	4.97	5.04
NPISH Consumption	-0.62	6.64	6.93	9.10	16.96	15.29	7.41	3.53	10.62
Government Consumption	5.31	-0.14	2.12	4.80	5.22	8.23	0.98	0.48	3.25
Investment	3.00	4.99	5.69	8.49	3.82	1.70	2.95	0.98	2.35
GFCF	5.01	4.47	6.15	6.54	5.03	4.55	4.21	4.06	4.45
Building	6.11	5.18	6.24	5.41	5.48	5.46	5.03	5.53	5.37
Non-Building	1.93	2.43	5.90	10.31	3.69	1.96	1.95	-0.13	1.80
Non-Building	-0.59	0.23	-0.07	0.71	-0.29	-0.85	-0.37	-1.07	-0.65
Net Exports*	0.94	0.13	0.30	-0.94	1.21	1.01	1.77	1.69	1.43
Exports	-2.12	-1.66	8.90	6.56	-1.58	-1.73	0.10	-0.39	-0.87
Imports	-6.25	-2.41	8.07	11.08	-7.47	-6.84	-0.30	-0.05	-7.69
Gross Domestic Product	4.08	5.03	5.07	5.17	5.07	5.05	5.02	4.97	5.02

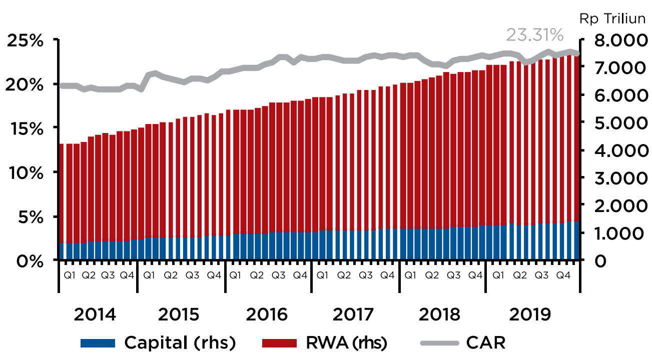
Source: Bank Indonesia, processed

Consumption Maintained despite Export Moderation



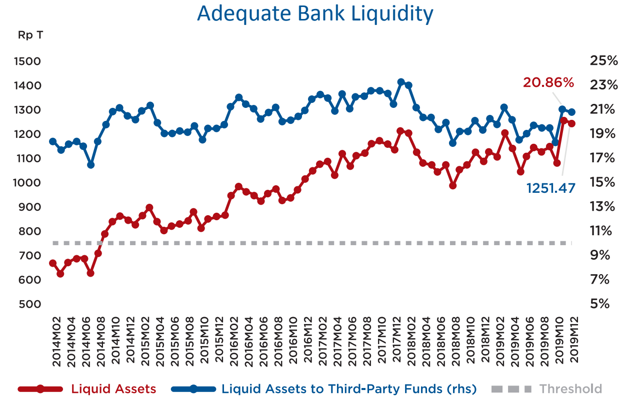
Source: Bank Indonesia, BPS

Solid Bank Capital



Source: Bank Indonesia, processed

Adequate Bank Liquidity

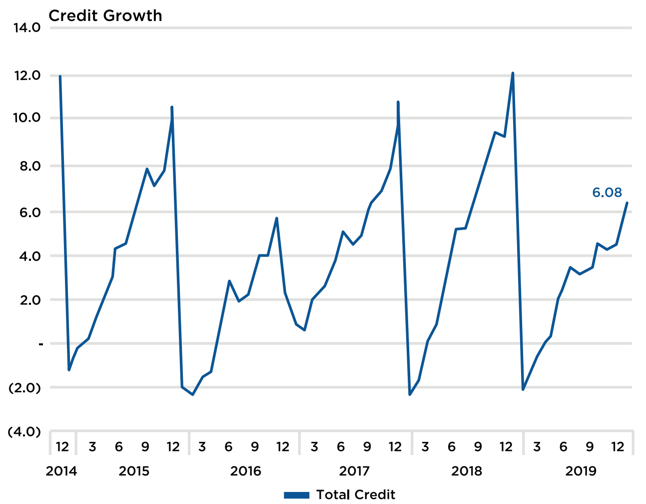


Source: Bank Indonesia, processed

Appendix

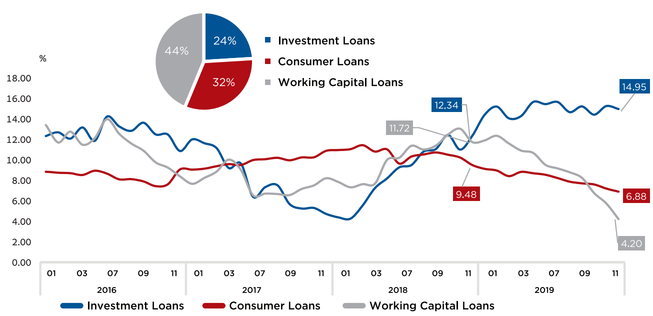
Series of Graphs showing Bank Intermediation and Risk Management

Steep Credit Growth Decline



Source: Bank Indonesia, processed

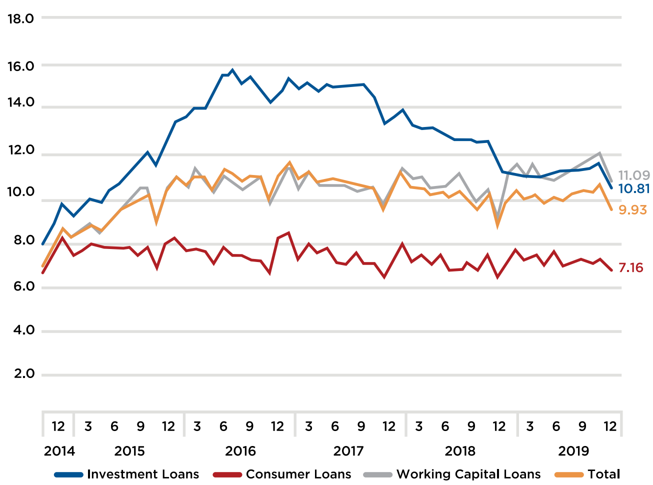
Investment Loans Trending Higher



Source: Bank Indonesia, processed

Potential Increase of Working Capital Credit Risk

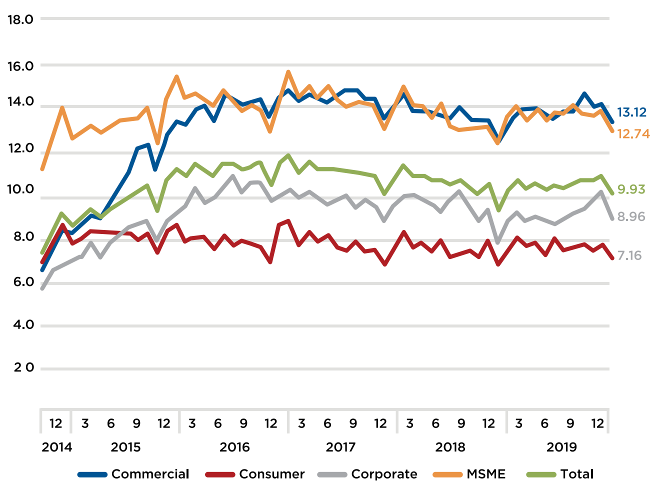
LaR by Loan Type



Source: Bank Indonesia, processed

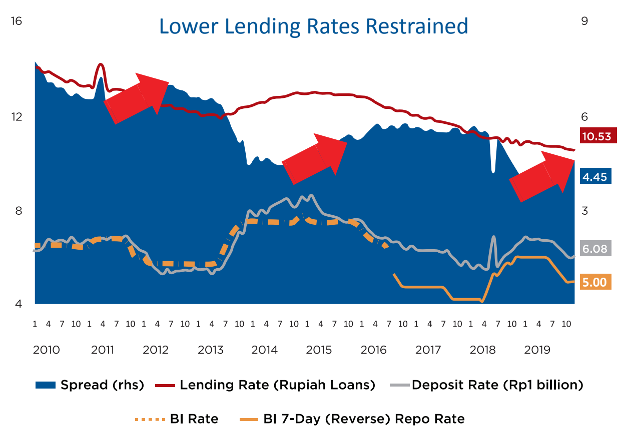
Particularly in the Commercial Segment

LaR by Segment



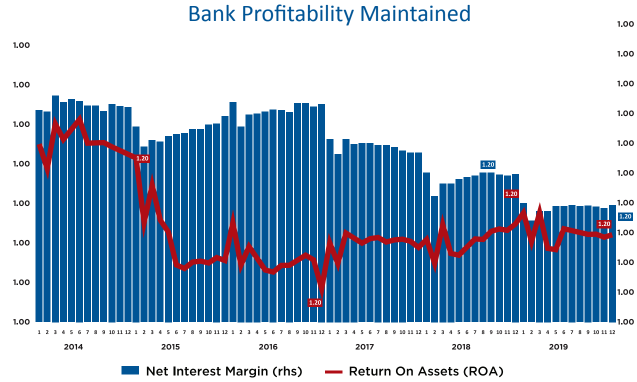
Source: Bank Indonesia, processed

Lower Lending Rates Restrained



Source: Bank Indonesia, processed

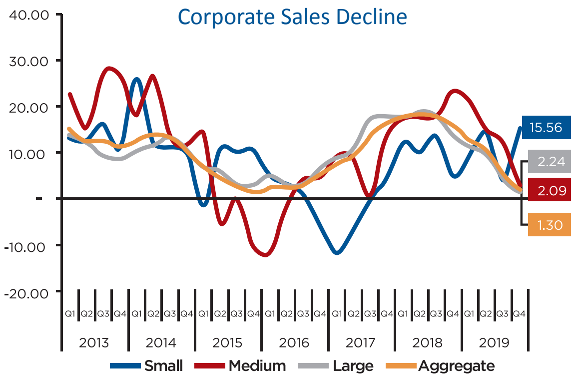
Bank Profitability Maintained



Source: Bank Indonesia, processed

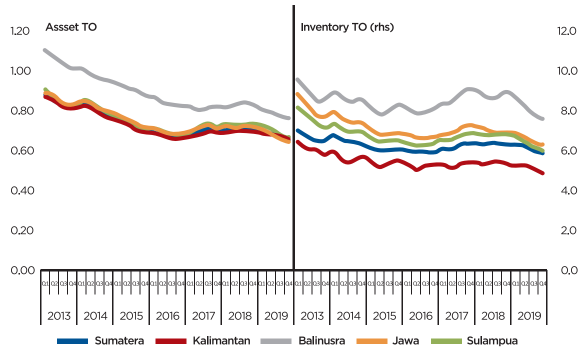
Series of Graphs showing Corporate Resilience

Global Pressures Contributing to Broad-Based Corporate Sales Decline



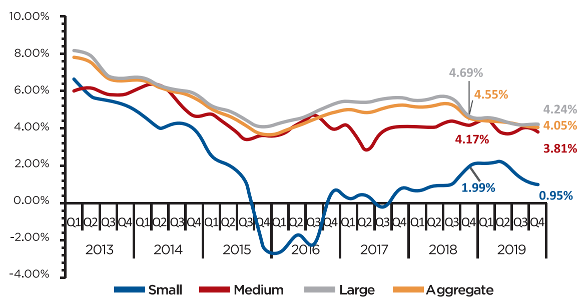
Source: Bloomberg, BEI, Bank Indonesia, processed

Regional Slowdown of Corporate Activity



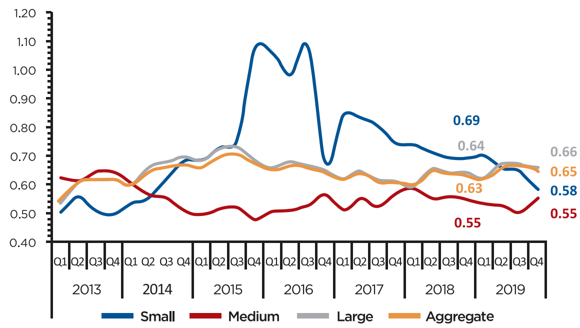
Source: Bloomberg, BEI, Bank Indonesia, processed

Corporate Profitability in Decline, excluding Medium Enterprises



Source: Bloomberg, BEI, Bank Indonesia, processed

Stable Leverage (DER) Across all Segments

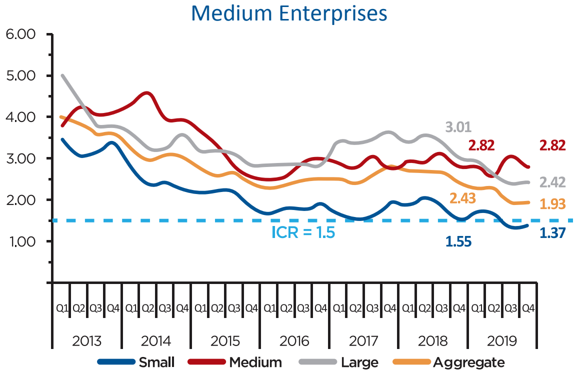


Source: Bloomberg, BEI, Bank Indonesia, processed

Appendix

Series of Graphs showing Corporate Resilience

Corporate Repayment Capacity (ICR) in Decline, excluding Medium Enterprises



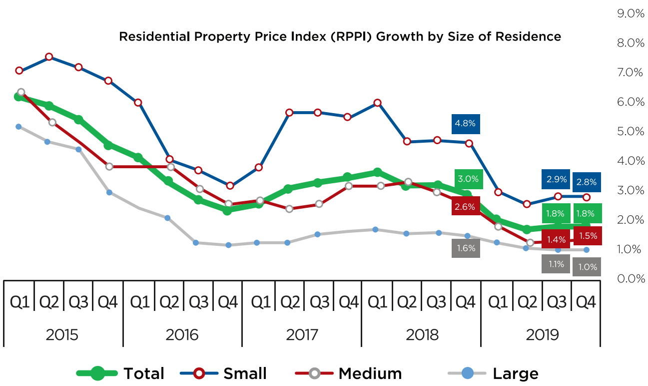
Source: Bloomberg, BEI, Bank Indonesia, processed

Corporate Liquidity Maintained

No.	Sector	Current Ratio			Cash Ratio		
		Dec-18	19-Sep	Dec-19*	Dec-18	19-Sep	Dec-19*
1.	Agriculture	1.4	1.3	1.3	0.3	0.2	0.2
2.	Mining	1.6	1.5	1.6	0.6	0.5	0.6
3.	Manufacturing	1.5	1.5	1.5	0.3	0.3	0.3
4.	Electricity, Gas and Water Supply	1.9	2.6	1.8	1.0	1.5	0.9
5.	Construction	1.5	1.5	1.6	0.3	0.3	0.4
6.	Trade	1.4	1.5	1.5	0.3	0.3	0.3
7.	Transportation	0.6	0.6	0.6	0.2	0.2	0.2
8.	Corporate Services	1.3	1.6	1.5	0.4	0.3	0.5
9.	Social Services	1.7	1.8	1.6	0.3	0.3	0.4
	Aggregate	**1.39**	**1.40**	**1.40**	**0.3**	**0.3**	**0.3**

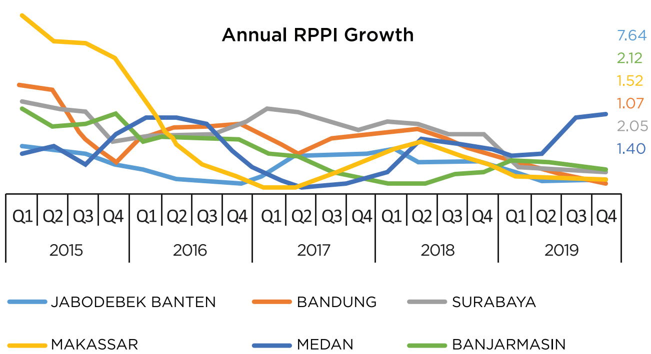
Source: Bloomberg, BEI, processed

Residential Property Price Survey indicates Falling House Prices



Source: Bank Indonesia, processed

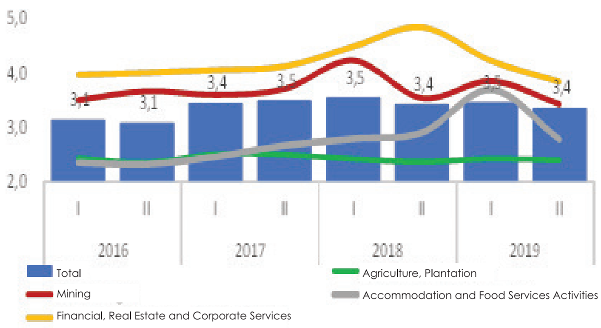
Residential Property Prices Decreasing in Most Large Cities



Source: Bank Indonesia, processed

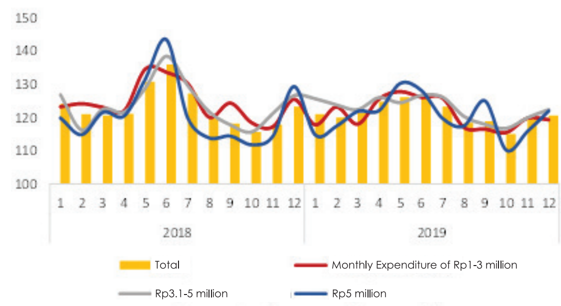
Series of Graphs showing Household Resilience

Declining Incomes in Specific Sectors



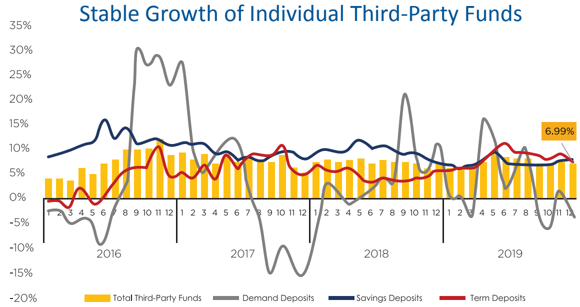
Source: Bank Indonesia, processed

Declining Incomes amongst Lowest Spenders



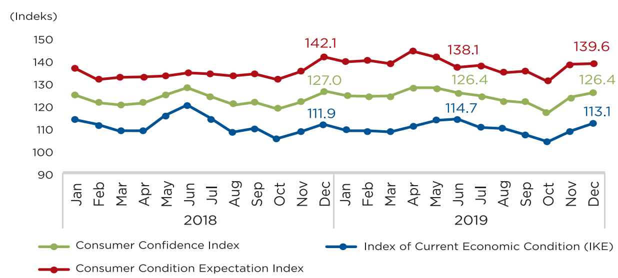
Source: Bank Indonesia, processed

Stable Growth of Individual Third-Party Funds



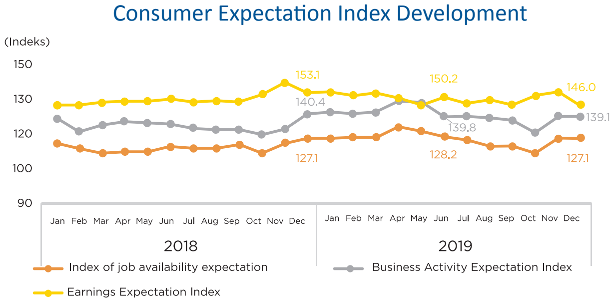
Source: Bank Indonesia, processed

Development of the Consumer Confidence Index



Source: Bank Indonesia, processed

Consumer Expectation Index Development



Source: Bank Indonesia, processed

NPL Ratio of Consumer Loans by Segment

Sector	2015		2016		2017		2018		2019		Share
	Sem I	Sem II	Sem I	Sem II	Sem I	Sem II	Sem I	Sem II	Sem I	Sem II	Sem II 2019
Housing	2.59	2.34	2.67	2.54	2.94	2.63	2.86	2.42	2.78	2.62	55.49
Automotive	1.26	1.40	1.52	1.32	1.37	1.31	1.51	1.37	1.61	1.36	7.65
Household Equipment	2.42	1.73	1.82	1.74	1.45	1.45	1.93	1.67	1.33	1.32	0.50
Multipurpose	1.10	0.88	1.01	0.83	0.98	0.89	1.08	0.94	1.09	0.97	22.87
Other Household	1.43	1.11	1.09	0.92	1.11	1.20	1.26	1.07	1.28	1.19	2.69
Non-Economic Sector	1.36	1.28	1.34	1.29	1.31	1.28	1.41	1.28	1.40	1.12	10.80
Total Consumer Loans	1.68	1.50	1.67	1.53	1.72	1.58	1.77	1.54	1.77	1.60	100.00

Source: Bank Indonesia, processed

Appendix

Macroprudential Policy Chart Pack

<table>
<tr><th>No.</th><th>Policy</th><th>Policy Description</th><th>Objectives and Background</th></tr>
<tr>
<td>1</td>
<td>(Sharia) Macroprudential Intermediation Ratio (MIR)[1]</td>
<td>a. Increase the (sharia) MIR range from 80-92% to 84-94%, effective 1st July 2019.
b. Refine the (sharia) MIR by including loans/financing received as a source of funds, effective 2nd December 2019. MIR formula amended as follows:

$$MIR = \frac{\text{Loans+Securities Held}}{\text{Third Party Funds+Securities Issued+Loans Received}}$$
Sharia MIR formula amended as follows:

$$MIR = \frac{\text{Financing+Securities Held}}{\text{Third Party Funds+Securities Issued+Financing Received}}$$
c. The disincentive parameters for banks with a (sharia) MIR below the (<84%) threshold will be adjusted from 2nd December 2019 as follows:

Lower disincentive x (MIR floor – MIR) x Third Party Funds
And the Sharia MIR as follows:
Lower disincentive x (sharia MIR floor – sharia MIR) x Third Party Funds
The disincentive parameters are as follows:

<table>
<tr><th>NPL/NPF</th><th>Minimum Capital Adequacy Requirement</th><th>Lower Disincentive Parameter</th></tr>
<tr><td>≥ 5%</td><td>-</td><td>0.00</td></tr>
<tr><td rowspan="3">≤ 5%</td><td>≤14%</td><td>0.00</td></tr>
<tr><td>14% < KPMM ≤ 19%</td><td>0.10</td></tr>
<tr><td>KPMM > 19%</td><td>0.15</td></tr>
</table>

If the (sharia) MIR exceeds the target range, the (sharia) MIR formula and Upper Disincentive Parameter refer to the previous regulation as follows:
• If KPMM is greater than or equal to the KPMM Incentive = 0
(Sharia) MIR = 0 x ((sharia) MIR – Upper Disincentive) x Third Party Funds
• If KPMM is less than the KPMM Incentive = 0.2
(Sharia) MIR = 0.2 x ((sharia) MIR – Upper Disincentive) x Third Party Funds</td>
<td>To stimulate economic growth momentum against a backdrop of maintained macroeconomic and financial system stability, Bank Indonesia has again strengthened the bank intermediation function by refining the (sharia) MIR. Bank Indonesia perceives adequate policy space for an accommodative macroprudential posture, while remaining vigilant of procyclicality risk and financial cycle conditions in line with efforts to build economic growth momentum as well as maintain macroeconomic and financial system stability.
In addition, the funding structure of the banking industry is expanding in line with alternative funding sources in the form of loans or financing received, which may be optimised for lending purposes.</td>
</tr>
</table>

[1] Bank Indonesia Regulation (PBI) No. 21/12/PBI/2019, dated 25th November 2019, as an amendment to Bank Indonesia Regulation (PBI) No. 20/4/PBI/2018 concerning the Macroprudential Intermediation Ratio (MIR) and Macroprudential Liquidity Buffer (MPLB) for Conventional Commercial Banks, Islamic banks and Islamic Business Units.

Macroprudential Policy Chart Pack

<table>
<tr>
<td>2</td>
<td>Loan-to-value (LTV) and financing-to-value (FTV) ratios as well as down payments on automotive loans/financing[2]</td>
<td>
Bank Indonesia has relaxed the LTV/FTV ratios, effective 2nd December 2019.
a. Adjusted the maximum LTV/FTV ratios for property loans/financing through an additional 5% on the previous regulation, as determined by Bank Indonesia.
b. Adjusted the maximum LTV/FTV ratios for green property loans/financing through an additional 5% on top of the amended/relaxed regulation. Banks with an LTV/FTV ratio of 100% shall no longer be determined by Bank Indonesia but at the discretion of individual banks in accordance with prudential principles.
c. Adjusted the requirements concerning non-performing loans/non-performing financing from nett to gross, as follows:
1) Gross ratio of non-performing loans/non-performing financing of less than 5% (five percent); and
2) The adjustment also affects property loans/financing for houses under construction.
d. Adjusted the 22m2 – 70m2 house bracket to >21m2 – 70m2.
e. LTV/FTV Ratios as follows:
Amended LTV/FTV Ratio
<table>
<tr><th></th><th colspan="4">Fulfilling NPL/NPF Criteria</th><th colspan="6">Fulfilling NPL/NPF Criteria</th></tr>
<tr><th></th><th colspan="2">Property Loans/ Financing based on Murabahah and Istishna Contracts</th><th colspan="2">Property Financing based on MMQ and IMBT Contracts</th><th colspan="3">Property Loans/ Financing based on Murabahah and Istishna Contracts</th><th colspan="3">Property Financing based on MMQ and IMBT Contracts</th></tr>
<tr><th></th><th>1</th><th>≥ 2</th><th>1</th><th>≥ 2</th><th>1</th><th>2</th><th>≥ 3</th><th>1</th><th>2</th><th>≥ 3</th></tr>
<tr><td>Landed House</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Type > 70m²</td><td>-</td><td>85%</td><td>-</td><td>90%</td><td>85%</td><td>75%</td><td>65%</td><td>90%</td><td>80%</td><td>70%</td></tr>
<tr><td>Type > 21 – 70m²</td><td>-</td><td>90%</td><td>-</td><td>95%</td><td>-</td><td>85%</td><td>75%</td><td>-</td><td>85%</td><td>75%</td></tr>
<tr><td>Type ≤ 21m²</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Flats/Apartments</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
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<tr><td>Shophouse</td><td>-</td><td>90%</td><td>-</td><td>90%</td><td>-</td><td>85%</td><td>75%</td><td>-</td><td>85%</td><td>75%</td></tr>
</table>
LTV/FTV Ratio for Green Property Financing
<table>
<tr><th></th><th colspan="4">Fulfilling NPL/NPF Criteria</th><th colspan="6">Not Fulfilling NPL/NPF Criteria</th></tr>
<tr><th></th><th colspan="2">Property Loans/ Financing based on Murabahah and Istishna Contracts</th><th colspan="2">Property Financing based on MMQ and IMBT Contracts</th><th colspan="3">Property Loans/ Financing based on Murabahah and Istishna Contracts</th><th colspan="3">Property Financing based on MMQ and IMBT Contracts</th></tr>
<tr><th></th><th>1</th><th>≥ 2</th><th>1</th><th>≥ 2</th><th>1</th><th>2</th><th>≥ 3</th><th>1</th><th>2</th><th>≥ 3</th></tr>
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<tr><td>Type ≤ 21m²</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Flats/Apartments</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
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</table>
For loans/financing not subject to the ratio, the LTV/FTV ratio is determined by the individual banks in accordance with prudential principles.
f. Down Payments on automotive loans/financing as follows:
<table>
<tr><th rowspan="2">Vehicle Type</th><th colspan="2">Down Payment</th><th colspan="2">Down Payment on Green Financing</th></tr>
<tr><th>Satisfying NPL/NPF Criteria</th><th>Failing NPL/NPF Criteria</th><th>Satisfying NPL/NPF Criteria</th><th>Failing NPL/NPF Criteria</th></tr>
<tr><td>2-wheeled</td><td>15%</td><td>20%</td><td>10%</td><td>15%</td></tr>
<tr><td>3-wheeled or more (Private Vehicle)</td><td>15%</td><td>25%</td><td>10%</td><td>20%</td></tr>
<tr><td>3-wheeled or more (Commercial Vehicle)</td><td>10%</td><td>15%</td><td>5%</td><td>10%</td></tr>
</table>
</td>
<td>
Addresses the need to maintain accommodative macroprudential policy, targeting specific sectors.
Bank Indonesia relaxed the requirements on property and automotive loans/financing in accordance with prudential principles. The ratios were relaxed in the property and automotive sectors due to a strong multiplier effect as well as backward and forward linkages in the economy.
Accommodative macroprudential policy in the property and automotive sectors also incentivises green financing, which the central bank supports in order to mitigate financial system stability risks from environmental degradation. The measure also takes into consideration contained credit/financing risk.
</td>
</tr>
<tr>
<td>3</td>
<td>Macroprudential Liquidity Buffer (MPLB)</td>
<td>Bank Indonesia has held the (sharia) Macroprudential Liquidity Buffer (MPLB) at 4% of rupiah third-party funds and the flexible repo option at 4%. The MPLB ratio can be met in the form of securities, including Bank Indonesia Sukuk (SukBI). With a flexible option, banks can repo all securities held with Bank Indonesia in order to satisfy the MPLB. Bank Indonesia evaluates the MPLB at least once every six months.</td>
<td>Based on the assessment results, bank resilience and liquidity remain adequate. Maintaining the MPLB and flexible option will support liquidity management in the banking industry.</td>
</tr>
<tr>
<td>4</td>
<td>Countercyclical Capital Buffer (CCyB)</td>
<td>Bank Indonesia has held the countercyclical capital buffer (CCyB) at 0%. Therefore, the banking industry is not required to allocate an additional capital buffer in anticipation of excessive credit growth. Furthermore, the 0% CCyB also provides space for the banks to increase intermediation capacity. Bank Indonesia evaluates the CCyB at least once every six months.</td>
<td>The assessment results showed no indications of excessive credit growth. The primary indicator, credit-to-GDP gap, remains within a manageable threshold. The assessment was also confirmed by the supporting indicators, namely macroeconomic and credit risk indicators as well as asset prices.</td>
</tr>
</table>

[2] Bank Indonesia Regulation (PBI) No. 21/13/PBI/2019 as an amendment to Bank Indonesia Regulation (PBI) No. 20/8/PBI/2018 concerning the Loan-to-Value Ratio for Property Loans, Financing-to-Value Ratio for Property Financing and Down Payments on Automotive Loans or Financing.

BANK INDONESIA

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FINANCIAL STABILITY REVIEW NO.34, MARCH 2020

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