

FINANCIAL STABILITY REVIEW

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Systemic Risk Mitigation Through Strengthening
Inter Institution Coordination Amid
the Consolidation of the Domestic Economy

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The preparation of the **Financial Stability Review** is one of the avenues through which Bank Indonesia achieves its mission "to safeguard the stability of the Indonesian Rupiah by maintaining monetary and financial system stability for sustainable national economic development".

FSR is published biannually with the objectives :

- To improve public insight in terms of understanding financial system stability
- To evaluate potential risks to financial system stability
- To analyze the developments of and issues within the financial system
- To offer policy recommendations to promote and maintain financial system stability

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**“Systemic Risk Mitigation Through Strengthening
Inter Institution Coordination Amid
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BANK INDONESIA

MACROPRUDENTIAL POLICY DEPARTMENT

CONTENTS

Foreword	xv
Executive Summary	xix



1. The Financial System Stability Condition	3
1.1. Risk Development in Global and Regional Financial Market	5
1.2. Risk Development in Domestic Economy	7
1.3. Financial System Stability Condition	10
1.4. Domestic Financial Imbalance	12
Box 1.1. Analysis on Indicator Development of Financial Imbalances Based on National Financial Account & Balance Sheet (NFA & BS) Quarter III-2016	21
Box 1.2. Development of Global Financial Reformation in Indonesia	24



2. Financial Markets	31
2.1. The Role of Financial Markets as Source of Financing Economy	33
2.2. Condition and Risk Assessment in Financial Markets	38
2.3. Assessment of Sharia Financial Market Conditions and Risks	54
Box 2.1. Regulation on Commercial Paper	63
Box 2.2. Local Currency Settlement Framework	66
Box 2.3. Capital Market Development as Alternative of Funding Source and Investment Apart from Banking	70



3. Households and Corporations	77
3.1. The Assessment of Household Sector Condition and Risks	79
3.2. The Assessment of Conditions and Corporation Sector Risks	87
Box 3.1. The Household Balance Sheet Survey	101
Box 3.2. Property Ownership of Foreigners	108



4. Banking and IKNB	113
4.1. The Assessment of Condition and Risks of Banking Sector	116
4.2. The Assessment of Condition and Risk of Non-Bank Financial Industry	151
4.3. The Assessment of Sharia Banking Condition and Risk	161
Box 4.1. The Scope, Risk Mapping and Financial Technology (Fintech) Impact on the Financial System Stability: Deposits, Lending and Capital Raising	169
Box 4.2. Social Security Agency	172
Box 4.3. The Behaviors of BPD (Regional Development Banks) Regarding Liquidity	176
Box 4.4. The Foreign Commercial Loans of State-Owned Enterprises (SOE)/Private-Owned Enterprises (POE) Regarding the Government's Projects	179



5. Financial System Infrastructure	183
5.1. Payment System Performance	185
5.2. Development of Payment System Transaction	187
5.3. Payment System Indicators	189
5.4. Payment System Risks and Risk Mitigation	190
5.5. Development of Financial Inclusion Data and Digital Financial Services	192
Box 5.1. National Standard Indonesia Chip Card Specification (NSICCS)	197



6. Responds of Bank Indonesia's Policy to Support Financial System Stability	201
6.1. Amandement of Loan To Value Ratio or Financing to Value Ratio for Property Loan or Financing and Down Payment for Motor Vehicle Loan or Financing	204
6.2. Evaluation of Countercyclical Buffer (CCB) Policy	208
6.3. Policy of Minimum Reserve Requirement Related to Loan to Funding Ratio (GWM LFR)	212
6.4. Macroprudential Supervision	214
6.5. Financial System Crisis Prevention and Handling Law and Coordination Synergy between Bank Indonesia and Other Authorities	215
Box 6.1. Center of Excellence of Bank Indonesia Supervision	221
Box 6.2. Crisis Management Protocol of Bank Indonesia	226



7. Challenge, Outlook and Future Policy Direction of Financial System Stability	231
7.1. Challenges of Financial System Stability	233
7.2. Prospects of Banking Resilience and Financial System Stability	235
7.3. Policy Direction	236
Box 7.1. Systemic Risk Survey on Indonesia Financial System	238
Box 7.2. Function of Micro, Small and Medium Enterprise Development in Supporting Financial System Stability	240



Article	
Article 1. Liquidity Stress Testing - The Use of Macroprudential Tools In The Framework of Crisis Management Protocol	244
Article 2. The Analysis of Household Vulnerability by Using The Balance Sheet Approach (BSA) and Financial Margin Approach (FMA)	252

LIST OF TABLE

1. The Condition of Financial System Stability

Table 1.1.	World Economic Outlook	5
Table 1.2.	The Amount of External Debt Hedging that Conducted and Implemented in Quarter III 2016	18

2. Financial Markets

Table 2.1.	Bank and Nonbank Financing (Rp, trillions)	33
Table 2.2.	Sources of Funds by Bank Total	37
Table 2.3.	Sources of Collection and Disbursement of Bank Funds by Volume	37
Table 2.4.	Comparison of Average NDF Spread in the Region	44
Table 2.5.	Composition of SBN Holdings	45
Table 2.6.	10-Year SBN Yields in the Region (%)	48
Table 2.7.	10-Year SBN Yield Volatility in the Region (%)	48
Table 2.8.	Corporate Bond Holdings	48
Table 2.9.	Foreign Stock Holdings by Business Group (Rp, trillions)	51
Table 2.10.	Sectoral Indexes Volatility	51
Table 2.11.	Sharia Securities List Distribution	56
Box Table 2.2.1	Indonesia's Export and Import Based on Countries	67
Box Table 2.2.2	Indonesia's Export and Import Based on Currencies	67
Box Table 2.3.1	Corporate Bond Issuer Institutions	74
Box Table 2.3.2	Corporate Bonds Ownership	74

3. Households and Corporations

Table 3.1.	DSR Composition Based on Income Level per Month	82
Table 3.2.	Saving Composition Based on Income Level per Month	82
Table 3.3.	Household Sector Credit Based on Type of Use	85
Table 3.4.	The Financial Perform Indicators of Non Financial Corporation	90

Table 3.5.	The Financial Perform Indicators of Main Commodities Corporation	92
Table 3.6.	Corporation Credit by Economic Sectors	94
Table 3.7.	Credit Based on Main Export Commodities	95
Table 3.8.	Restructured External Debt by Economic Sectors	97
Table 3.9.	Types of Restructured External Debts Positive and Negative Tone	99
Box Table 3.1.1.	The Distribution of Respondents by Income	101
Box Table 3.1.2.	The Distribution of Respondents by Income	102
Box Table 3.2.1.	The Limitation of roperty price for foreigners to purchase	109

4. Banking and IKNB

Table 4.1.	AL/NCD each BUKU	117
Table 4.2.	The Addition of AL in the Second Quarter	117
Table 4.3.	The Development of LDR per BUKU Groups	118
Table 4.4.	The Growth of Third Party Fund per BUKU (% yoy)	119
Table 4.5.	The Reception of Tax Amnesty Funds by BUKU Bank Group	119
Table 4.6.	The Share of Third Party Funds by Tenor	120
Table 4.7.	The Share of Third Party Funds by Island	122
Table 4.8.	The Growth of Sectoral GDP Based on Economic Sector	124
Table 4.9.	Credit Shares by Project Locations	125
Table 4.10.	The Credit Growth per BUKU (% yoy)	125
Table 4.11.	The Growth and Share of MSME Credit by BUKU	128
Table 4.12.	Gross NPL per Area (%)	129
Table 4.13.	The Gross NPL Ratio per BUKU (%)	129
Table 4.14.	The Number of Downgraded Bonds (Pefindo Rating)	129
Table 4.15.	The Comparison of KUR and MSME Credit Disbursement	135

Table 4.16.	The Interest Rate Subsidy	136
Table 4.17.	The Third Party Funds Interest Rate per BUKU	137
Table 4.18.	The Credit Interest Rate per BUKU	138
Table 4.19	Table of Government Securities Ownership by the Banking Industry per BUKU	140
Table 4.20.	The Government Securities Ownership Shares by Banking Industry per BUKU	143
Table 4.21.	The Development of Profit/Loss of the Banking Industry (Trillion Rp)	144
Table 4.22.	The Details of Income Post (Trillion Rp)	145
Table 4.23.	The Details of Cost Post (Trillion Rp)	145
Table 4.24.	The Development of CAR by BUKU	147
Table 4.25.	The Interconnectedness of the Banking Industry and Financing Companies	156
Table 4.26.	The Investment Ratio by Types of Insurance	157
Table 4.27.	Interconnectedness of Banking and Insurance Industry	159
Table 4.28.	The Development of Asset and Insurance Financial Performance	160
Table 4.29.	The Go-Public Insurance Minimum Capital Adequacy	161
Box Table 4.2.1.	Investments and Assets of Healthcare and Labor BPJS	173
Box Table 4.2.2.	Investment Portfolio of Labor BPJS in 2015	173
Box Table 4.2.3.	The Ownership Portion of SBN by IKNB	174
Box Table 4.3.1	The Ratio of Liquidity per Bank Group	176

5. Financial System Infrastructure

Table 5.1.	Growth of BI-RTGS, BI-SSSS, SKNBI Systems, Card-Based Instruments and Electronic Money Transactions	187
Table 5.2.	Core Banks in BI-RTGS System	192
Table 5.3.	Growth of Individual and Business DFS Agents	194

6. Responds of Bank Indonesia's Policy to Support Financial System Stability

Table 6.1.	LTV Ratio and Tiering for Property Loan and Property Financing	205
Table 6.2.	LTV/FTV Ratio based on Property Type	206
Table 6.3.	Mechanism of property loan/financing disbursement	206
Table 6.4.	Growth of Loan and NPL per KPR Type	207

7. Challenge, Outlook and Future Policy Direction of Financial System Stability

Table 7.1.	Forecast of Global Economic Growth	233
Table 7.2.	Forecast of US and China GDP	233

LIST OF GRAPH AND FIGURE

1. The Condition of Financial System Stability

Graph 1.1.	Brent Oil Price Movement	6
Graph 1.2.	Metal Price Movement	6
Graph 1.3.	Developed Countries and Regions' CDS	7
Graph 1.4.	Global World Index and IDX	7
Graph 1.5.	VIX Development	7
Graph 1.6.	Inflation and Annual GDP Growth	9
Graph 1.7.	Payment Balance 2016	9
Graph 1.8.	Rupiah Exchange Rate Movement	9
Graph 1.9.	Appreciation and Depreciation against US Dollar	9
Graph 1.10.	Several Countries' Composite Stock Indexes	9
Graph 1.11.	Non-Resident Fund Flow	9
Graph 1.12.	Financial System Stability Index (FSSI/ISSK)	11
Graph 1.13.	Financial Institution Stability Index (FISI/ISIK)	11
Graph 1.14.	Financial Market Stability Index (FMSI/ISPK)	11
Graph 1.15.	Banking Systemic Risk Index (BSRI/IRSP)	11
Graph 1.16.	Several Regional Countries Composite Stock Price Indexes	12
Graph 1.17.	Financial Institution Asset Share	12
Graph 1.18.	Financial Cycle	13
Graph 1.19.	Bank Credit Growth Procyclicality	13
Graph 1.20.	Development of Revenue Components in Semester I 2010-2016	15
Graph 1.21.	Contribution of Revenue Component Growth in Semester II 2010-2016	15
Graph 1.22.	Development of Expenditure Component in Semester II 2010-2016	15
Graph 1.23.	Development of Deficit and Primary Balance	15
Graph 1.24.	Government Debt Ratio to State Revenue	16
Graph 1.25.	The Primary Balance of Indonesia and Other Countries	16

Graph 1.26.	The External Debt Composition by Creditor Groups and External Debt Composition to GDP	17
Graph 1.27.	The Development of Non-Bank Private External Debt by Initial Tenor	18
Graph 1.28.	The Development of Debt Service Ratio (DSR) of Initial Tenor	18
Graph 1.29.	The Non-Resident Investor State Bonds Ownership	19
Graph 1.30.	Non-Resident Investor Share Ownership	19
Graph 1.31.	The Foreign and Domestic State Bonds Ownership	20
Graph 1.32.	The Development of Price and Volume of Stock Transactions	20
Graph 1.33.	The Development of Price and Transaction Volume of State Bonds	20
Graph Boks 1.1.	The Net Transaction Intersector (Rp Trillion)	22
Graph Boks 1.2.	The Net Intersector Transactions (Rp Trillion) (page 23)	23

2. Financial Markets

Graph 2.1.	IPO and Right Issue Volume on the Stock Market	34
Graph 2.2.	Yield Curve Comparison on Corporate Bonds and Daily Interest Rate of KI & KMK	34
Graph 2.3.	Value of Bond Issuances	35
Graph 2.4.	Nominal Value of Outstanding MTN and NCD	35
Graph 2.5.	Maturity of MTN and NCD	35
Graph 2.6.	Nominal Value of MTN and NCD Issuances	36
Graph 2.7.	Financial Markets Volatility	39
Graph 2.8.	Non-Resident Capital Flows in Stocks, SBN and SBI	39
Graph 2.9.	Interbank Overnight Interest Rate in Rupiah	40
Graph 2.10.	Volatility of Interbank Overnight Interest Rate in Rupiah	40
Graph 2.11.	Interbank Money Market in Rupiah	40
Graph 2.12.	Rupiah Interbank Transaction Distribution	40

Graph 2.13.	Foreign Exchange Interbank Money Market Performance	41	Graph 2.44.	NAV Volatility of Mutual Funds	52
Graph 2.14.	O/N Foreign Exchange Interbank Interest Rate	41	Graph 2.45.	Growth of Mutual Funds (yoy)	52
Graph 2.15.	The Volatility of Foreign Exchange Interbank Interest Rate	42	Graph 2.46.	The Risk Profile of Mutual Fund Products	53
Graph 2.16.	Foreign Exchange Interbank Money Market Transaction Behaviour	42	Graph 2.47.	The average NAV of Closed-End and Open-Ended Funds	54
Graph 2.17.	Interbank Repo Transactions	43	Graph 2.48.	Accumulated Funds on Sharia Capital Market	55
Graph 2.18.	Lending Facility Transaction	43	Graph 2.49.	The Growth of Sharia Capital Market	55
Graph 2.19.	The Performance of Rupiah Exchange Rate	43	Graph 2.50.	Sharia Capital Market Development	55
Graph 2.20.	Foreign Exchange Market Risk Premium	44	Graph 2.51.	The Share of Sharia Capital Market Share as of December 2016	56
Graph 2.21.	Rupiah Volatility	44	Graph 2.52.	Sharia Securities List Development	56
Graph 2.22.	Domestic Foreign Exchange Market Composition	44	Graph 2.53.	JCI and ISSI Comparison	57
Graph 2.23.	Composition of SBN Holdings	46	Graph 2.54.	Market Capitalisation Growth (yoy)	57
Graph 2.24.	Net Foreign Flows to SBN and IDMA	46	Graph 2.55.	Sharia Stock Index Development	57
Graph 2.25.	SBN Yield Curve	46	Graph 2.56.	Stock Index Volatility	57
Graph 2.26.	Rebased SBN Yield by Tenor	46	Graph 2.57.	Sharia Mutual Fund Net Activa Value (NAV)	58
Graph 2.27.	SBN Yield Volatility by Tenor	47	Graph 2.58.	Sharia NAV Growth	58
Graph 2.28.	SBN and Corporate Bond Transaction Turnover	47	Graph 2.59.	Sharia Mutual Fund NAV based on Mutual Fund Types	58
Graph 2.29.	SBN to GDP Ratio	47	Graph 2.60.	Government Securities Issuance	58
Graph 2.30.	Rebased 10-Year SBN Yield in Emerging Market	47	Graph 2.61.	Sukuk Issuance Based on Types	58
Graph 2.31.	Net Foreign Flows and Foreign Holdings of Corporate Bonds	49	Graph 2.62.	Outstanding Government Sukuk	59
Graph 2.32.	Corporate Bond Yield Curve	49	Graph 2.63.	Outstanding SBN Growth	59
Graph 2.33.	Corporate Bond Yield Volatility by Tenor	49	Graph 2.64.	Sukuk Composition Based on SBSN Series	59
Graph 2.34.	Corporate Bond Issuance by Sector	49	Graph 2.65.	Sukuk Composition Based on Terms	59
Graph 2.35.	Regional Stock Indexes	50	Graph 2.66.	SBSN Ownership (Tradable)	59
Graph 2.36.	Stock Price Volatility	50	Graph 2.67.	The Growth of Government Sukuk and Corporate Bond	59
Graph 2.37.	Foreign Capital Inflows to Regional Stock Markets	50	Graph 2.68.	The Market Share Development of Corporate Sukuk	60
Graph 2.38.	Net Foreign Trade on the Stock Market and JCI	50	Graph 2.69.	Corporate Sukuk Based on Ownership	61
Graph 2.39.	Stock Market Turnover	51	Graph 2.70.	Corporate Bond Based on Ownership	61
Graph 2.40.	JCI and LQ45 Capitalisation	52	Graph 2.71.	Collection and Distribution of Zakat Fund	61
Graph 2.41.	The Share of JCI Trade Frequency	52	Graph 2.72.	The Share of ZIS Fund Collection and Distribution based on province	62
Graph 2.42.	The Performance of Mutual Funds	52	Box Graph 2.3.1.	Development of Capital Market Instrument Issuance	71
Graph 2.43.	NAV of Mutual Funds by Type	52	Box Graph 2.3.2.	Development of Stock Ownership by Domestic Investor	71

LIST OF GRAPH AND FIGURE

Box Graph 2.3.3.	Ratio of Investor Amount to Indonesia's Manpower	71	Graph 3.15.	The Development of Indonesia's Export and Import	88
Box Graph 2.3.4.	Comparison of Stock Market Investor Account Number Development	72	Graph 3.16.	The Development of Realization and Estimation of Business Activity	88
Box Graph 2.3.5.	Comparison of Stock Market Investor Account Number Percentage to Manpower	72	Graph 3.17.	The Used Production Capacity	89
Box Graph 2.3.6.	The Performance of Indonesia Stock Market and other 12 Countries in the end of 2016	72	Graph 3.18.	The Non Financial Corporation Financial Performance Indicators	89
Box Graph 2.3.7.	The Term of SBN Issued	73	Graph 3.19.	The Development of Financial Performance of Non Financial Listed Corporation	90
Box Graph 2.3.8.	SBN Ownership	73	Graph 3.20.	The Development of Non Financial Corporations' Paying Capability	91
Box Figure 2.2.1.	Example of Local Currency Settlement Scheme	68	Graph 3.21.	The Financial Performance Development of Main Commodities Corporation	92
Box Figure 2.2.2.	LCS Flow of Implementation Mechanism	69	Graph 3.23.	The Movement of Risky Corporations and GDP	93
3. Households and Corporations					
Graph 3.1.	The Household Consumption Contribution to GDP	79	Graph 3.22.	The Performance Corporation Based on Altman Z-Score	93
Graph 3.2.	The Growth of Real Sales	79	Graph 3.24.	Corporation Credit per BUKU	93
Graph 3.3.	The Index of Consumer Confidence, Current Economic Situation, Consumer Expectation	80	Graph 3.25.	The Development of Corporation Third Party Funds	95
Graph 3.4.	The Price Expectation Index in the Next 3 Months	80	Graph 3.26.	Third Party Funds per BUKU	95
Graph 3.5.	The Price Expectation Index in the Next 6 Months s	81	Graph 3.27.	Indonesia's External Debt	96
Graph 3.6.	The Household Expenditure Allocation	81	Graph 3.28.	The Growth and Nominal of Private External Debt	96
Graph 3.7.	The Composition and Growth of Third Party Funds	83	Graph 3.29.	Restructured External Debt of Non Financial Corporations	97
Graph 3.8.	The Composition and Growth of Household Third Party Funds	84	Graph 3.30.	The Development of Restructured External Debt Outstanding	98
Graph 3.9.	The Banking Credit Composition	84	Graph 3.31.	The Development of Restructured External Debt Outstanding to Total Restructured External Debt (%)	98
Graph 3.10.	The Development of Household Consumption Credit Based on Components	85	Graph 3.32.	Payment of Interest and Principals of External Debt with Positive and Negative Tone	99
Graph 3.11.	Nominal and Non Performing Loan of Household Consumption Credit	86	Graph 3.33.	Payment Plan of Interest and Principal of Restructured External Debt with Positive and Negative Tone	100
Graph 3.12.	The Development of NPL of Household Consumption Credit per Component	86	Box Graph 3.1.1.	The Main Occupations of Households' Breadwinners	102
Graph 3.13.	The Composition of Household Consumption Credit by Types	86	Box Graph 3.1.2.	Household Assets in 2015-2016	103
Graph 3.14.	The Price Fluctuation of Several Commodities	87	Box Graph 3.1.3.	Fix Asset of Household in 2015-2016	103
			Box Graph 3.1.4.	Current Assets of Households in 2015-2016	103

Box Graph 3.1.5.	Household Investment in 2015-2016	103
Box Graph 3.1.6.	Household Debts in 2015-2016 by Tenure	104
Box Graph 3.1.7.	Household Debts in 2015-2016 by Source of Fund	104
Box Graph 3.1.8.	The Distribution of Households Borrowing from Banks by Objective of Loans	105

4. Banking and IKNB

Graph 4.1.	Ratio of Banking Liquidity	116
Graph 4.2.	The Development of Banking Liquid Tools	116
Graph 4.3.	The Growth of Economic Liquidity and Ratio of Banking Liquidity	117
Graph 4.4.	Government Net Expansion	117
Graph 4.5.	The Growth of Third Party Funds (yoy) and Credit (yoy)	118
Graph 4.6.	The Development of Lending Standard	118
Graph 4.7.	The Growth of Third Party Funds (yoy)	119
Graph 4.8.	The Third Party Funds Share by Core Depositors	120
Graph 4.9.	The Third Party Funds by Type of Deposits	120
Graph 4.10.	Third Party Fund Growth by Types of Deposit	120
Graph 4.11..	The Average of Rupiah Deposit Interest Rate for 1 Month per BUKU	121
Graph 4.12.	The Share of Banking Third Party Funds Composition	121
Graph 4.13.	The Development of Third Party Funds by Owner Groups	122
Graph 4.14.	The Growth of Banking Credit	123
Graph 4.15.	The Growth of Credit per Type of Allocation	123
Graph 4.16.	The Credit Share per Type of Allocation	123
Graph 4.17.	The Credit Growth by Economic Sector (%)	124
Graph 4.18.	The Credit Growth by Economic Sector (Rp T)	124
Graph 4.19.	The Rupiah Credit Interest Rate per BUKU	125

Graph 4.20.	The Development of MSME Credit	126
Graph 4.21.	The MSME Credit Growth in the 6 Economic Sector	126
Graph 4.22.	The Development of NPL Ratio	128
Graph 4.23.	The Ratio of Gross NPL per Type of Allocation	128
Graph 4.24.	The Ratio of Gross NPL by Economic Sector (% yoy)	128
Graph 4.25.	The Ratio of Gross NPL by Economic Sector (Rp T)	128
Graph 4.26.	The Ratio of MSME Credit NPL per Year	130
Graph 4.27.	The MSMEs Credit Gross NPL by Type of Allocation	130
Graph 4.28.	The MSME Credit Gross NPL by Business Classification	131
Graph 4.29.	The Development of MSME Credit Gross NPL by Economic Sectors	131
Graph 4.30.	The Realization of KUR in 2016	134
Graph 4.31.	The KUR by Scheme in 2016	134
Graph 4.32.	Outstanding Amount of KUR by Sector in 2016	134
Graph 4.33.	Outstanding Amount of KUR by Sector in 2016	134
Graph 4.34.	NPG and NPL of PBC	135
Graph 4.35.	The Development of Credit Interest Rate and Third Party Fund	137
Graph 4.36.	The Total and Ratio of PDN per BUKU	139
Graph 4.37.	The Government Securities Yield Volatility	140
Graph 4.38.	The Development of Indonesia's External Debt	142
Graph 4.39.	External Debt per Bank Groups	142
Graph 4.40.	External Debt of Private Enterprises	142
Graph 4.41.	The Growth of Bank External Debt	142
Graph 4.42.	Bank Foreign Debts Tenor	143
Graph 4.43.	The Bank Long-Term ULN Maturity Profile (December 2016)	143
Graph 4.44.	The Long-Term ULN Maturity Composition (December 2016)	143
Graph 4.45.	ROA per BUKU	145
Graph 4.46.	NIM per BUKU	145
Graph 4.47.	The Ratio of BOPO per BUKU (%)	146
Graph 4.48.	The Ratio of CIR per BUKU (%)	146

LIST OF GRAPH AND FIGURE

Graph 4.49.	The Development of Banking CAR	147	Graph 4.78.	The Asset Market Share	162
Graph 4.50.	The Ratio of Tier 1 Banking (%)Graph 4.50 The Ratio of Tier 1 Banking (%)	147	Graph 4.79.	The Third Party Funds Development	163
Graph 4.51.	The Scenario of Credit Risk (NPL)	149	Graph 4.81.	The Composition of Third Party Funds as of December 2016	163
Graph 4.52.	The Scenario of Government Securities	149	Graph 4.80.	The Third Party Fund Market Share	163
Graph 4.53.	The Scenario of Exchange Rate Risk	150	Graph 4.82.	The Development of Third Party Funds Composition	163
Graph 4.54.	The Scenario of Interest Rate Risk	150	Graph 4.83.	The Sharia Banking Funds Disbursement Composition	164
Graph 4.55.	The Aggregate Result of Stress Test	150	Graph 4.84.	The Sharia Banking ULNR	164
Graph 4.56.	The Stress Result Result per BUKU (Scenario of Severe I)	151	Graph 4.85.	The Financing Development	164
Graph 4.57.	The Stress Test Result per BUKU	151	Graph 4.86.	The Financing Development	164
Graph 4.58.	Asset & Financing of PP (Rp Trillion)	153	Graph 4.87.	The Financing by Type of Allocation	165
Graph 4.59.	The PP Financing per Type of Business	153	Graph 4.89.	The Financing by 'Akad'	165
Graph 4.60.	Financing by Types of Forex	153	Graph 4.90.	The Financing by Economic Sector as of December 2016	165
Graph 4.61.	Ratio of NPF PP (%)	153	Graph 4.91.	The Return Level of Current Account Return, Saving and Sharia Deposit	166
Graph 4.62.	The Growth of Financing & Funding	154	Graph 4.92.	The Structure of Sharia Third Party Funds Return as of November 2016	166
Graph 4.63.	The Fund Sources	154	Graph 4.93.	The Sharia Banking Liquidity Position	167
Graph 4.64.	The Interest Rate of Bank Loans to PP	154	Graph 4.94.	The Development of NPF	167
Graph 4.65.	The Development of PP External Debt	155	Graph 4.95.	The NPF Ratio Based on 'Akad'	167
Graph 4.66.	The Development of ROA, ROE, and BOPO of MC	155	Graph 4.96.	The NPF Composition by Economic Sector	167
Graph 4.67.	The Asset Share of Insurance by Types	156	Graph 4.97.	Return on Asset	168
Graph 4.68.	The Assets and Investment of Insurance	157	Graph 4.98.	Return on Equity	168
Graph 4.69.	The Premium Ratio. Gross Claim	157	Graph 4.99.	Capital Adequacy Ratio	168
Graph 4.70.	The Ratio of Current Asset/ Current Liabilities	157	Box Graph 4.3.1.	The Ratio of Banking Industry Liquidity	177
Grafik 4.71.	Insurance Indicator Development	158	Box Graph 4.3.2.	Rural Banks' Loan Interbank Financial Market Interest Rate Weighted Average per Tenor	177
Graph 4.72.	Insurance Industry ULN Development	158	Box Graph 4.3.3.	The Development of Regional Bank Third Party Funds by Owners	177
Graph 4.73.	The Development of BUKU 1 Rupiah Third Party Funds Interest Rate Weighted Average	160	Box Graph 4.3.4.	The Regional Bank Third Party Funds Growth (% yoy)	178
Graph 4.74.	The Insurance Companies' Investment Asset Composition	160	Box Graph 4.3.5.	The Regional Bank Liquidity Ratio	178
Grafik 4.75.	Sharia Banking Industry Development	161	Figure 4.1.	The Achievement of Commercial Bank MSME Credit Ratio in 2016	132
Graph 4.76.	The Growth of Asset, Third Party Funds, and Financing	162	Figure 4.2.	The Subsidy Scheme of Warehouse Receipt	135
Graph 4.77.	The Asset Development	162	Box Figure 4.1.1.	Crowdfunding and Peer-to-Peer Lending	169

Box Figure 4.1.2.	Direct Balance Sheet	169
Box Figure 4.1.3.	Fintech Risk: Deposits, Lending and Capital Raising	170
Box Figure 4.4.1.	The General Description of PKLN Approval Mechanism	180

5. Financial System Infrastructure

Graph 5.1.	Growth of Turnover Ratio	189
Graph 5.2.	Growth of Turnover Ratio by Bank Group (BUKU)	190
Graph 5.3.	Queue Transaction	190
Graph 5.4.	Indonesia Financial Inclusion Composite Index (IKKI)	193
Graph 5.5.	Growth of DFS Agents in 2016	194
Graph 5.6	Percentage of E-Money Transactions at DFS Agents in Semester II	194
Graph 5.7.	Growth of E-Money Account Holders at DFS Agents (Million)	195
Figure 5.1.	DFS Agents in Indonesia	199
Box Figure 5.1.1.	Roadmap of NSICCS Implementation	203

6. Responds of Bank Indonesia's Policy to Support Financial System Stability

Graph 6.1.	Growth of Property Loan	207
Graph 6.2.	Growth of Property Sales	208
Graph 6.3.	Growth of Residential Property Prices	208
Graph 6.4.	Leading Indicator of Credit-to-GDP Gap	209
Graph 6.5.	Ratio of CCB based on Leading Indicator	209
Graph 6.6.	Financial Cycle and Business Cycle	209
Graph 6.7.	Growth of Real GDP (yoy)	210
Graph 6.8.	Inflation (yoy)	210
Graph 6.9.	Exchange Rate (IDR/USD)	210
Graph 6.10.	Private External Debt in Rupiah (yoy)	210
Graph 6.11.	Growth of Loan (yoy)	211
Graph 6.12.	Growth of Third Party Fund (yoy)	211
Graph 6.13.	NPL Ratio (%)	211
Graph 6.14.	ROA Ratio (%)	211
Graph 6.15.	Capital Adequacy Ratio (%)	211
Graph 6.16.	JCI Volatility	212
Graph 6.17.	Banking Intermediary	213

Graph 6.18.	Development of Upper Limit and Lower Limit of GWM-LDR/LFR Policy	213
Graph 6.19.	Development of Number of Banks Which Fulfill GWM LFR Provision	214
Box Figure 6.1.2.	Policy Interaction of Bank Indonesia in Macprudential, Monetary and Money Market, and Payment System	222
Box Figure 6.1.2.	Bank Indonesia's Supervision Cycle	223

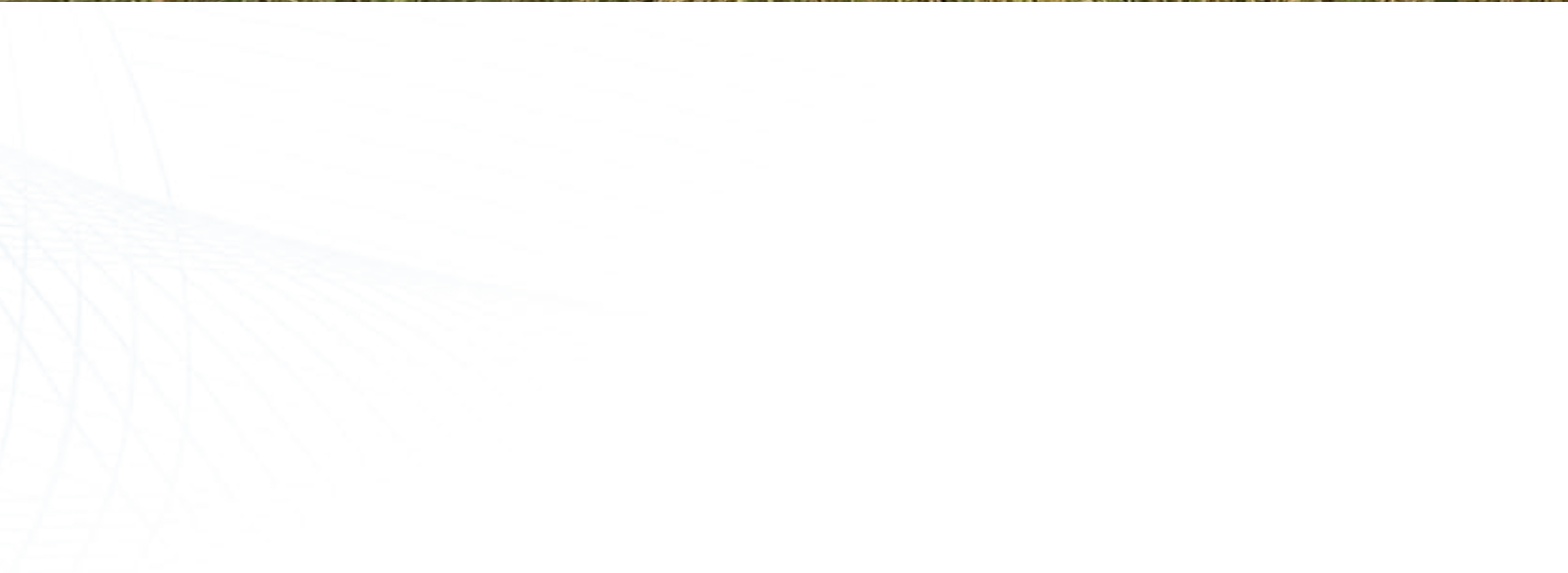
7. Challenge, Outlook and Future Policy Direction of Financial System Stability

Graph 7.2.	Credit Growth (yoy)	236
Graph 7.3.	Third Party Fund Growth (yoy)	236
Box Graph 7.2.1.	Contribution of MSME to the Number of Business Units, GDP, Employment	241
Box Graph 7.2.2.	Financing of MSME compared to Other Countries	241
Box Graph 7.2.3.	Banking Credit Composition	241

LIST OF ABBREVIATIONS

ABIF	: ASEAN Banking Integration Framework	EAPP	: Expanded Asset Purchase Program
AFS	: Available for Sale	ECB	: European Central Bank
AKSI	: Arsitektur Keuangan Syariah Indonesia	EM	: Emerging Market
APMK	: Card-Based Payment Instruments	FA	: Financial Account
AS	: United States	FDI	: Foreign Direct Investment
ASEAN	: Association of Southeast Asian Nations	FKSSK	: Financial System Stability Coordination Forum
ATM	: Automated Teller Machine	FLI	: Intraday Liquidity Facility
ATMR	: Risk-Weighted Assets	FSB	: Financial Stability Board
BBM	: Fossil Fuels	G20	: The Group of Twenty
BCBS	: Basel Committee on Banking Supervision	GDP	: Gross Domestic Product
BIS	: Bank for International Settlement	GNNT	: Non-cash National Movement
BI-RTGS	: Bank Indonesia Real Time Gross Settlement	GWM	: Reserve Requirement (RR)
BI-SSSS	: Bank Indonesia Scripless Securities Settlement System	HTM	: Hold to Maturity
BOJ	: Bank of Japan	IDMA	: Inter-dealer Market Association
BOPO	: Efficiency Ratio of Operating Costs to Operating Revenue	IEK	: Consumer Expectation Index (CEI)
BPD	: Regional Banks	IHK	: Consumer Price Index (CPI)
BPR	: Rural Banks	IHSG	: Jakarta Composite Index (IDX Composite)
bps	: Basis point	IKK	: Consumer Confidence Index (CCI)
BUKU	: Commercial Bank Groups based on Business Activity	IKNB	: Nonbank Financial Institution
CAR	: Capital Adequacy Ratio	IMF	: International Monetary Fund
CCB	: Countercyclical Capital Buffer	ISIK	: Financial Institution Stability Index
CDS	: Credit Default Swap	ISPK	: Financial Market Stability Index
CIR	: Cost to Income Ratio	ISSK	: Indonesia Financial Stability Index
CPO	: Crude Palm Oil	JPSK	: Financial System Safety Net
DER	: Debt to Equity Ratio	KI	: Investment Credit
DPK	: Third Party Deposits	KK	: Credit Consumer
D-SIB	: Domestic Systemically Important Banks	KMK	: Working Capital Credit
DSR	: Debt Service Ratio	KPA	: Mortgage Facilities for Apartments
DP	: Down Payment	KPMM	: Minimum Capital Adequacy Requirement
		KPR	: Mortgage Facilities for Houses
		LCR	: Liquidity Coverage Ratio

LDR	: Loan to Deposit Ratio	SD	: Certificate of Term Deposit
LKD	: Digital Financial Services	SKDU	: Business Survey
LTV	: Loan to Value	SKNBI	: Bank Indonesia – National Clearing System
LPS	: Indonesia Deposit Insurance Corporation	SNRT	: Household Survey
L/R	: Profit/Loss	SUN	: Government Bonds
Minerba	: Mineral and Coal Mining (Minerba) Act	TDL	: Basic Electricity Rate
MTM	: Marked to market (MTM)	TOR	: Turn Over Ratio
NAB	: Net Asset Value (NAV)	TPT	: Textiles and Textile Products
NCD	: Negotiable Certificate of Deposit	ULN	: External Debt
NFA	: Net Foreign Asset	UMKM	: Micro, Small and Medium Enterprise (MSMEs)
NFL	: Net Foreign Liabilities	WEO	: World Economic Outlook
NII	: Net Interest Income	ULN	: Utang Luar Negeri
NIM	: Net Interest Margin	UMKM	: Usaha Mikro, Kecil dan Menengah
NPF	: Non Performing Financing	WEO	: <i>World Economic Outlook</i>
NPI	: Indonesia Balance of Payment		
NPL	: Non Performing Loan		
OJK	: Indonesia Financial Services Authority		
OTC	: Over the Counter		
PBOC	: Peoples' Bank of China (PBOC)		
PD	: Probability of Default		
PDB	: Gross Domestic Product		
PDN	: Net Open Position		
PIN	: Personal Identification Number		
PLN	: Offshore Loan		
PMK	: Crisis Management Protocol		
PP	: Finance Company		
PPKSK	: Prevention and Mitigation of Financial System Crisis		
PUAB	: Interbank Money Market		
QAB	: Qualified ASEAN Banks		
RBB	: Bank Business Plan		
ROA	: Return on Asset		
ROE	: Return on Equity		
SBDK	: Prime Lending Rate		
SBI	: Bank Indonesia Certificates		
SBN	: Tradeable Government Securities		
SBT	: Net Weighted Balance		





FOREWORD

The various significant events in global and domestic financial market has colorized the Indonesia financial system in the second half of 2016. In fact, the events and occurrences that serve as opportunities or challenges in Indonesia financial and economic cycle are remained directed and controlled properly. With the mercy and approval of God the Almighty, Bank Indonesia and other authorities in the financial sector has managed to maintain the financial system stability.

Reflecting various dynamics as well as achievements obtained in maintaining the financial system stability on the second semester of 2016, Bank Indonesia has published Financial Stability Review (FSR) Number 28, March 2017 Edition. FSR is published periodically in every semester and conducted continuously as the form of Bank Indonesia's accountability in executing its duties and authorities in macroprudential regulation and supervision.

In principle, FSR serves as the tool to review the overall conditions, risks and factors in financial system that potentially disrupt financial system stability comprehensively. FSR described the various policy responses of Bank Indonesia that are utilized as the macroprudential authority in mitigating potential systemic risk, furthermore aimed for controlling instability potential as a result of partial or complete contagion in the financial system due to size interaction, complexity, interconnectedness of the financial market, and incautious behavioral tendencies of the financial institutions to follow procyclicality cycles.

As one of the pillars in actualizing Bank Indonesia's single objective to achieve and maintain Rupiah's rate stability, the macroprudential policy will complement monetary policy implementation in resolving various

and increased intensity of economic turmoil as the negative result of globalized and integrated financial market. In formulating the macroprudential policy, Bank Indonesia conducts the assessments on financial system components, includes financial markets, corporations, households, banks, and the non-bank financial industry to map interrelationships as well as interactions between components and its risk measurement to overall financial system stability. Such assessment also reviews the potential of payment system performance to trigger the systemic risks.

Assessment and mapping will provide vulnerability sources indication and risk potential on financial system which responded comprehensively by Bank Indonesia through monetary, macroprudential, payment system and Rupiah's money management policies. Following this assessment and mapping result, the challenges and prospects for future financial system stability are identified, includes the policy direction that needs to be taken by Bank Indonesia to manage such challenges and prospects.

Based on the framework, Bank Indonesia assessed that financial system stability condition on the second semester of 2016 is well maintained in accordance with the decline in Indonesia's economic risk. This achievement is encouraged by the positive contribution from the financial system components, including risk decrease in the domestic financial markets, a stable performance of household sectors, an improvement in corporate financial performance, the banking condition improvement; and the low exposure of non bank financial industry risk as well as the accessible of safe, steady, efficient, and reliable payment system. Notwithstanding, the financial system stability are still shadowed with various risks,

including the deceleration of banking intermediation and credit risk which remain high.

Responding the assessment result on financial system stability, Bank Indonesia pursued several macroprudential policies covering the provision on the Loan To Value (LTV) Ratio or Financing To Value (FTV) ratio for credit or multifinance property and down payment for credit or motor vehicle multifinance, the implementation of Countercyclical Buffer (CCB) 0% policy, and the adjustment of Loan to Funding Ratio (LFR) ratio lower limit associated with the Minimum Reserve Requirement (GWM-LFR) to 80% for conventional commercial banks with upper limit maintained at 92%.

Through coordination with other authorities in the financial sector, Ministry of Finance, Financial Services Authority, and Deposit Insurance Agency, the macroprudential policy is strategically implemented both bilaterally and within the coordination framework under the Financial System Stability Committee as the

embodiment of Law Number 9 Year 2016 regarding the Financial System Crisis Prevention and Mitigation. Implementation of the policies accompanied by the coordination process has led to positive results. The LTV policy has improved the mortgage growth rate with the credit risk refinement. Correspondingly the 0% CCB stipulation and increased lower limit of LFR GWM ratio has provided sufficient room for intermediation development to the economy.

We expect that the result of Financial Stability review assessment and policies of Bank Indonesia that are reflected in this 28th edition of FSR will provide comprehension on Bank Indonesia's macroprudential function in achieving financial system stability. Nonetheless, we perceive that the room to enhance accountability quality improvement as mandated in our macroprudential function implementation remains open. Hence, constructive suggestions and criticism from various parties are warmly welcomed to improve the future analysis and review.

Jakarta, March 2017

Governor of Bank Indonesia



Agus D. W. Martowardojo





EXECUTIVE SUMMARY

In the second half of 2016, the financial system was relatively stable even improved in accordance with the domestic economic risk downturn. The improvement of financial system stability was stimulated by the high banking capital and liquidity as well as a well maintained financial market stability. This condition was reflected by the decline of Financial System Stability Index (FSSI) and Banking Systemic Risk Index (BSRI) in semester II 2016, compared to the previous period. Nonetheless, the slower bank credit growth and higher credit risk required to be cautioned.

An improvement of financial system stability was inseparable from the decreasing risk of global and regional financial system. The decline of global and regional risk was reflected from an economic improvement along with the fell of uncertainty in financial market. The development of global economic growth was driven by United States (US) and China's economies growth. The growth of US economy was contributed by the nonresidential consumption and investment, as illustrated by an increase in retail sales. US employment data showed an improvement. Meanwhile, the increasing growth of China's economy was encouraged by the private consumption and investment. On the other hand, Japan's economy developed in a limited growth and the negative sentiment from UK Referendum (Brexit) had influenced the investors' decisions and resulted in investments postponement until uncertainty subsided.

In accordance with the global economic upturn, the price of world commodities, particularly oil, coal, and metal began to improve. The world's oil price was increased in line with the fell of production plan of Organization of the Petroleum Exporting Countries (OPEC). The increase of coal price began since the third quarter especially due to the Chinese government's

policy in solving overcapacity problem thus there was a decrease in supply. Simultaneously, the metal price upturn was influenced by the speculation in future market as market anticipation toward US infrastructure development plans post-election results.

The uncertainty in global financial market decreased along with the development of economic performance and the assurance related to US monetary policy. Despite the upsurge in negative sentiment of "Hard Brexit" and "Trump Effects" which was temporarily recorded, the global investor perception was remained positive by the end of 2016. Such development led to the improvement of risk and performance in domestic financial market.

The domestic economic risk was relatively improved in semester II 2016. The improvement was encouraged by the well-maintained macroeconomic stability in accordance with a low inflation and sustained economic growth. The global compulsion on external balance of Indonesia's economy tended to subside. The balance of payments recorded a surplus with a lower current account deficit. On the contrary, Rupiah exchange rate was in an upward trend, despite a minor pressure at the end of the year.

Among the improvement of financial system stability and the decline of domestic economic risk, there were vulnerability factors which could cause domestic financial imbalances that need to be observed. This condition was illustrated by the continuing contraction of financial cycle as a result of banking credit procyclicality. Consequently, the banking intermediation was slowing. The limitation of fiscal space was caused by the low government revenues despite an additional revenue from tax amnesty. The fund from tax amnesty program was considered to

be insufficient to shore up the actual spending which was expected to provide a stimulus amidst the limited economic growth. Besides, the high external debt of non-bank institution which was slowing recently, and the high nonresident investor ownership in the domestic financial asset, could potentially trigger a vulnerability of domestic economy toward a certain risk from the external factor such as the exchange rate fluctuations.

In line with the declining global financial market uncertainty and sustained Indonesia macroeconomy, the domestic financial market stability was relatively well maintained. This condition was indicated by a relatively stable money market both in Rupiah's Inter Bank Money Market (IBMM) and foreign exchange, inter bank Repo market, as well as foreign exchange market. Negative sentiments on US election results which triggered the foreign capital outflows from domestic financial markets by the end of the year, had pressured the government bond market and corporate bonds. Meanwhile, the stock markets and mutual funds remained well maintained and performed in a positive growth.

The money market risk was properly maintained with liquidity upturn despite a slight increase in volatility due to the downturn policy of Bank Indonesia's interest rate. Rupiah's interbank daily rate was declined for all tenors due to the well maintained liquidity in market and a declined interest rate policy of Bank Indonesia, namely 7-Days Reverse Repo Rate. The policy interest rate downturn resulted an increase on interbank interest rate volatility both for overnight (O/N) or other tenors. Inter Bank Repo market showed a liquid condition as reflected in the decline of repo interest rate, the rise of transaction volume, and number of bank which conducted a transaction. The

implementation of Global Master Repo Agreement (GMRA) in repo transaction was one of various factors which led to the increasing liquidity in the market. While, an upturn in demand for foreign currency by the end of the year and the raise of Bank Indonesia foreign exchange Monetary Operation (MO) rates resulted to an increase of foreign exchange interbank rate. Nonetheless, the highest – lowest volatility and interest rates spread in the market had declined. It indicated that the foreign exchange interbank risk was well maintained. In the meantime, the foreign exchange market risk was slowdown, as reflected in the strengthened of Rupiah exchange rate and the fell of volatility as well as a relatively stable risk premium.

Prior to the end of the year, the global negative sentiment led to the pressure on capital market despite its limited level. The narrow pressure in the capital market was reflected in the increase of Jakarta Composite Index and the continued foreign capital inflows both in the Government Securities (SBN) market, corporate bonds, and stock market. The year-end SBN yield for all tenors had increased compared to the end of semester I 2016. Subsequently, it was followed by a raise in volatility which was lower than the previous year. Aside from the increased government bonds, the corporate bonds yield and volatility was expanded compared to the previous semester. Nevertheless, the foreign investors' position was increased during that period. Apart from the bond market, the stock market had delivered a positive growth though it was influenced by the same sentiment. Thus, JCI was still improving even though the volatility was slightly increased. Also, the foreign investors has recorded a net inflow though in a further limited amount. In addition, the mutual fund market also showed a positive development, marked by the Net Asset Value (NAV) that grew despite increasing

volatility which in line with the increased volatility of assets underlying it.

Such well-maintained domestic financial market risk had encouraged the financial market to become an attractive financing alternative amid the limited growth of bank credit. In the second semester of 2016, the source of funding from capital markets mainly corporate bonds was increasing despite the global negative sentiment from US presidential elections which has delivered a pressure on the domestic financial market. Additionally, the issuance of financial instruments such as Negotiable Certificate Deposit and Medium Term Note had also raised due to lower cost of funds and the ease of negotiable issuance requirements.

In sharia financial sector, the performance of sharia financial market has continuously delivered an upward trend in accordance with the well-maintained financial market development. Nonetheless, the global negative sentiment by the end of the year had also caused an increase in sharia financial market volatility. The positive performance of sharia market was indicated by the rising sharia stock index as well as its capitalization and the rise of government sukuk amid the government's fiscal consolidation. In addition, the growth of net asset value of sharia mutual funds recorded an upturn. Also, it was exceeding the conventional funds. Meanwhile, the social financial sector had delivered a positive performance. Zakat fund and money wakaf fund were raising along with a better governance and transparency of management as well as the fund distribution by *amil zakat* and *nazhir* institutions.

The household sector performance in semester II 2016 was relatively stable in line with a well maintained risks

as the economy improved. The increase in economic growth in this semester had encouraged a household optimism, as reflected in the development of survey on the Retail Sales Index and Consumer Confidence Index. Also, the household optimism was confirmed from a household balance sheet survey (SNRT) which resulted a positive growth in the assets, debt and household network.

The household optimism had influenced on the increasing a household expenditure. In the semester II 2016, the allocation of household expenditure for consumption and loan installments tended to increase while the allocation of expenditure for savings was remained stable. Bank's Third Party Funds (DPK) from the household sector had showed an upward trend with a portion which was still dominated by the bank deposits. Those development was mainly supported by the rise in current accounts and deposits. In terms of credit, the bank credit growth to the household sector also began to show an upward trend with an improvement in credit quality compared to semester I 2016. Nonetheless, the increasing households debt service ratio (DSR), particularly in the middle-income group needs to be observed though the increase was insignificant.

Overall, the non financial corporate performance in Q3 2016 began to recover which was indicated by its profitability, solvability, liquidity, and debt to equity ratio (DER) indicators. Those indicators had figured an increasing trend though the productivity indicator had experienced a decline. The rise of profitability was mainly caused by the hike in net income. It occurred because the corporations had implemented the efficiency efforts, either in the form of decreased costs or debt. Simultaneously, that was influenced by the rebound on commodity price and

a strong household consumption. This profitability improvement enhanced the ability of nonfinancial corporations in paying debts as reflected in the DSR development and Interest Coverage Ratio. The raise of corporate performance was confirmed by Altman Z-Score calculations which was resulting the declining share of corporations in risky areas in Q3 of 2016 compared to Q3 of 2015.

The improvement of financial performance in corporate sector had not been able to encourage credit growth. This condition was partly due to the fact that corporations were still holding back their business expansion amid conditions of global and domestic economic uncertainty. The corporation behavior was confirmed by Bank Indonesia's business activity survey (SKDU) which was conducted at the end of the second semester. The result of the survey indicated that the business activity was slowing down, thus it was causing the decrease of average production capacity. Also, the corporate behavior which tended to restrain the expansion of business activities had affected to the reduction of its foreign debt. In terms of credit quality, the gross NPL ratio of corporate loans grew during the reporting period compared to the first semester of 2016. Nevertheless, the bank's DPK from the corporate sector had actually grown due to the consolidation process of the corporation, thereby the excess funds were placed in banks.

In the middle of corporate's behavior that stifled business expansion, banking industry condition was relatively recovered through semester II, 2016 compared to previous semester. Improvement in banking condition reflected through DPK growth development, increase in liquidity and banking capital. Nonetheless, the deceleration of credit and the high relatively credit risk need to be observed despite declining at the end of the year.

The growth of bank credit was still decelerated because of the low corporate demand and the banking prudential principles in lending. Nevertheless, the credit disbursement was supported by the increased of demand for credit to finance government infrastructure. Meanwhile, the credit disbursement of Micro, Small and Medium Enterprises (MSME) primarily the distribution of People's Business Credit (KUR) grew in second semester of 2016. The credit risk continued to show enhancement in the reporting period although the growth of nonperforming loans began to show a downturn. The gross NPL ratio slumped to 2.93% in the reporting period compared to 3.05% in semester I 2016.

Apart from the slowdown growth in credit, the growth of bank's DPK in the second semester of 2016 began to increase compared to the previous semester and even higher than last year. The hike in depositor funds was mainly due to the inflow of redemption funds and the repatriation of the tax amnesty program. In addition, the government account expansion was also influenced the rise of DPK at the end of the year.

In terms of financial performance, the banking profitability had slightly declined as reflected in the Return on Assets (ROA) downturn. The decreasing profitability was influenced by the credit decline amid the high cost of reserves that should be allocated by banks due to the high credit risk. Nonetheless, Net Interest Margin (NIM) was relatively stable in the semester II 2016 due to the relatively well-maintained spread between the lending rates and deposits, thus preventing a decline in the banking profitability. Simultaneously, the banking industry efficiency had experienced a decrease as shown from the increase in Operating Cost to Operating Revenue (BOPO) ratio. The BOPO ratio improvement was triggered by the

overhead cost rise, which was the provision cost due to the increased credit risk and the labor expense.

The banking liquidity was improved both from its resilience as well as an additional of liquid instruments aspects. The improvement in banking liquidity was inseparable from a redemption fund of tax amnesty and the growth of government account expansion as well as the deceleration in credit growth. Meanwhile, the increase of banking liquidity resilience could be shown through the increasing bank capability in fulfilling the obligation of DPK withdrawal and the credit expansion as reflected by the increase of liquid instrument risk to non core deposit and the liquid instrument ratio into banking's third party fund.

The banking capital had recovered as could be seen from Capital Adequacy Ratio (CAR) which was above the threshold. CAR rose from 21.39% in semester II 2015 to 22.56% in semester II 2016. The capital improvement was in accordance with the credit growth deceleration thus lowering the growth of banking's Risk Weighted Assets (ATMR). That high capital reflected the resilience of banks in facing credit risk and market risk that were simulated through the stress test which is regularly conducted by Bank Indonesia. In addition, the high capital comply with Basel III regulation on capital which came into force in 2016, especially capital conservation buffer, countercyclical buffer and capital surcharge for the systemic classified banks.

In the second half of 2016, the sharia banking had developed in accordance with the improvement of conventional banking condition. This was reflected by the increase of sharia banking asset mainly after the conversion of Bank Pembangunan Daerah (BPD) Aceh to sharia bank in September 2016. Overall, the sharia banking asset showed a positive trend along with the

growth rate above the conventional banking asset. The same pattern occurred in the majority of sharia banking DPK which dominated by deposits, followed by savings and current accounts in third position. Meanwhile, the risk of sharia banking financing was higher than conventional banking. Nonetheless, the resilience of sharia banking remained sufficient in facing the potential risks due to the hike in sharia capital.

Also, Non Bank Financial Industry (NBFI) showed a positive performance mainly from the multifinance companies in semester II 2016. The performance of multifinance companies improved both in financing or funding sector in line with the lower risk exposure. The lower risk was contributed by the movement of exchange rate caused by the decline of foreign debt (ULN). In the further development, the improvement of multifinance companies had raised their profitabilities which was reflected in the ROA performances in reporting period. Yet, the risk of PP financing (NPF) were raising primarily in the logistic/transportation sector. Also, it was influenced by the re-classification of financing collectibility in accordance with the FSA provisions.

Besides multifinance company, the insurance company also showed a positive performance. The improvement of insurance companies was reflected in the increased of assets and investment growth of insurance industry, thus resulted in the raise of insurance investment ratio in the reporting period. This positive performance was supported by a decrease in insurance business risk as measured by an upturn in the premium adequacy ratio against claims payments. Nevertheless, in terms of profitability, ROA and Return on Equity (ROE) of the insurance industry had slightly declined in the reporting period compared to semester II 2016.

The interconnectedness between IKNB and banking was generally increased. The relation between bank and multifinance company has developed in accordance to the bank credit upturn to the multifinance company. Nonetheless, the relation between banks and insurance industry tended to decline in line with the fell of insurance funds placement in the banks.

The payment system as one of financial system infrastructures held a significant role in encouraging the domestic economy activity and financial system stability. The implementation of Bank Indonesia's payment system including Bank Indonesia National Clearing System (SKNBI), Bank Indonesia – Real Time Gross Settlement System (BI-RTGS), and Bank Indonesia – Scriptless Securities Settlement System (BI-SSSS) were running safely, steadily, efficiently, and reliably. This was indicated by the low level of settlement risk and an adequate liquidity conditions for transaction settlement during the reporting period, the reliability and availability of system in accordance with the established service level and the faster settlement process for both retail and large transactions.

In the meantime, the industry's payment system performance was also well-maintained, as reflected in the absence of significant disruptions in the payment system implementation and the increasing volume and transactions value in semester II 2016. This condition was also supported by Bank Indonesia's various efforts in encouraging the use of non-cash payment instruments by regarding the protection aspects of consumers.

The payment system risk was relatively well maintained along with the risk in settlement, liquidity, operational, and systemic. The settlement risk and

liquidity were recorded relatively low in semester II 2016, as showed by the low volume and unsettled transaction value as well as the absence of Intraday Liquidity Facility (FLI) utilization and FLI sharia by the participants (banks) of BI non-cash payment system. Simultaneously, the operational risk and systemic risk were well maintained. In terms of operational risk, Bank Indonesia mitigated the risks by preparing Business Continuity Plan procedures that could be activated at any time if the main system was interrupted. In terms of systemic risk, Bank Indonesia regularly and intensively monitored the payment system indicators that potentially capture systemic interference.

The strengthening financial system infrastructure was also encouraged by the improved financial access from society through inclusive financial services. Indonesia Inclusive Financial Composite Index (IKKI) had recorded an improvement in reporting period. This proved the Indonesians access to use financial services tended to rise. Digital Financial Services in Indonesia was also experiencing an increase in growth as reflected by the raise number of bank organizers, agents, number of customers as well as electronic transactions which was conducted in agents.

In term of building trust, strengthening the consumer protection and accepting aspects of non-cash payment instruments, Bank Indonesia had regulated the provisions of maximum limit of Credit Card interest rate and the obligation of Credit Card Issuer to deliver Credit Card closing statement. Additionally, the regulation related to the use of 6 digit Personal Identification Number (PIN) and the National Standard of Chip Technology for ATM and/or Debit Card were expected to improve the public safety and comfortableness in conducting transactions.

As an effort in responding financial system condition and mitigating major risks, Bank Indonesia had implemented the accommodated and countercyclical macroprudential policies. Throughout the second half of 2016, the macroprudential policies were issued by Bank Indonesia such as the determination of loan to value/financing to value ratio (LTV/FTV) and adjustment of Reserve Requirement (GWM) which related to the amount of Loan to Funding Ratio (GWM LFR). Besides, the policy to reduce excessive banking procyclicality behavior was conducted through countercyclical buffer (CCB) policy.

In the semester II 2016, Bank Indonesia had delivered the LTV/FTV provisions in order to encourage the bank intermediary function while maintaining the prudential principle and consumer protection. Based on Bank Indonesia's evaluation result, the LTV/FTV policy had managed to resist the deceleration credit growth/financing of housing mortgage by banks as reflected in the improved mortgage growth compared to the previous semester. Besides, the improvement of GWM LFR policy was undertaken in order to increase credit growth and promote national economic growth. This was conducted by raising the lower limit of LFR from 78% to 80% for conventional commercial banks, while the upper limit was maintained at 92% so that the LFR range was applied at 80% - 92%.

Other macroprudential policies applied in semester II 2016 was the policy that aimed to prevent systemic risk which was caused by excessive credit growth. Also, those policy was intended to absorb loss faced by formulating additional capital that will serve as a buffer. This CCB policy required banks to establish additional capital in expansion period which resulted on credit acceleration decrease. On the other hand, during the contraction period, the decrease/release

of additional CCB capital that had been established by the bank would encourage the distribution of bank credit and cover any possible losses. The results of CCB policy evaluation which re-set the amount of 0% CCB was based on the consideration that there was no potential systemic risk arising from excessive credit growth.

In maintaining financial system stability, Bank Indonesia always coordinates and cooperates with other authorities. Throughout the second semester of 2016, Bank Indonesia had coordinated intensively and bilaterally with the Financial Services Authority (OJK) and the Indonesia Deposit Insurance Corporation (LPS). The cooperation and coordination between Bank Indonesia and FSA continued on the basis of collaborative principles, efficiency and effectiveness improvements, duplication avoidance, financial sector arrangements completeness and smooth implementation of BI and OJK duties assurance. While, the cooperation and coordination between Bank Indonesia and LPS was also strengthened. The strengthening effort was conducted among others through the signing of memorandum of understanding regarding the Coordination and Cooperation in the Framework of Bank Indonesia's Duties and Authorities Implementation. In addition, at the operational level, Bank Indonesia and LPS had signed the cooperation agreement regarding the SBN transaction between LPS as a seller to Bank Indonesia as a buyer. This transaction could be managed for both systemic bank and non systemic bank in crisis condition.

Besides bilateral coordination, Bank Indonesia also strengthened coordination with the Ministry of Finance (MoF), FSA and LPS within the framework of the Financial System Stability Committee (KSSK). The coordination between the four related institutions of

Financial System Stability (SSK) eventually succeeded in setting down the legal protection for crisis management with the enactment of Law No. 9 of 2016 on the Prevention and Mitigation of Financial System Crisis (PPKSK) on April 15, 2016. The main scope of the PPKSK Act is (i) the monitoring and maintaining of financial system stability (SSK); (ii) the mitigation of financial system crises and (iii) the mitigation of systemic bank problems under the normal conditions and crisis conditions. Under PPKSK Law, the legal basis of crisis prevention and mitigation are expected to be more robust and unambiguous, thereby it would enhance the crisis prevention and resolution measures. Overall, this development would positively impact on the financial system stability.

Observing the economic development as well as global and domestic risk potentials, SSK condition in 2016 was expected to be well maintained. This condition was supported by the rising of resilience and performance of banking industry amid the improving economic conditions. Subsequently, the external challenges including the unstable global economic recovery, the inflationary pressures in developed countries that projected to increase, the geopolitical risks in Europe as well as the continued absence of the US government policies including “Fed Fund Rate Hike” plan which could raise the US dollar exchange rate. Simultaneously, from the internal side, the financial system faced challenges such as the potential inflationary increase from the administered price as well as the efforts to rise state revenue, primarily from taxes to control the deficit.

The external and internal challenges would certainly affect the Indonesian economy prospects in the future. Bank Indonesia had projected the economic growth to develop in the range of 5.0 - 5.4% with

inflation target of $4\% \pm 1\%$. In line with the economic projection, the growth of credit and deposit are expected to improve higher than the previous year. The credit is estimated to grow in the range of 10-12% as corporate performance tends to increase. The credit risk is expected to remain stable. In further development, it will decrease along with the economic growth recovery, the improved bank credit growth rise and a well-maintained performance of non-financial corporates in which a number of economic sectors has started to develop. In terms of DPK, the growth of banking industry deposits is estimated to reach 9-11% or higher than 2016.

Moreover, based on the banking capabilities in preserving income growth and capital resilience, as well as in managing credit risk, the SSK and banking resilience are expected to be well-maintained in 2016. The condition of bank liquidity is also estimated to improve along with the government’s financial operation and currency inflows, as well as the economic improvement. Nevertheless, the projection of higher credit growth than DPK will potentially lead to funding gap risk, mainly in the Q4 of 2016.

In facing the complexity of challenge from both domestic and global which potentially influence the financial system stability, Bank Indonesia will strengthen the macroprudential policies in measurably and integrated approach, as well as in the same synergy with the monetary policy and payment systems. The macroprudential policies would be directed to strengthen the financial system stability and maintain the resilience of the financial system with the formulation of: (i) strengthening and extending the scope of macroprudential surveillance to identify earlier sources of pressure; (ii) identifying and monitoring systemic risk by using the Balance

Set of Systemic Risk; (iii) strengthening the crisis management framework by aligning the indicators of financial system stability and the results of Bank Indonesia surveillance with the National PMK; (iv) supporting the efforts to deepen financial markets in order to strengthen financial market resilience towards turmoil, and (v) strengthening the coordination and communication with government, FSA and LPS to encourage Bank Indonesia's policy mix.



Egrang, traditional game that played in numerous regions of Indonesia, is a game that require a great balancing skill to walk quickly to reach the finish line. In egrang, the ability to have a good coordination between right and left brain, hands and feet, concentration, focus and courage in taking risks are mandatory to have. Skills needed to play egrang well could be likened to the ability to maintain financial system stability that requires risk identification, linkage among components in the financial system, appropriate policy measures and balance also good coordination among institutions.

01

The Indonesian financial system stability recorded a better performance in second half of 2016. This achievement was supported by the decline of the economic risk despite there was a temporary increasing risk in the fourth quarter of 2016 caused by the global financial market fluctuation. By the end of the year, the financial system stability improved in line with the ease of “Fed Fund Rate hike expectations” after the US Presidential Election. The domestic economic stability and resilience showed a well performance which was promoted by a high household consumption; the raise of commodity price which developed the performance of corporations; the declining risk in the financial market; and the strong banking capital as well as an adequate level of liquidity. This well maintained financial system stability is indicated by the decline of Financial System Stability Index (FSSI) and Banking Systemic Risk Index (BSRI).

Nevertheless, the domestic financial imbalances remain within the well maintained financial system stability. Those imbalances could trigger a vulnerability of financial system. Regardless of those issues, the financial imbalances had relatively decreased compared to the previous semester. While, the factors of financial imbalances are the bank lending procyclicality in the middle of financial cycle contraction and the presence of limited fiscal space though the tax amnesty policy which had been implemented to boost the revenues. Besides, the high External Debt of non-bank institution which was unhedged and the high foreign ownership in the domestic financial markets became the factors triggering the domestic financial imbalances due to the risk of capital reversal.

THE CONDITION OF FINANCIAL SYSTEM STABILITY

THE FINANCIAL SYSTEM STABILITY IS RECORDED TO PERFORM WELL ALONG WITH THE DECLINING DOMESTIC ECONOMIC RISK



Global Condition

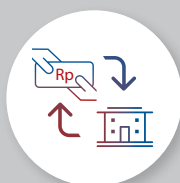
- Global and regional growth improved
- World commodity price increased
- Uncertainty in global financial market decreased
- Volatility temporarily improved after Brexit and US presidential election
- Global share market improved



Domestic Economic Condition

- A weakened domestic economic risk begins to recover
- The economic growth was well maintained in the range of 5%
- Inflation recorded in a low level
- Surplus balance of payments
- Rupiah currency strengthened
- Financial market performance remained positive

Imbalance of Domestic Finance



Procyclicality of Bank Credit distribution and Financial Cycle Contractions



Limitation on fiscal space

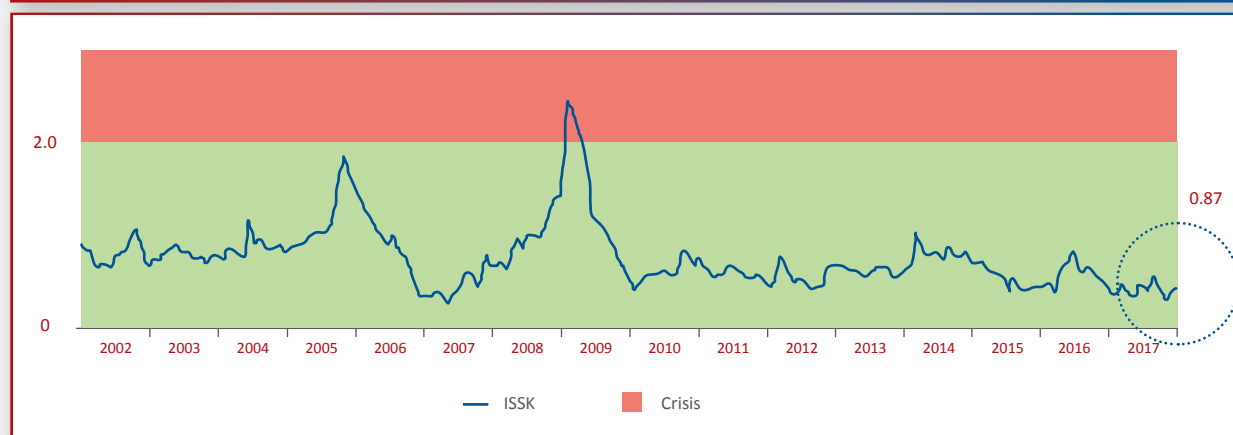


External Debt of Non-Bank Institution which remained on a high level



High Nonresident Ownership in Domestic Financial Market

The financial system stability improved



1.1. Risk Development in Global and Regional Financial Market

In second half of 2016, the risks of global and regional financial system were relatively lessened. This condition was reflected by the improvement of economy along with the declining uncertainty in the financial market. That improvement was mainly supported by the development of economies in the United States (US) and China. Meanwhile, the diminishing uncertainty in the financial markets was reflected in improved better volatility index, although the index was slightly increased at the end of the year. In the midst of these developments, the improvement of world oil prices and Indonesia's main export commodities was giving optimism into Indonesia's economic performance.

The improvement of global economic growth was driven by the growth in US and China in the second half of 2016. The growth of US economy was contributed by the nonresidential consumption and investment, as reflected by an increase in retail sales. Also, US employment data showed an improvement. The increasing growth of China's economy was encouraged by the private consumption and investment. On the

other hand, the negative sentiment from Brexit had influenced the investor decisions which was causing the delays in investment. Simultaneously, Japan's economy developed in a limited growth in line with the performance in consumption and investment.

The world commodity price increased in the semester II 2016 along with the improvement of global economic growth. In spite of the increasing price, the raise of world oil price remained in a low level. The price of Brent increased to USD55.41 per barrel from USD48.6 per barrel by the end of semester II 2016. This improvement caused by the production reduction plan of Organization of the Petroleum Exporting Countries (OPEC) which was agreed by the end September 2016 (Graph 1.1) and came into force on December 10, 2016. The OPEC production decline was implemented through a production cut of 1.8 mbpd (1.2 mbpd OPEC and 0.56 mbpd non-OPEC including Russia). Simultaneously, coal and metals prices had gradually increased since the third quarter of 2016 (Graph 1.2) caused by the Chinese government's policy in solving overcapacity problem, thereby there was a decrease in supply. Further, the rise in metal prices was escalated by speculation in the future market. Actually, that speculation was a market

Table 1.1. World Economic Outlook

World Economic Outlook							
	2016				2017		
	IMF	Consensus Forecast	BI	Realization	IMF	Consensus Forecast	BI
	Oct	Dec	Dec		Jan	Jan	Feb
World	3.1	3.1	3.0	3.1	3.4	3.6	3.4
United States of America	1.6	1.6	1.6	1.6	2.3	2.3	2.3
Europe	1.7	1.6	1.6	1.6	1.6	1.5	1.5
Japan	0.6	0.7	0.5	1.0	1.0	1.0	0.8
China	6.6	6.7	6.6	6.7	6.5	6.4	6.5
India	7.6	7.0	7.4	7.3	7.2	7.5	7.4

Source: IMF, Bloomberg, dan Bank Indonesia

anticipation toward US infrastructure development plans post-election results.

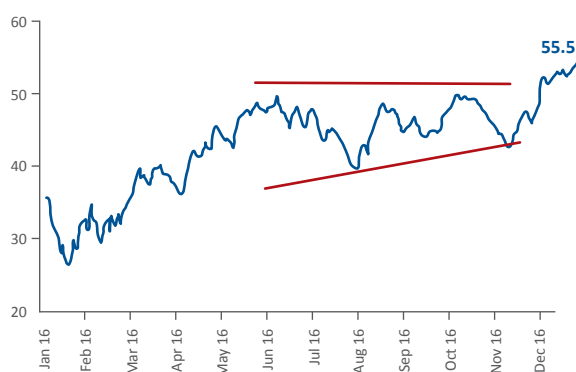
The uncertainty in global financial market decreased along with the development of global economic performance and the assurance related to US monetary policy. After experiencing a decline in the first half of 2016, the VIX¹ indicator as a reflection of uncertainty moved in the lower range (Graph 1.5). The post-European Union (EU) political upheaval that won the Brexit strongholds increased volatility in the third quarter of 2016. However, the impact of the Brexit decision tended to be temporary. On the other hand, the volatility began to increase at the end of 2016 influenced by the negative sentiment resulted from the US presidential election.

A reducing global risk was also seen from the investor risk perception on asset of developed country and developing country which generally declined. The

global investor perception was illustrated by the 5-year tenure of CDS (Credit Default Swap) premiums that fell by the end of the semester II 2016 compared to the position at the end of the first semester of 2016. The majority of developed and developing countries recorded lower CDS rates in the position of December 31, 2016 except certain countries due to the internal factors, such as Turkey whose risk premium tends to increase due to internal political instability.

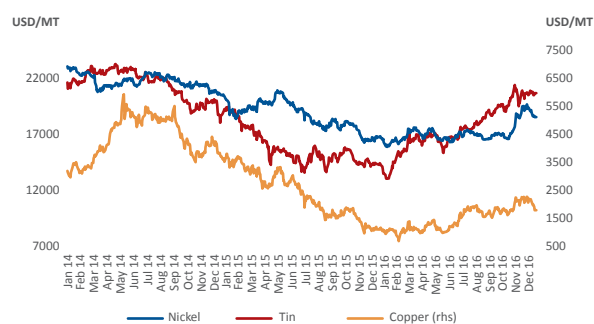
In line with the uncertainty which was relatively slow down, the global stock market increased in semester II 2016. The stock market in US, Japan and Hongkong grew in positive number (Graph 1.4). Nevertheless, the performance of the developing country's stock market recorded in various number. Thailand and India stock market showed an improvement, whereas Vietnam and Indonesia remained positive despite lower than the first half of 2016.

Graph 1.1. Brent Oil Price Movement



Source: Bloomberg

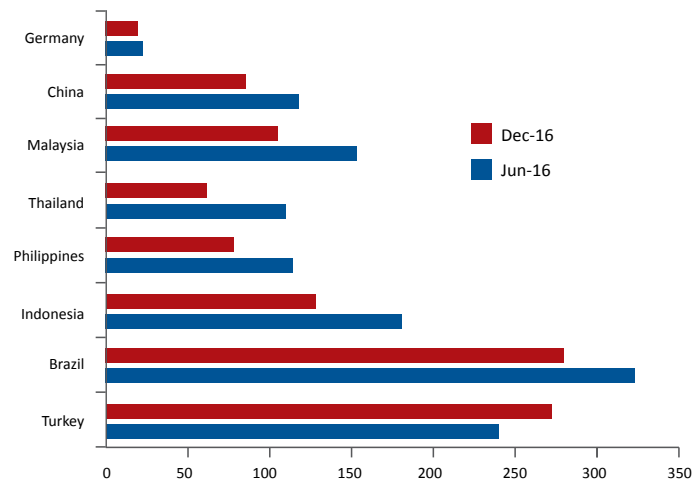
Graph 1.2. Metal Price Movement



Source: Bloomberg

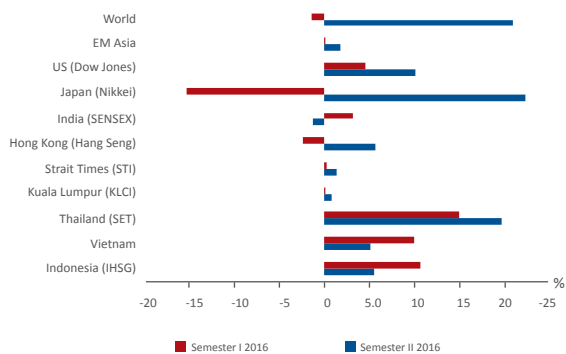
¹ VIX Index is an index used to measure the volatility of global financial market indicators. VIX Index is estimated from the implied volatilities of S&P 500 composite index.

Graph 1.3. Developed Countries and Regions' CDS



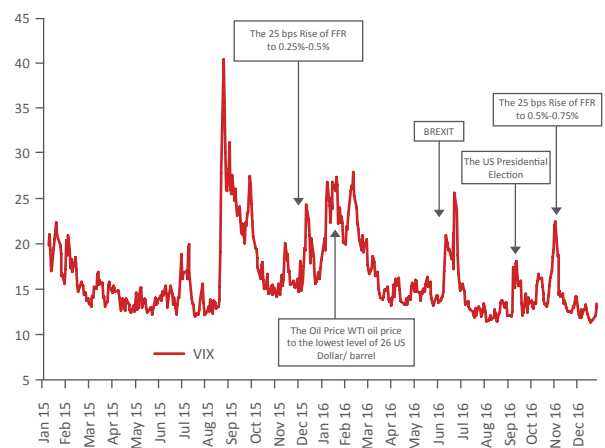
Source: Bloomberg

Graph 1.4. Global World Index and IDX



Source: Bloomberg

Graph 1.5. VIX Development



Source: Bloomberg

1.2. The Risk Development in Domestic Economy

The Domestic Economic Risk was relatively improved in semester II 2016. This improvement was encouraged by a strong macroeconomics stability which in line with

the low inflation and a stable economic growth. The global compulsion on external balance of Indonesia's economy tended to subside. The balance of payments recorded a surplus with a lower current account deficit. On the other hand, Rupiah exchange rate was in a strong trend, despite a minor pressure towards end of the year.

The Inflation recorded in a low level at 3.02% and around the lower limit of target inflation range $4\pm 1\%$ at the end of 2016. The inflation performance was supported by the core inflation which was slightly low, in accordance with the controlled inflation expectation, the stable currency, and a minimum stress from the domestic demand. Also, the low inflation was contributed by a relatively limited pressure from the administered prices inflation side along with the continued reformation of subsidies in energy sector in the middle of exchange rate appreciation.

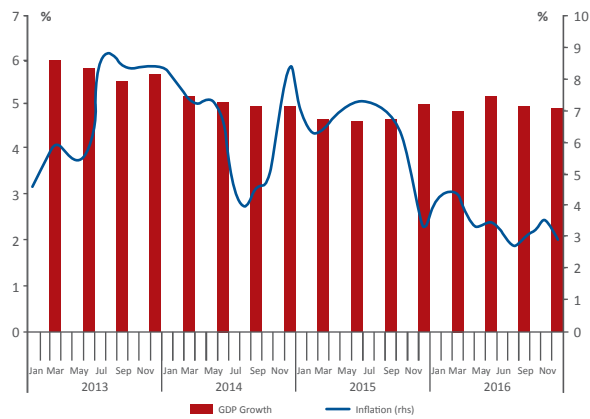
The growth of Indonesia's economy in semester II 2016 was relatively stable in range of 5%. PDB on Q3 and Q4 grew each by 5.01% and 4.94% (yoy) encouraged by the investment and a household consumption which were remaining high as well as the improvement on export (Graph 1.6). Nonetheless, the growth was postponed by a consolidation of government financial operation. The government consumption on the last two quarters experienced a contraction respectively by 2.95% and 4.05% (yoy). The consolidation on fiscal side was regarded in a positive number due to the purpose for maintaining the fiscal sustainability among the budget realization which was not suitable according to the expectation. Although, that budget realization had calculated the tax amnesty payment.

The balance of payment on semester II 2016 was improved in accordance with the commodity price increase among the stability of domestic economic growth momentum. The improvement on balance of payment sourced from the current account deficit

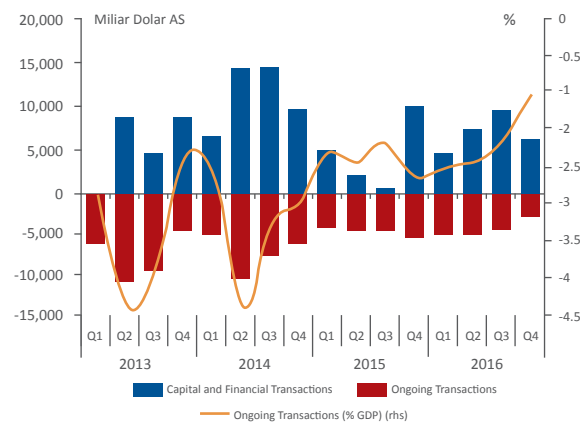
which was lower as well as financial and capital transaction surplus which were higher (Graph 1.7). The performance of current account was supported by the export improvement in line with the improvement on export primer commodity price. In addition, the world oil price which started to raise and the improvement of oil lifting were contributed towards an improvement on current account's performance. Meanwhile, TMF 2016 surplus significantly increased along with the domestic economic stability and the economic prospects which remained positive, thus attracted the foreign fund flow penetration to Indonesia.

Rupiah's exchange rate on semester II 2016 was in increasing trend. The strengthened of currency in the third quarter of 2016, encouraged by positive sentiment towards a domestic economy in spite of the presence of pressure from the external sector. This pressure sourced from the uncertainty related to "Fed Funds Rate (FRR) hike", the result of UK referendum which beyond market expectation, on the appreciation of US dollar index, as well as the US Presidential Election. Those external pressure were able to neutralize by a positive sentiment of domestic macroeconomic stability and perception towards structural reformation as well as the government fiscal policy. In point to point (ptp), Rupiah strengthened to level Rp13,473 per US dollar, or around 2.32% by the end of the year, compared to the previous year (Graph 1.8). In term of volatility, Rupiah remained stable along the year while its volatility was below the average volatility of peer's countries (Graph 1.9).

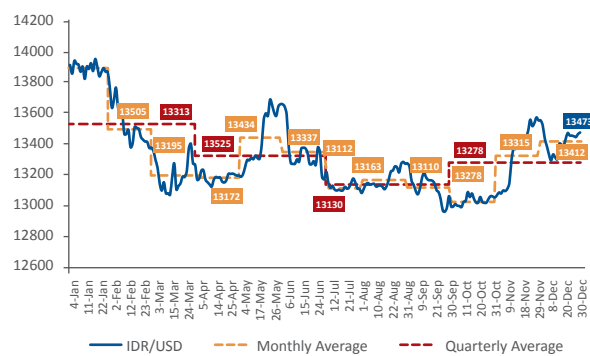
Graph 1.6. Inflation and Annual GDP Growth



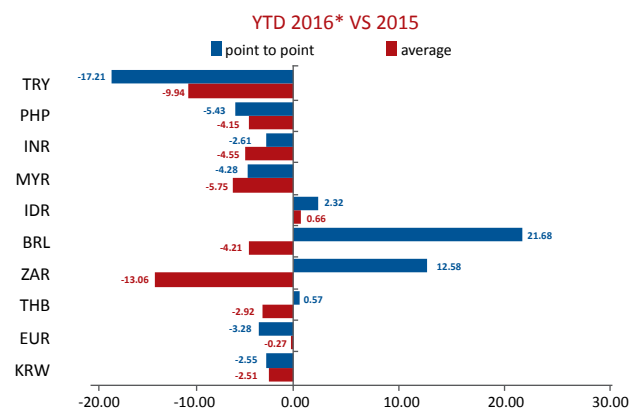
Graph 1.7. Payment Balance 2016



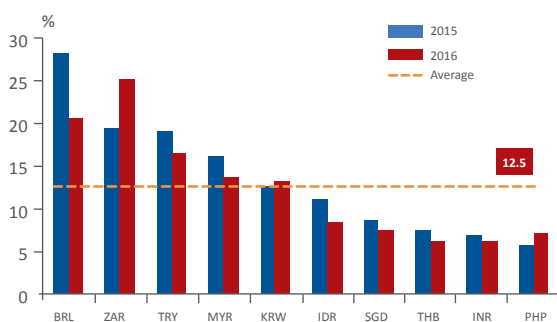
Graph 1.8. Rupiah Exchange Rate Movement



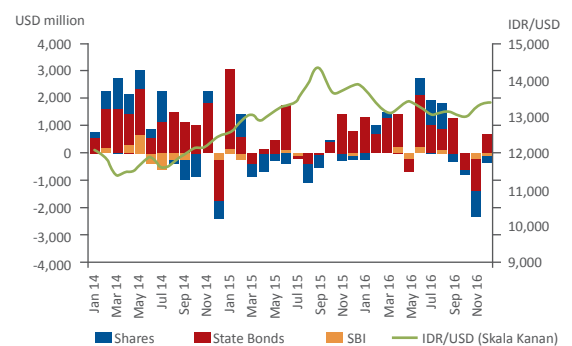
Graph 1.9. Appreciation and Depreciation against US Dollar



Graph 1.10. Several Countries' Composite Stock Indexes



Graph 1.11. Non-Resident Fund Flow



1.3. The Condition of Financial System Stability

The financial system stability improved which was supported by the high banking capital and liquidity, as well as the stability of domestic financial market. This condition was reflected by the ISSK decline from 0.95 to 0.88. The fell of ISSK was contributed both by the decrease of Financial Institution Stability Index (ISIK²) as well as the components of Financial Market Stability Index (ISPK³) respectively from 0.66 to 0.63 and 1.14 to 1.04.

The well maintained of financial system stability in semester II 2016 was also confirmed by the decrease of IRSP⁴ to 1.40 from 1.67 by the end of semester I 2016. In addition, IRSP measured the bank contribution toward the potential systemic risk in the financial system. The decline of IRSP was supported by the fell of liquidity risk and capital risk in the middle of the increase of credit risk. Meanwhile, SBN risk and exchange rate risk in semester II 2016 was relatively stable.

The global economics dynamic was still tinged with the slowdown economic recovery issues which directly impacted on the domestic economy and the government financial condition trade channels. The improvement of world commodity prices such as oil, coal and metals which began in the second semester of 2016 had not significantly impacted yet on the development of corporate performance related to the commodities and government finances. This outcome

occurred because a limited demand and the increasing price which more triggered by the downside of supply.

The transmission from global economy through the financial market provided a faster impact in influencing the domestic economy. The capital inflows into the domestic financial market were considerable in the third quarter. Although in the fourth quarter there was a capital outflow due to the negative sentiment of the presidential election and the expectation of the FFR hike, but overall, during the second half there was a net inflow into the domestic financial market. JCI posted a 5.58% increase to 5,296.7 at the end of second semester of 2016 compared to the previous semester. On the other hand, the Inter-dealer Market Association (IDMA) index declined slightly to 99.09 from 101.77 at the end of the first semester of 2016. The Rupiah exchange rate depreciated to Rp13,473 per US dollar at the end of the semester II 2016, or fell slightly by 1.99% from Rp13,210 at the end of the semester I 2016.

In the middle of well maintained financial system stability, there was risk shadowed the banking sector mainly caused by the decline of banking intermediation and the high level of credit risk. Subsequently, the risk could still be absorbed by the banks in line with the high capital. The ratio of capital (CAR) increased due to the slowing credit growth, thereby causing a decreasing growth of Risk-Weighted Assets (ATMR). In the meantime, the banking liquidity (AL/DPK) had surged especially towards the end of the year due to the increase in financial expansion as the impact of the credit slowdown in the reporting period.

² ISIK was established by stress indicator, intermediation indicator and efficiency indicator of financial institutions especially those of banking industry.

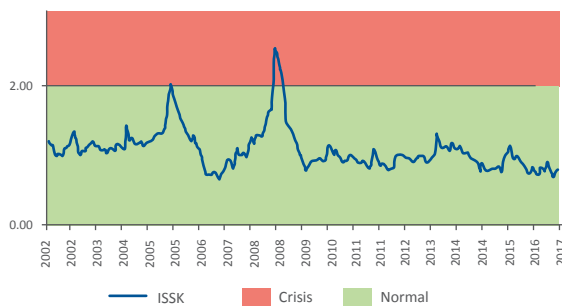
³ Forming components of ISPK are various financial market indicators which include financial market, bond market, stock market, foreign currency market, Credit Default Swap (CDS) and foreign debts.

⁴ IRSP is a composite of credit risk indicator, liquidity risk indicator, exchange rate risk indicator, State Bond risk index, and capital risk index.

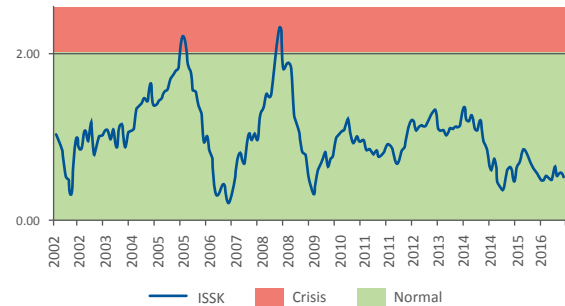
The deceleration of banking intermediation continued in accordance with the economic slowdown and the declining performance of corporation. Apart from the continuing of credit growth downturn, the credit risk on banking industry improved which illustrated by the decline of NPL during the second semester compared to the first semester of 2016. Although, those credit risk was still increased compared to the previous year. Simultaneously, DPK growth figured an improvement though it slowed to 3.15% in September 2016. By the end of the year, the significant improvement of DPK was in line with the government financial expansion and the inflows resulted from a repatriation fund and tax amnesty.

The banking efficiency had decreased which indicated by the increase in the ratio of cost to operating income (BOPO) of the banking industry primarily due to the addition of the Impairment Losses (CKPN) in line with the remaning high NPL. Meanwhile, the profitability only slightly declined as reflected from the downturn of Return On Assets (ROA). The relatively small decreased in the banking profitability was due to the efforts to preserve a high Net Interest Margin (NIM) by maintaining a wide spread between an income and an interest expense.

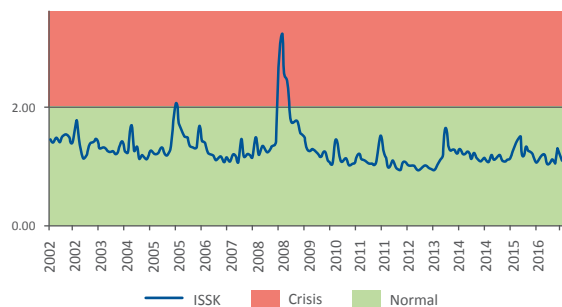
Graph 1.12. Financial System Stability Index (FSSI/ISSK)



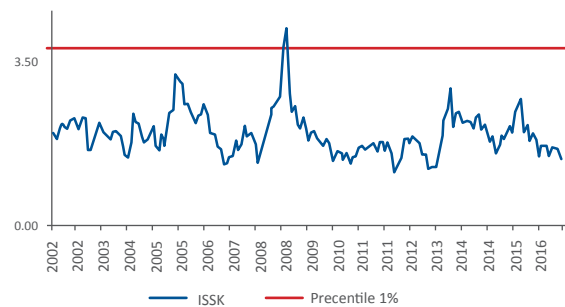
Graph 1.13. Financial Institution Stability Index (FISI/ISIK)



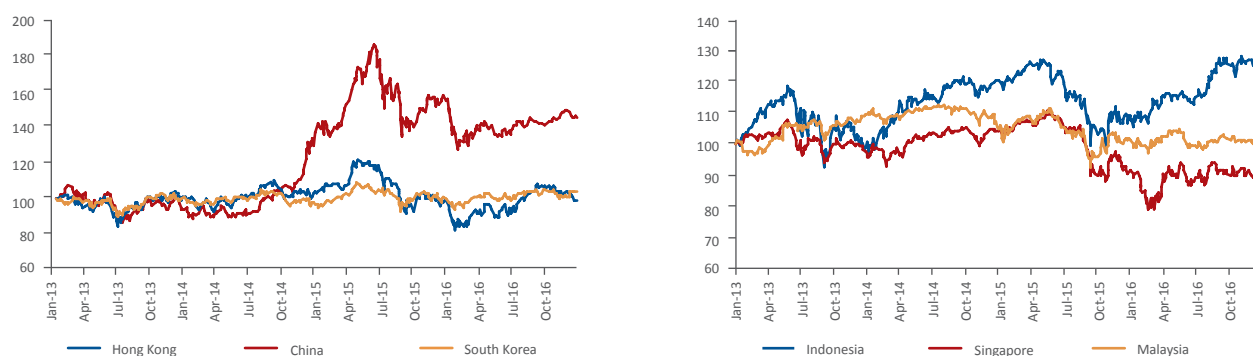
Graph 1.14. Financial Market Stability Index (FMSI/ISPK)



Graph 1.15. Banking Systemic Risk Index (BSRI/IRSP)

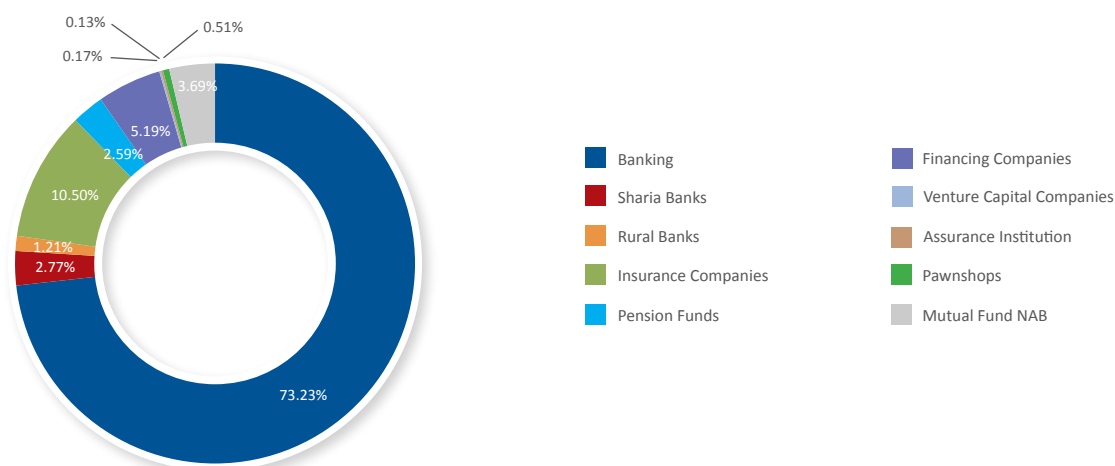


Graph 1.16. Several Regional Countries Composite Stock Price Indexes



Source: Bloomberg, processed

Graph 1.17. Financial Institution Asset Share



Source: Financial Service Authority, processed

1.4. The Domestic Financial Imbalance

The vulnerability factors which affected the domestic financial imbalance in the second semester of 2016 was unchanged compared to the previous semester, yet with a declining magnitude. The main factor which provoked the domestic financial imbalance was the banking procyclicality condition where bank tended to reduce the credit expansion among the economic condition which experienced a downturn, thus caused further deceleration of credit growth.

The declining bank credit growth evoked a deeper contraction on the financial cycles. Furthermore, the limitation of fiscal space factor was still the cause of domestic financial imbalance. The tax amnesty policy which rated as success compared to the similar policy conducted by other countries, provided additional revenue especially towards the end of semester II 2016. Nevertheless, the implementation of tax amnesty policy was not entirely significant in reducing limitation of fiscal space.

The other domestic financial imbalance came from the external debt position of nonbank corporation

which still in fairly high level despite the decreasing volume. This condition caused elevation on the private sector vulnerability towards the global economic flush, particularly those affecting the exchange rate. Moreover, the high nonresident investor ownership towards the domestic financial asset particularly SBN and stocks became the triggered factors of domestic financial imbalance. The position of nonresident ownership continued to increase on the reporting period. This phenomenon caused an increase on the market risk and liquidity risk when there was a capital flow reversal from the domestic financial market.

1.4.1. The Procyclicality of Bank Credit Distribution and The Financial Cycles Contraction

The Financial Cycle of Indonesia was still on the contraction phase by the end of 2016 (Graph 1.18), mainly caused by the credit deceleration trend.

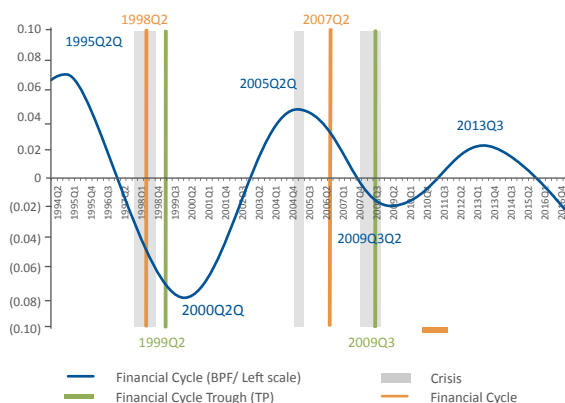
The credit growth by the end of 2016 amounted to 7.85% or lower than on semester I 2016 (8.89% yoy). The deceleration of credit particularly influenced by the lower aggregate demand as reflected in the economic slowdown in Q4 of 2016 (4.94%) compared to 5.18% (yoy) in Q2 of 2016.

The procyclicality of credit distribution and economic growth, among others, led to an increase in net NPL ratio to 2.93% at the end of semester II 2016 compared to the end of first semester of 2016 (1.52%). This development encouraged a banking behavior to be more cautious in lending, thus further slowing credit growth. Therefore, the credit procyclicality behavior should be observed considering that when the economy decelerated, a number of economic actors still need a banking credit support as well as avoiding a deepen economic downturn.

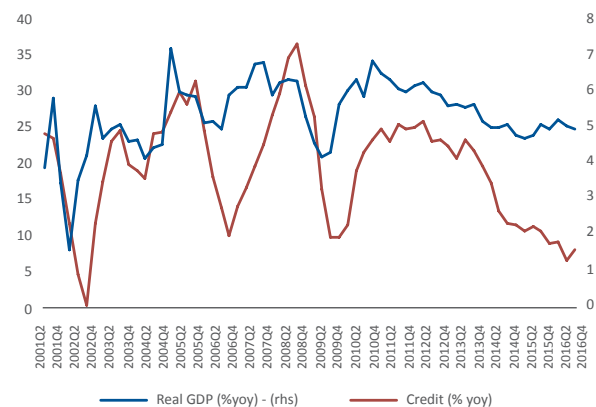
1.4.2. The Limitation of Fiscal Space

The government still faced problem on limitation of fiscal space in semester II 2016, related to a low state revenue. The limited state revenues occurred since semester I 2016 with revenues only reached Rp635 trillion, lower than previous two years (Graph 1.20.). Consequently, this achievement was due to the weak domestic economy and commodity prices. Subsequently, a low revenue was continuing to semester II. Simultaneously, an additional revenue from the tax amnesty program which reached Rp107 trillion had not been able to ameliorate the revenue performance. For the whole year, the tax revenue only

Graph 1.18. Financial Cycle



Graph 1.19. Bank Credit Growth Procyclicality



grew around 3.5% (yoy), lower than the economic growth. This figure was reflected in the ratio of tax revenues to GDP which dropped from 10.7% to 10.3% (Graph 1.23.).

Regarding to the limitation of fiscal space, the government conducted a consolidated fiscal policy in semester II 2016 by constantly managed an expenditure quality improvement. The improvement in expenditure quality was an evident from the realization of productive expenditure in the form of high expenditure of goods and capital expenditures (Graph 1.22.). The government also continued to increase a regional fiscal contribution to the economic growth primarily for the infrastructure development. This development was an evident from the Special Physical Allocation Fund (DAK Physical) which rose sharply among the declining central government spending.

The limitation of fiscal space had risk implication to the financial system, with limited magnitude. This risk among other related to the impact of budget financing instrument choice that will be effected toward liquidity condition. As innovation in the side of state revenue, the government conducted prefunding since last 2015, to accelerate expenditure realization in the beginning of 2016. However, the selection of instruments in the form of domestic SBN affected the banking liquidity. As a mitigation against the liquidity risk, the government subsequently replaced the prefunding instrument at the end of 2016 to the global bonds with a value of 3.5 billion dollars or equivalent to Rp46 trillion.

The risk of limited fiscal space which impacted the liquidity pressures by the end of 2016 was recorded

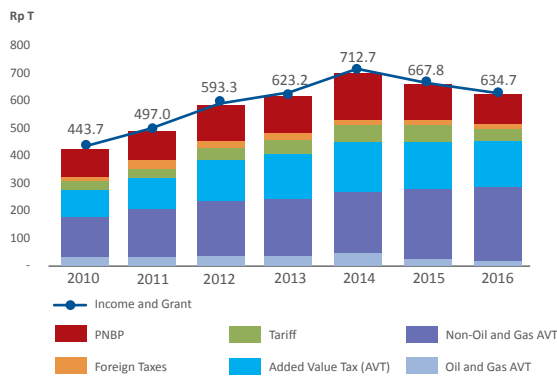
temporary. This condition was indicated by the government prefunding at the end of 2016 which lower than at the end of 2015, thereby it had more limited implications to the financial system. With regard to the nominal side, the prefunding at the end of 2016 was equivalent to Rp46 trillion, less than at the end of 2015 which worth Rp63 trillion. Secondly, the increase in interbank rates at the end of the year although it occurred in limited value. By the end of 2016, the increasing rate only occurred in the mid-term interim money market, while at the end of 2015, it occurred in the short and medium term interbank market. Additionally, by the end of 2016, the liquidity conditions were supported by the dropping of government funds on December 30 and 31, 2016.

In 2016, the fiscal sustainability risk was well managed as consequence of a consolidated fiscal policy. The fiscal deficit in 2016 declined to 2.5% from 2.6% towards PDB in 2015. In addition, the government debt ratio towards PDB was in safe corridor⁵. Also, Indonesia's debt ratio was lower than the regional countries such as Thailand, Philippines, and Malaysia.

The conducive condition of Indonesia's macroeconomic supported the improvement in government obligation rate. The rating institutions Fitch Ratings (Fitch) improved Indonesia's outlook Sovereign Credit Rating from stable to positive, as well as affirmed the rating towards BBB-(Investment Grade) on December 21, 2016. The improved rating was contributed by the macroeconomic stability which could be well maintained by the monetary and fiscal authorities. The ongoing structural reformations gradually strengthened the investment climate and positively impacted the longer-term

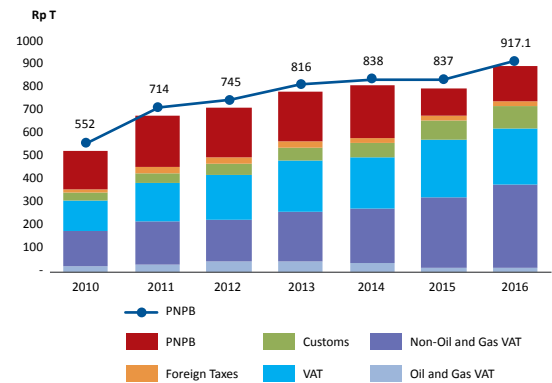
⁵ Based on Law No. 17 Year 2003 regarding State Finance Article 12, loan amounts are limited not larger than 60% of Gross Domestic Product.

Graph 1.20. Development of Revenue Components in Semester I 2010-2016



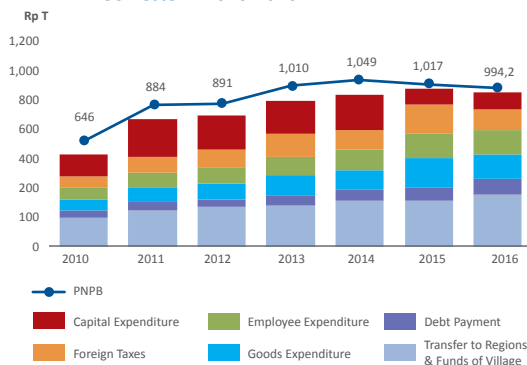
Source: Financial Ministry, Semester Report

Graph 1.21. Contribution of Revenue Component Growth in Semester II 2010-2016



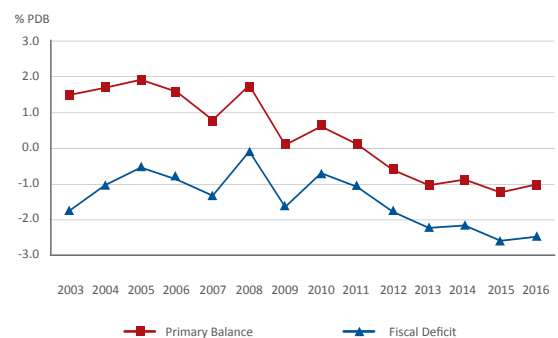
Source: Ministry of Finance, Semester Report

Graph 1.22. Development of Expenditure Component in Semester II 2010-2016



Source: Ministry of Finance, Semester Report

Graph 1.23. Development of Deficit and Primary Balance



Source: LKPP, *) State Budget Press Conference dated January 3, 2017

economic economy. Also, the improvement of this rating confirmed that the limitations of fiscal space delivered limited pressure on the financial sector.

The development of indicators in fiscal aspects need to be well noted, such as the primary balance which was still in negative value (Graph 1.25.). This figure indicated that the expenditure requirement in the current year could not be provided from the revenues at the current year. In the future, the tax ratio towards GDP need to be increased to improve the primary balance⁶. In addition, the ratio of government debt

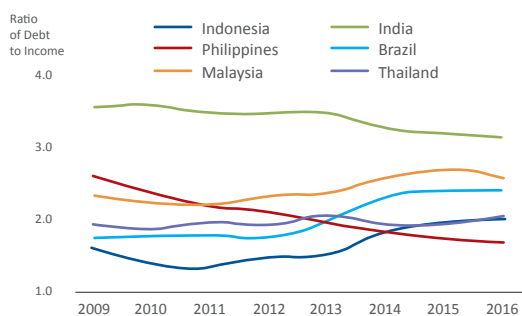
to state revenues which continued to increase was another indicator that need to be further observed (Graph 1.24).

1.4.3. The External Debt Risk on Nonbank Institution which is relatively in high level

The External Debt growth started to decline in semester II 2016 in line with economic slowdown. Totally, the External Debt decreased to USD316.97 billion in reporting period compared to USD325.54 billion in semester I 2016. Accordingly, the external debt growth experienced a decline to 1.98% (yoy)

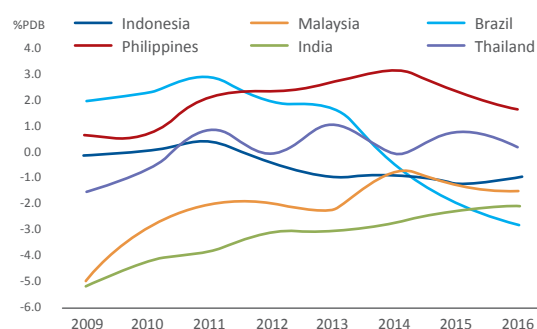
⁶ According to IMF, primary balance is a total income subtracted by total spending by expediting interest payment components.

Graph 1.24. Government Debt Ratio to State Revenue



Source: Ministry of Finance, Semester Report

Graph 1.25. The Primary Balance of Indonesia and Other Countries



Source: Ministry of Finance, Semester Report

compared to the previous period 6.28% (yoy). In addition, the external debt towards GDP fell from 36.82% to 33.89 in reporting period. Consequently, this condition was lowering the External Debt sensitivity level towards the exchange rate weakening risk.

In term of Government and Central Bank, the government external debt position in December 2016 increased around 1.05% became USD154.88 billion in reporting period, compared to USD153.26 billion in the previous semester. Meanwhile, the central bank External Debt reduced around 37.27% to USD3.41 billion, from USD5.43 billion in the end of semester I 2016.

In the case of private sector, the external debt composition consisted of the Bank and Nonbank group where the Nonbank group divided to Nonbank Financial Institution and Non-Financial Institution Company. The External Debt of private-bank experienced a decline amounted to 0.88%. Thus, the external debt of private-LKBB decreased at 9.27%, whereas the external debt private-NonLKBB fell to 5.46% at the end of semester II 2016.

Regarding its risk, the external debt of nonbank private tended to more prudent considering the long-term tenure composition which more or less than 80% from the total external debt. The growth of private nonbank external debt continued to decline from -2.75% to -9.16% in the last reporting period. On the other side, the growth of short-term private nonbank external debt raised to 10.13% in the end of semester II 2016 compared to 7.98% in the previous period. Nonetheless, the bigger long-term external debt composition along with the decline of outstanding external debt failed to lose a vulnerability factor. From the ability of nonbank corporate in paying the external debt, the risk level was quite high considering the consolidation of corporate activity in accordance with the moderate economy. Also, that condition was illustrated by the Debt to Service Ratio (DSR) Tier-1 which was quite high in level 19.63 in the end of semester II 2016.

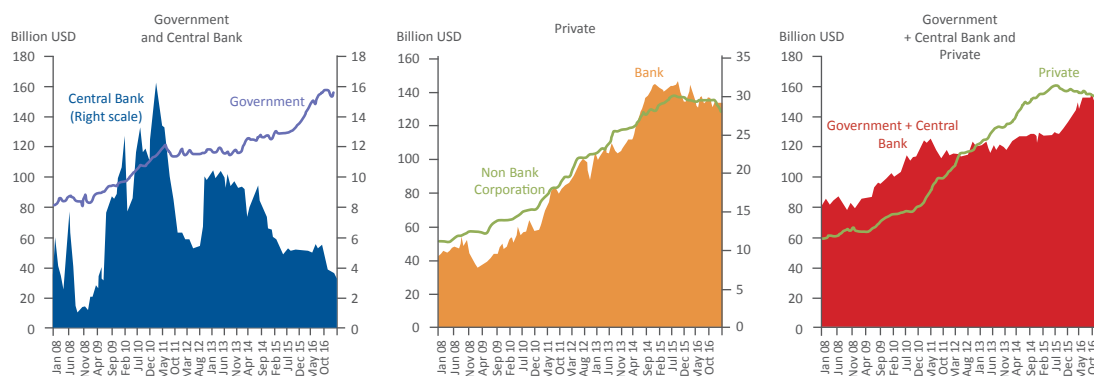
The nonbank corporate tended to reduce its external debt in reporting period along with the decline of corporate activity. This activity encouraged a decrease in external debt which restructured in semester II

2016. Nevertheless, most of restructured external debt of nonbank corporate was conducted with a negative tone through reconditioning, capitalized interest, debt to equity swap, debt reduction, rescheduling, and others. This condition confirmed that the nonbank corporate external debt movement need to be observed as triggered imbalance factor in the domestic financial market.

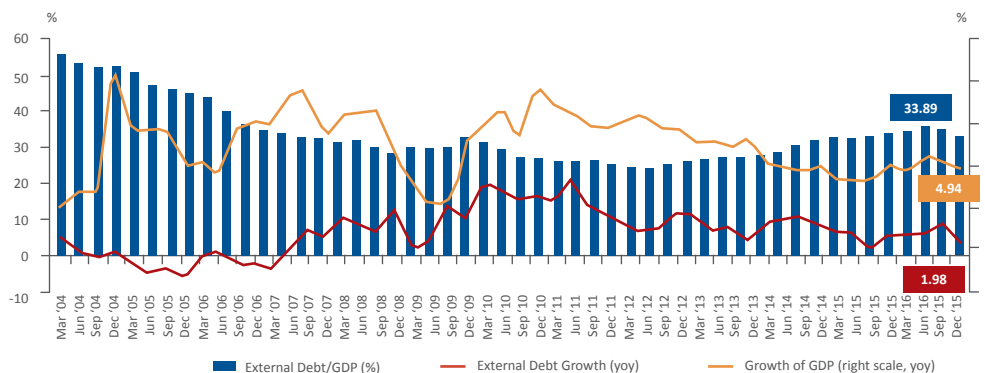
Bank Indonesia's effort to mitigate an external debt risk of nonbank corporate was conducted through the implementation of hedging ratio towards all nonbank corporate which had the external debt in foreign exchange. The effort was not meant to limit the external debt, but to strengthen the risk management. Data on

Reporting Application of Prudential Principle showed that hedging activity was not fully conducted according to the regulation. In Q3 2016, there was an Exchange Obligation Net hedging 0 – 3 months amounted to USD5,445 million with amount of hedging required by the regulation was USD1,361 million. Based on the report result, there was 277 informants for total of 637 informants which were not conducting hedging. Meanwhile, NKV hedging 3 – 6 months was USD1.999 million with total of minimum hedging amounted to USD499 million. Report data illustrated that there was 153 informants from total of 308 informants which were not conducting a hedging activity. It seems that the total of naked transaction which was recorded quite high became one of potential vulnerability

Graph 1.26. The External Debt Composition by Creditor Groups and External Debt Composition to GDP

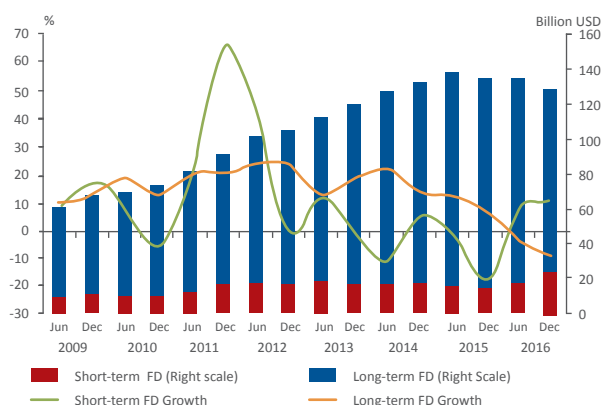


Source: FD Statistics/ Bank Indonesia



Source: External Debt Statistics/ Bank Indonesia

Graph 1.27. The Development of Non-Bank Private External Debt by Initial Tenor



Source: FD Statistics, Bank Indonesia

Graph 1.28. The Development of Debt Service Ratio (DSR) of Initial Tenor

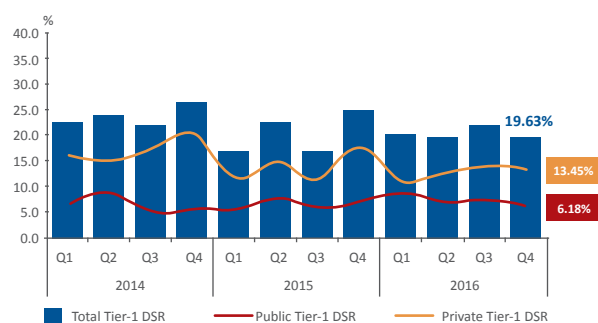


Table 1.2. The Amount of External Debt Hedging that Conducted and Implemented in Quarter III 2016

Requirement comply of Hedging KPPK Q3 2016	Number of	Net Foreign Liabilities	Hedging Min	Hedging	Difference from NFL	Difference from Hedging min
Hedging 0-3Months		(in US Dollar)				
Hedging (Comply)	348	2,496,133,559	624,033,390	2,224,719,397	(271,414,162)	1,600,686,007
- Non-Bank Financial Institutions	13	59,607,773	14,901,943	278,169,507	218,561,734	263,267,564
- Non-Bank Institution	335	2,436,525,786	609,131,447	1,946,549,890	(489,975,896)	1,337,418,444
Hedging (Not Comply)	12	93,989,600	23,497,400	10,027,788	(83,961,812)	(13,469,612)
Non Hedging (Not Comply)	277	2,855,067,639	713,766,910	-	(2,855,067,639)	(713,766,910)
TOTAL	637	5,445,190,798	1,361,297,700	2,234,747,185	(3,210,443,613)	873,449,486
Hedging 0-3Months		(in US Dollar)				
Hedging (Comply)	147	291,635,044	72,908,761	647,542,252	355,907,208	574,633,491
- Non-Bank Financial Institutions	12	65,769,218	16,442,305	436,017,929	370,248,711	419,575,625
- Non-Bank Institution	135	225,865,826	56,466,457	211,524,323	(14,341,503)	155,057,867
Hedging (Not Comply)	8	168,527,110	42,131,778	13,272,776	(155,254,334)	(28,859,002)
Non Hedging (Not Comply)	153	1,539,568,662	384,892,166	-	(1,539,568,662)	(384,892,166)

Source: Bank Indonesia

source that need to be observed further. On the other hand, total of informants which conducted hedging by fulfilling all applicable requirement experienced an increase compared to the previous quarter.

1.4.4. The High Nonresident Ownership in The Domestic Financial Market

In the midst of global uncertainty, the level of foreign investor trust in the domestic assets was well maintained which was illustrated by an indicator of

the high proportion of nonresident investor ownership in the domestic financial market. The nonresident ownership declined in October and November 2016 due to the high global investor concerns over the expectations of an increase in FFR and accompanied by the high political uncertainty related to elections in the United States. By the end of December 2016, the global investors' risk appetite for domestic assets again rose on the back of positive domestic sentiment. Such high foreign ownership structure made the Indonesian

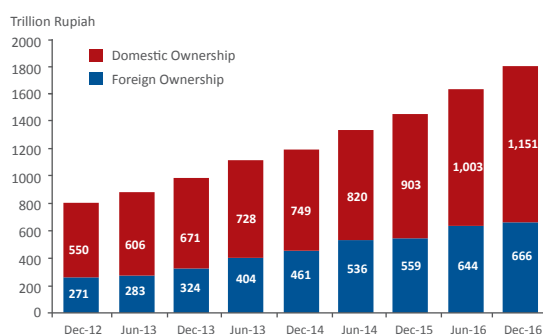
economy vulnerable to the development of global financial markets and the potential reversal capital.

The proportion of nonresident investors' ownership in the government securities market was 36.65% of the total outstanding government bonds in December 2016. Although the percentage of foreign ownership declined from the previous period, the number of non-residents was still increasing during the reporting period. Net outflows of Rp23.63 trillion occurred in the government securities market in October and November 2016 which led to an increase in the yield on government securities. This condition improved in December 2016, thereby the yield fell and net inflow of Rp9.44 trillion occurred in December 2016. In total, the foreign investors recorded net buy of Rp26.52 trillion in the SBN market during the semester II 2016. In the stock market, the ownership of nonresident investors reached 54.49% in December 2016. This figure declined from the first half of 2016 in line with an

increasing sales in domestic stocks by the nonresident investors. Nonetheless, the foreign investors recorded net purchases of domestic stocks of Rp3.17 trillion, thus the domestic stock index was increasing by 5.58% to 5,296,711 at the end of December 2016.

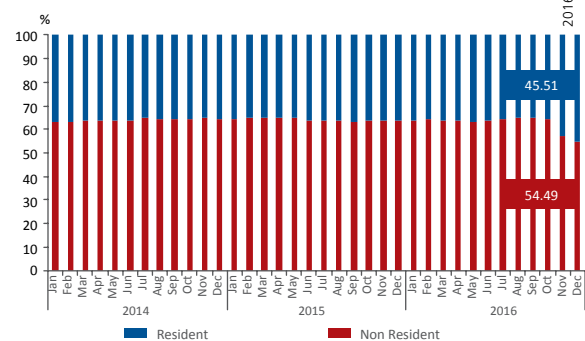
On the contrary, the proportion of nonresident investor ownership in the SBI market tended to be limited. The domestic investors recorded 98.5% asset ownership share, while the non-resident investor ownership share in the SBI market was only 1.5%. The limited portion of nonresident ownership in the SBI market was related to the policy of minimum holding period stipulated by Bank Indonesia. The policy was initially established with a period of one month (one month holding period). In its development, Bank Indonesia relaxed its policy into one week holding period on September 30, 2015 with the aim of attracting the foreign investors.

Graph 1.29. The Non-Resident Investor State Bonds Ownership



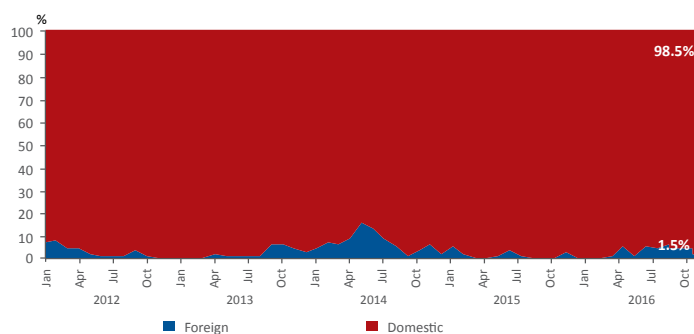
Source: DJPPR, Ministry of Finance

Graph 1.30. Non-Resident Investor Share Ownership



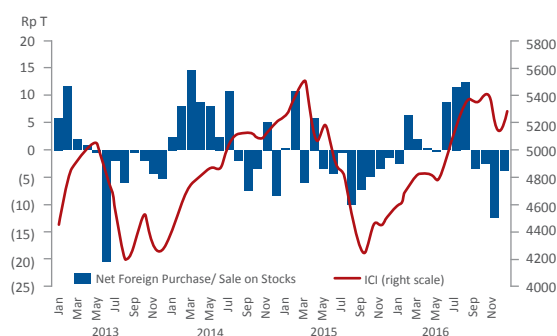
Source: CEIC

Graph 1.31. The Foreign and Domestic State Bonds Ownership



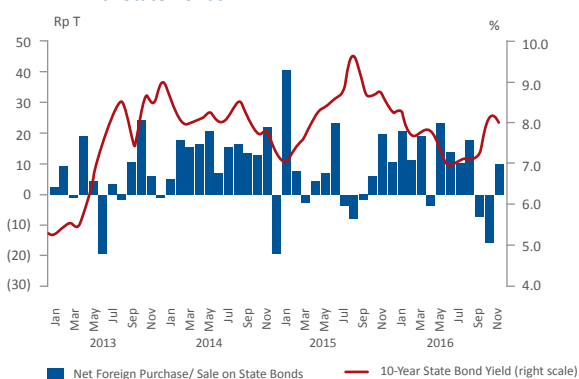
Source: Bank Indonesia

Graph 1.32. The Development of Price and Volume of Stock Transactions



Source: Bank Indonesia, IDX, Bloomberg

Graph 1.33. The Development of Price and Transaction Volume of State Bonds



Source: Bank Indonesia, IDX, Bloomberg

Box 1.1

Analysis of Financial Imbalances Indicator Based on National Financial Account & Balance Sheet (NFA & BS) Q3-2016

Through the National Financial Account and Balance Sheet (NFA & BS), the economy is reflected as an integrated system of sectoral balance sheets, which comprise banks, non-banks financial institutions (NBFIs), corporations, households, general governments (central and Local government), central bank and external sector. Integrated NFA & BS data can be used to analyse the financial imbalances among sectors that can be triggered by the mismatches, both in size and composition of assets and liabilities held by the economic sectors. The information of such financial imbalances can be identified from the imbalances indicators which indicate the build-up of risk in a particular sectors, as well as the risks arising from inter-sectoral linkages in the financial system. There are 3 methods of financial imbalances analysis⁷ using NFA & BS namely Risk Profile Analysis, Network Analysis, and Sensitivity Analysis.

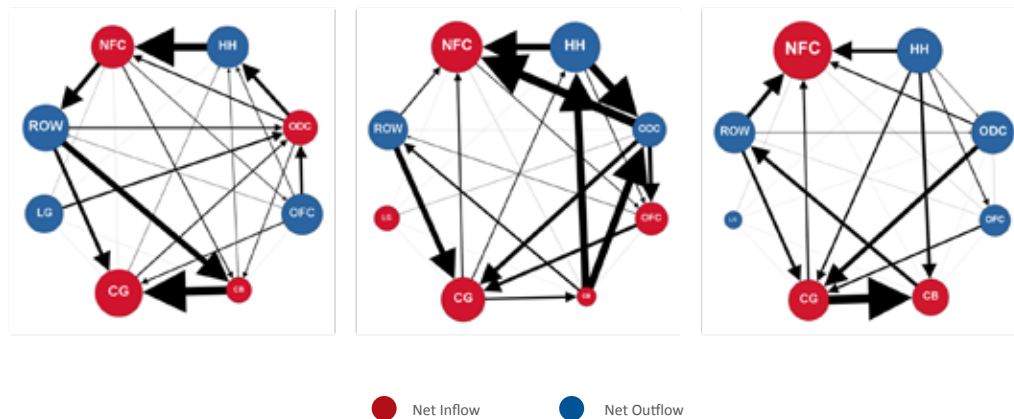
The risk profile analysis reveals that the national financial system stability relatively well maintained which reflected from the declining indicator of liquidity risk, currency risk, credit risk, and solvability risk. The increase in the external risk indicator value was mainly encouraged by the improvement on central government and banks' external debts. Meanwhile, the exposures of currency and external risk were still quite high on the corporate sector and

central government compared to the other risks. Foreign currency liabilities to financial asset ratio of corporate sector reached 45.82%, while central government 44.73% and NBFIs 18.99%. The share of national external liabilities to total liabilities recorded around 28.14% dominated by central government (54.77%), corporations (38.97%), and NBFIs (16.67%). In addition, the value of national net financial liabilities was still relatively high. This indicate that domestic financial assets have not fully fulfilled the financing needs of economic sector (funding gap), thus the needs of external funding inclined to be high. In the national asset composition side, the share of financial asset remained greater (53.72%) than the non-financial asset (46.28%) and continued to increase.

The network analysis based on the transaction or position data illustrates a high dependency on the external financing, mainly on the corporate and central government sector. According to the ratio towards GDP, the external debt of corporations reached 38.27%, thereby those tended to be exposed by the withdrawal risk and currency risk. Regarding the transaction, there was an external fund of flow for domestic financing which inclined to be higher than the previous period. Such condition indicated positive perception of investors towards Indonesia's economy among uncertainties on the global economy.

⁷ Risk Profile Analysis includes liquidity risk, exchange rate risk, external risk, leverage ratio and solvency. Network analysis assesses interconnection and transmission between sectors by means of intersectoral financial claim matrix which includes regarding exposure bilateral position among economic sectors. Sensitivity Analysis measures sensitivity of a sector to macro shock such as foreign exchange fluctuation, capital flow reversal, interest rate change, and so forth.

Box Graph 1.1. The Net Transaction Intersector (Rp Trillion)



Net Transaction = Financial Assets - Financial Liabilities (Transactions)

Financial Asset > Financial Liabilities: Net Outflow

Financial Asset < Financial Liabilities: Net Inflow

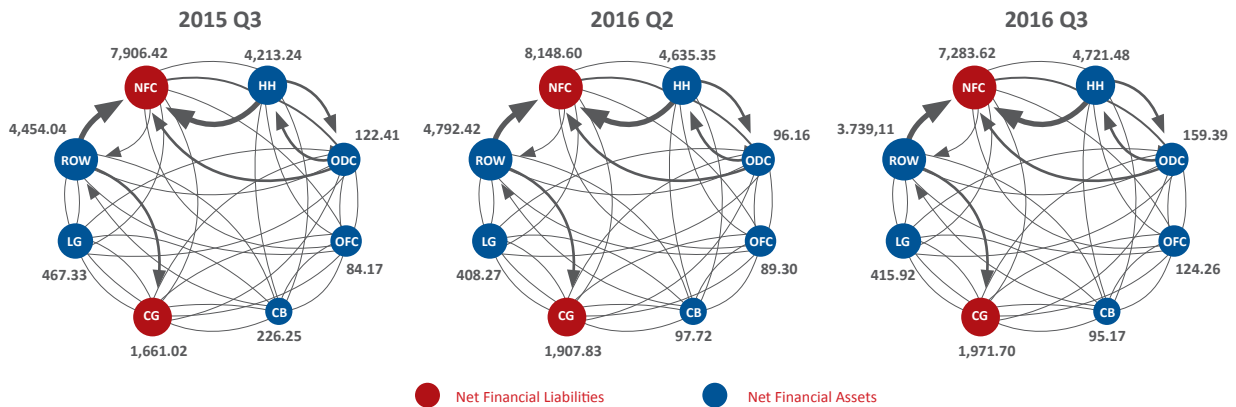
NFC = Corporation, HH = Household, ODC = Bank, OFC = Non-Bank Financial Institutions, CG=Central Government, CB = Central Bank, LG: Local Government, RoW:External

The sectors that experienced net inflow were the corporations, central bank and central government. The net inflow in the corporations mainly due to the financing from household and external sector through the equity instrument. While in the central government, there was a sizable flow of funds to the central bank in the form of deposit from the government bonds issuance for covering the fiscal deficit. The flow received by central government through the bonds amounted to 40.60% owned by external, 31.54% from retail bonds purchased by household and 30.67% came from NBFIs. The large flow of funds from NBFIs was a form of compliance regarding to investment regulations on government bonds for NBFIs.

The interconnection analysis utilizing position (balance sheet) data shows that the highest interconnection risk occurred between the

corporate with external sector, as well as banking with corporate and household sector. The high interconnection evoked the need for monitoring of the corporations and households, mainly the possibility of corporate sector default due to the economic slowdown and the weakening of the exchange rate. The domestic sector experiencing the largest financial surplus was household sector with net asset value attained 38.74% of GDP. The ownership of households' financial assets reached 29.96% of the total national financial assets, the majority of which was channelled to the corporations in the form of equity and deposit to the banks. Meanwhile, corporate sector was the sector that possessed the highest net liability value during the period third quarter of 2015 until third quarter of 2016, with the largest increase in second quarter of 2016 due to the flow of foreign funds mainly on the equity instrument. The value

Box Graph 1.2. The Net Intersector Transactions (Rp Trillion) (page 23)



Net Position = Financial Assets – Kewajiban Finansial (Posisi)
 Aset finansial > Financial Liabilities : Net Financial Assets
 Aset finansial < Financial Liabilities : Net Financial Liabilities
 NFC = Corporation, HH = Household, ODC = Bank, OFC = Non-Bank Financial Institutions, CG=Central Government, CB = Central Bank, LG: Local Government, RoW:External

of corporations' net liabilities relatively declined in the third quarter of 2016 as an implication of tax amnesty policy in the form of repatriation funds claim. This phenomenon resulted a significant increase in the corporations' foreign currency assets (96.49%) compared to the previous period.

The corporate sector had a relatively high external debt⁸ which was 38.97% towards total financing. Additionally, the foreign currency debt was also sizable thus this condition make the sector tended to be exposed by the capital flow reversal and exchange rate depreciation. These risks on corporate sector could plausibly be transmitted to banks through NPL improvement, thereby in-depth analysis of the corporate vulnerability was urgently needed, particularly relating to the impact of macro shock to corporate sector and its influence to other sectors.

The sensitivity analysis of the corporate sector uses 2 scenarios, namely (1) 25% exchange rate depreciation and (2) 25% exchange rate depreciation followed by the capital flow reversal amounted 10% with the assumption that corporations should substitute 10% of external financing with domestic financing. The domestic financing gained either from deposit withdrawal or new credit issuance from banks. The result of scenario 1 shows that the exchange rate depreciation do not significantly influence the corporate sector which is represented by the decline in the value of the corporations' net external liabilities amounting to 1.75% of GDP. This caused by a domination of equity instrument as main financing source that majority denominated in IDR (63.50%) and the ownership of foreign currency asset (57.86%) which was higher than the foreign currency liabilities (17.93), so as the impact of exchange rate depreciation could be effectively dampened.

⁸ Corporate financing sources in the form of Rupiah loans and foreign exchanges reached 50.42% and 49.58%. Meanwhile, ones in the form of securities in Rupiah and foreign exchanges reached 21.53% and 78.47%.

Meanwhile, the result of scenario 2 indicates that the ownership of foreign currency assets which was higher than the foreign currency liabilities lead to the decline of corporations' net external liabilities up to 6.02% of PDB when the event of capital flow reversal. This reveals that the corporations are relatively solvent in facing unforeseen event

both in the form of exchange rate depreciation or withdrawal of funding by external sector. On the other side, there was an improvement of the banks' net asset to corporations accounting for 4.59% of PDB as implication of deposit withdrawal or credit issuance in terms of covering 10% sudden capital flow reversal.

Box 1.2

The Development of Global Financial Reformation in Indonesia

The global financial crisis which occurred in 2008/2009 evoked consequences in form of loss, not only in bail out cost of financial institution which carried out by taxpayer, but also the loss of output and unemployment, as well as a recovery cost in form of fiscal and monetary stimulation which still arise until now. This global financial crisis highlighted a weakness in the previous arrangement framework. Simultaneously, it showed a need to improve global the financial system resilience which more interconnected.

Following the global financial crisis, G20 leaders agreed to initiate the global financial reformations in 2008. The main focus of the financial reformations includes: 1) Strengthening the resilience of the banking sector; 2) Reducing the moral hazard of “too-big-to-fail” financial institutions; 3) Reducing systemic risk and increasing transparency in OTC derivative markets; and 4) Expanding the parameters of supervision and regulation of financial institutions. The coordination mandate of the implementation of various reformation initiatives was downgraded to the Financial Stability Board (FSB). As a forum established at the G-20 London Summit April 2009, the FSB role is coordinating and monitoring the implementation of global financial reformation by the national authorities and reporting the results to the G20.

As member of the G20 and FSB, as well as various other international forums, Indonesia is expected to participate in the global financial reformations and implements “lead-by-examples”.

Finally, Indonesia’s active participation in various international forum, the implementation of various global financial reformation initiatives, as well as monitoring and assessment of the conformity of international standards, also an assessment of the stability of the Indonesian financial system conducted by international agencies, are directly and indirectly expected to support and strengthen the stability of the Indonesian Financial System (SSK).

Indonesia Implementation Progress

1. Strengthening the resilience of banking sector

This global reformation element has focus on Basel III implementation which aimed for improving the resilience of banking sector on crisis by strengthening the capital framework and liquidity as well as procyclicality mitigation. In general, the capital framework integrated the macro and micro prudential policies including: 1) a higher capital quality and level; 2) a capital standard for reducing expansion cycle and overload credit; and 3) the capital standard for reducing systemic risk.

In addition to strengthen capital, Basel III implemented a new standard to strengthen the banking liquidity through the implementation of Liquidity Coverage Ratio (LCR). This framework aimed to encourage the banking resilience towards a short-term liquidity pressure (30 days) by ensuring that bank owns the High-Quality Liquid Asset (HQLA). The liquidity strengthening is also conducted

through the implementation of Net Stable Funding Ratio (NSFR) regulation. This standard required bank to own stable funding resource which adequated for supporting the long term financing.

In order to comply with Basel III standard, Financial Services Authority (OJK) has issued POJK No.11/POJK.03/2016 on Obligation of General Bank Minimal Capital Supply in the end of January 2016. Based on the regulation, the banks is obliged to provide minimal capital according to lowest risk profile amounted 8%. In addition, the bank is obliged to establish additional capital as buffer according to criteria that regulated in POJK includes: 1) Capital Conservation Buffer; 2) Countercyclical Capital Buffer and 3) Capital Surcharge for Systemically Important Bank (SIB).

Capital Conservation Buffer assigned by the OJK amounted 2.5% from ATMR for Bank which is grouped in BUKU (Commercial Bank Based on Business Activities) 3 and BUKU 4 banks. Obligation to establish additional capital in form of Capital Conservation Buffer was applied gradually starting from January 1, 2016 to January 1, 2019. Meanwhile, the amount of Countercyclical Capital Buffer (CCyB) is determined by Bank Indonesia, based on PBI No. 17/22/PBI/2015 on Establishment Obligation of Countercyclical Buffer. Determination of CCyB has taken into account the financial cycles to anticipate loss if there is an excessive bank credit

growth. Both buffer aimed to anticipate loss on crisis period that encouraged procyclicality and disturbed financial system stability.

In order to reduce the bank potential failure that may result a systemic impact, OJK conducted a capital surcharge requirement which the amount is varied between 1% - 2.5% based on a bank size, relation to the financial system and a business activity complexity. In determining SIB and capital surcharge, OJK coordinated with BI.

Beside the capital framework of Basel III, OJK has implemented LCR on semester I 2017 for BUKU 3 and BUKU 4 banks. Moreover, OJK has issued a consultative paper on the regulation proposal of leverage ratio and Net Stable Funding Ratio (NSFR). Those two ratios will be implemented in 2018.

2. Reducing moral hazard of “too-big-to-fail” financial institution

The failure of Lehman Brothers, as well as the use of government’s bailout to prevent the spill-over on failure impact in the financial market, enacted the ending-too-big-to-fail as one of the global financial reformation focus. A number of measures or policies related to the Systemically Important Financial Institutions (SIFI) framework is introduced to solve too-big-to-fail problems. The measures are the additional requirement of Loss-Absorbing Capacity (TLAC), which aims to ensure that banks can continue to perform the critical functions without relying

on the government funding during the crisis. In addition, the FSB has issued the Key Attributes of Effective Resolution Regimes for Financial Institutions (“Key Attributes”) as the elements guide that must exist within the resolution framework in a certain jurisdiction.

In this regard, Indonesia has issued Republic Indonesia Act number 9 of 2016 on the Prevention and Mitigation of the Financial System Crisis (UU PPKSK) in April 2016. This law becomes the legal basis for the coordination and decision-making of the Financial System Stability Committee. The Committee was composed of the Ministry of Finance, BI, OJK and LPS, in the framework of prevention and mitigation of the financial crisis. Additionally, the Law reinforces the authority of institutions in implementing a more stringent regulatory and supervisory framework for SIB, including the obligation to develop a recovery plan in addressing possible bank financial problems. The law also provides the legal basis for additional resolution devices, including a bail-in mechanisms.

3. Reducing systemic risk and increasing transparency in OTC derivative markets

The lack of transparency and weakness in the management of opponent’s credit risk in the over-the-counter (OTC) derivative market also contributes to the global financial crisis. To overcome the problem, the G20 leaders at September 2008 meeting agreed to reform the derivative OTCs market which covers 5 (five)

areas as follows:

- a. Standardization of derivative contracts;
- b. Trading derivative contracts through trading platforms;
- c. Centralized clearing through Central Counterparty (CCP);
- d. Margin and capital requirements for non-cleared derivative transactions using CCP; and
- e. Reporting obligation for all transactions.

With regard to the reformations of derivative OTCs market, Indonesia has implemented transaction reporting obligations for banks which conducted the OTC transactions on exchange rate and interest rate derivatives. Also, Indonesia requires all equity and commodity derivative transactions should be implemented through trading platforms. The derivative terms have been adopted prior to the implementation of global reformation in 2012.

4. Expanding the parameters of supervision and regulation of financial institutions

By strengthening the banking regulation through Basel III, the risk of incentives increase will appear for market participants to “move” the banking activities into a looser regulatory sector known as shadow banking system. Therefore, it seems necessary to take the steps to strengthen the monitoring and regulating of credit intermediation activities conducted by shadow banking entities. Compared to other reformation elements, the implementation of

shadow banking-related reformations is still in the early phase. The FSB plan together with other jurisdictions to conduct assessments to respond the potential risk of financial stability in the shadow banking area.

Concerning the monitoring and regulating of non-bank financial institutions (IKNB), OJK conducts market surveillance and monitoring in order to assess the risk of financial stability derived from the activities of a related institutions. Also, OJK has the authority to regulate IKNB activities, both the current and new activities. In addition, Bank Indonesia conducts a periodic assessment of IKNBs viewed from the macroprudential point of view. Currently, the efforts to improve and close the gaps in the risk assessment framework between IKNB and banking was continuing.

Monitoring Implementation Indonesia

I. Regulatory Consistency Assessment Program (RCAP)

As a consequence of membership in several international forum, Indonesia is committed to adopt various recommendations for global financial sector reformation, which will be reviewed/monitored. One of the review/monitoring process that has been implemented by Indonesia is the Regulatory Consistency Assessment Program (RCAP). RCAP is a monitoring process undertaken by the Basel Committee on Banking Supervision

(BCBS) to assess the compliance of prevailing banking regulations with Basel standards. The RCAP begins with the implementation of a self-assessment aimed to identify gaps between the Basel framework and the applicable provisions.

At the BCBS meeting in November 2016, based on the results of the RCAP assessment, Indonesia was awarded a compliant title on the assessment of the Liquidity Coverage Ratio (LCR) and Largely Compliant provisions for capital requirements. Grading Compliant (C) is the highest grading in RCAP, while grading Largely Complaint (LC) is the second highest grading under grading C. The result of the assessment is an optimal result that can be achieved by Indonesia at this time. In the case of capital framework, Indonesia choose to prioritize a larger national interest, one of them is by maintaining the imposition of the 0% risk weight for SUN (Sovereign Debt Instruments) denominated in foreign currency. Meanwhile, according to the Basel framework, the exposure is charged by the risk weighting at 50% based on Indonesian country rating.

Generally, the RCAP result showed that Indonesian banking regulation has aligned with the prevailing international banking standards. Actually, Indonesia's banking regulation has lined up with the regulations in other countries as member of BCBS, including the United States, and even higher than the results of European

capital framework assessment. Based on those results, the public confidence in Indonesian banking operations is expected to increase. Also, it raises the trust of stakeholders including investors in conducting any transactions with Indonesian banks.

II. Financial Sector Assessment Program (FSAP)

Apart from the RCAP, Indonesia also underwent a financial sector assessment through the Financial Sector Assessment Program (FSAP). The FSAP is a joint program of the International Monetary Fund (IMF) and World Bank (WB) which is conducted every 5-year period, to assess the stability and health level, as well as the development aspects of financial sector in certain country.

In the area of financial sector stability, the FSAP team will review the resilience of banking sector and the non-bank financial sector, including conducting stress tests and analyzing systemic risks which also comprised the linkages between banks and non-banks. Additionally, the FSAP team will evaluate the microprudential and macroprudential frameworks, the quality of bank and non-bank supervision, as well as the ability of authorities to implement financial safety nets. In the area of financial sector development, the FSAP team will assess the need in developing the institution, a market, an infrastructure, and inclusiveness of the domestic financial sector.

During the period of 2016 to 2017, the FSAP assessment in Indonesia is considered as the second assessment after previously implemented in the period of 2009 to 2010. The last FSAP assessment was involving Bank Indonesia, OJK, Ministry of Finance and LPS. The implementation of FSAP 2016/2017 is conducted in two stages, those are the first mission (19 September s.d. 5 October 2016) and main mission (1 s.d. 16 February 2017). Through FSAP, Indonesian authorities expect to obtain an input on various aspects of improvement and development which is needed to improve the financial sector stability and resilience.



Ular Naga, a traditional game played by children by holding the shoulders to form a line and walk past the “guard” while sing, requires “dialogue and negotiation” to determine the choice of children’s position in the line. The flow of lines and “dialogue and negotiations” to determine the position for the children in Ular Naga can illustrate how the flow of funds into the financial markets including the flow of foreign funds that ultimately have a significant effect on the Indonesia financial markets.

02

The stability of the domestic financial markets in the second semester of 2016 reasonably preserved, supported by the state of Indonesia's macroeconomic condition in the midst of the global economy and financial market development. The investors' positive perceptions on the domestic macroeconomic conditions has supported the growth of capital market financing, driven primarily by the bond market, amid the limited growth of banking intermediation.. , Risks in the domestic financial markets are relatively maintained despite mounting volatility triggered by the uncertainty of the global economy. However, the risks were well contained buttressed by the positive sentiment of the domestic economy as well as the sound performance of a number of financial markets indicators such as the strengthening of IHSG, continued capital inflows, improved mutual fund performance and declining volatility in Rupiah.

The increase of risk was mainly occurred in the bond market, as seen in the rise of its volatility and the declining of asset prices. The volatility of the stock market also increased slightly by the end of 2016, nonetheless its asset prices continued to grow. In the forex market, the volatility on Interbank Money Market was more influenced by the decline of Bank Indonesia reference interest rate. The risk in the forex market was contained, as reflected in decline volatility and stable risk premium. Meanwhile, net asset value (NAV) continued to record positive growth in the midst of the increasing volatility of stocks and fixed income mutual funds. Positive performance was also recorded in the sharia financial sector, in neither stock market, sukuk, nor mutual fund.

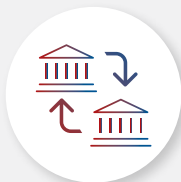
In order to support the development of financial markets, the policy pursued by Bank Indonesia is the regulation of commercial papers. In addition, Bank Indonesia in cooperation with the relevant regional authorities have agreed on the use of the Local Currency Settlement framework. In the social financial sector, better governance and transparency of fund management and distribution by amil zakat institutions and nazhir institutions have led in an increase in zakat fund and wakaf money.

FINANCIAL MARKETS

AMID THE GLOBAL FINANCIAL AND ECONOMIC MARKET DYNAMICS, DOMESTIC FINANCIAL MARKET RISKS ARE RELATIVELY UNDER CONTROL

Money Market

Risk in the money market is well contained along with preserved liquidity despite the slight volatility increased



O/N Interbank Money Market Rp

- ▼ Interest Rate to 4.54%
- ▲ Average Volatility 190.94%
- ▼ Daily Transactions Volume to Rp13.3 trillion



Repo Market

- ▼ Interest Rate to 4.96%-5.69%
- ▲ Daily Transactions Volume to Rp1,064 trillion

Foreign Exchange Market

Risk in foreign exchange market declined, reflecting less volatility and relatively stable risk premium



- ▲ Rupiah exchange rate to Rp13,473/USD
- ▼ Average Volatility 6.81%
- ▲ NDF Spread to 9.33points

Bond Market

Market risk tended to increase both in government bonds and corporate bonds



Government Securities

- ▼ IDMA Index to 99.09
- ▲ 10-Year SBN Yield to 7.91%
- ▲ 10-Year SBN Volatility to 15.33%
- Non-Resident Net Inflow Rp21.82 trillion



Corporate Bonds

- ▲ 10-Year Yield (A) to 11.41%
- ▲ Volatility to 7.89%
- Non-Resident Net Inflow Rp1.13 trillion

JCI Market

A risk in stock market increased although relatively limited



- ▲ JCI to 5295.7
- ▲ Volatility to 13.84%
- Non-Resident Net Inflow totalling Rp2.69 trillion

Sharia Financial Markets



- ▼ Sharia Stock Index to 694.1
- ▲ Capitalization Growth Sharia Stock 17.15% (yoy)

- ▲ Sharia Stock Volatility to 21.1%
- ▲ Market Share Sharia Mutual Funds Towards Conventional Mutual Funds to 4.41%

2.1. The Role of Financial Markets as Source of Financing Economy

Financial market plays a strategic position in the economy of a country, in particular its role as an alternative source of financing to banks' loans. Currently, the primary source of economic financing in Indonesia is derived from banks' loans, however along with the more integrated domestic financial markets with global financial markets, as well as the increasing need of financing to economic players, the future role of financial market is expected to be greater. In addition, the presence of financial market is also complement the role of banks especially to support liquidity management both in the short and long terms. In the short-term, liquidity management through placement in financial market is part of the bank's liquidity management namely by optimizing returns on placements in the Interbank Money Market, bond markets, and other money markets. Meanwhile,

in the long-term, the presence of financial market serves an opportunity for banks to improve the banks' liquidity structure and to increase the banks' capital capacity through bond or stock issuance.

During the second semester of 2016, the source of financing originated from the capital market and finance companies (PP) was slightly increased compared with the previous semester. Although the increase of capital market financing during the second semester of 2016 is relatively limited compared to the first semester of 2016, however, the capital market financing throughout 2016 increased significantly compared to that of in 2015. The increase was mainly driven by the issuance of corporate bonds and sukuk. This development is inherently influenced by the efforts of economic players, especially Financing Companies, that looking for long-term financing as an alternative to replace foreign debts. Behaviour changes of economic players in obtaining financing sources will be explained in Books 2.3.

Table 2.1 Bank and Nonbank Financing (Rp, trillions)

Description	2014		2015		2016	
	Sem I	Sem II	Sem I	Sem II	Sem I	Sem II
A. Bank Loans	175,29	206,15	153,74	230,08	110,17	208,89
B. Nonbank Financing	64,78	50,06	67,64	45,96	106,42	112,20
B1. Capital Market	51,88	44,78	63,95	52,58	97,78	97,60
- IPO and Rights Issue	26,35	21,67	18,59	34,94	41,28	37,92
- Corporate Bonds and Sukuk	25,53	23,11	45,36	17,65	56,51	59,68
B2. Finance Companies	12,90	5,27	3,69	-6,63	8,64	14,61
TOTAL	240,07	256,20	221,38	276,04	216,59	321,10
	240,07	256,20	221,38	276,04	216,59	321,10

Source: Bank Indonesia and Financial Services Authority (OJK)

Notes: Bank loans and nonbank financing disbursed in the reporting period, not positional data

During second half of 2016, stock market financing through Initial Public Offering (IPO) and rights issues fell by 8.13%, from Rp41.28 trillion during semester I 2016 to Rp37.92 trillion in semester II 2016. Despite an increase in the number of issues of right issue from 14 in the first semester 2016 to 20 in the second semester of 2016, the value of right issue decreased by Rp6.83 trillion compared to the previous semester.

The decline of stock market financing influenced among others by the US presidential election process, especially the Trumps' economic programs which raised the protectionism issues and international trade including trade agreements renegotiation with United States' major trading partner countries. The sentiment triggered speculation on global economy prospect, thus issuers tend to wait and see.

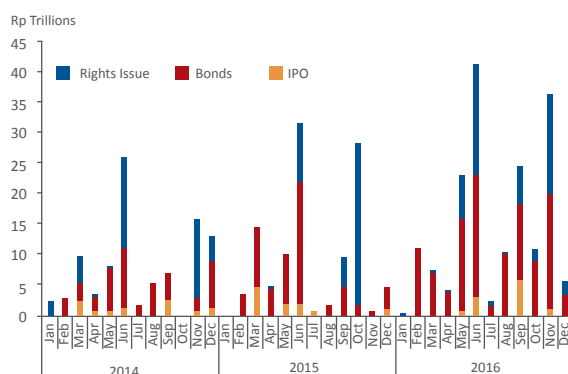
In contrast, corporate bond and sukuk issuance in the same period stood at Rp59.68 trillion, up 5.61% compared to the previous semester, followed by an increase in the number of issuers from 39 to 41. The pricing differences between bond and bank loan contributed to the increase of bond issuance. On

average, corporate bond coupons were still lower than bank lending rates.

The growing uncertainty of the global economy after Trump's election and the rise of Fed Fund Rate (FFR) in the end of 2016 heightened pressure on the domestic bond market. As a result, in that period, the yield of corporate bonds rose, hence increasing the cost of bond issuance. Nevertheless, the pressure did not significantly affect the AAA rated corporations which remain able to obtain inexpensive financing from bond issuance rather than borrowing from banks.

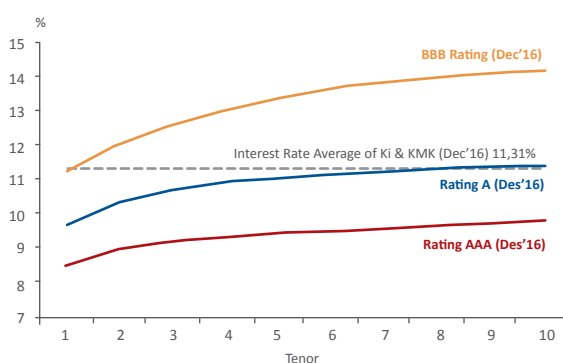
Simultaneously, during the second semester of 2016, Negotiable Certificate Deposit (NCD) became the banks' preferred financial instrument as an alternative source of short-term funding under 1 (one) year to replace third party fund. In that period, the NCD outstanding increased from Rp12.96 trillion to Rp19.9 trillion, 53.57% higher. Similar to NCD, the Medium-Term Notes (MTN) instrument also showed a fairly rapid increase. Outstanding MTN recorded an upturn of 43.59% to Rp25.69 trillion.

Graph 2.1 IPO and Issue Volume on the Stock Market



Source: OJK, Bank Indonesia, processed

Graph 2.2 Yield Curve Comparison on Corporate Bonds and Daily Interest Rate of Investment Credit, Credit Consumer



Source: OJK, Bank Indonesia, Bloomberg, processed

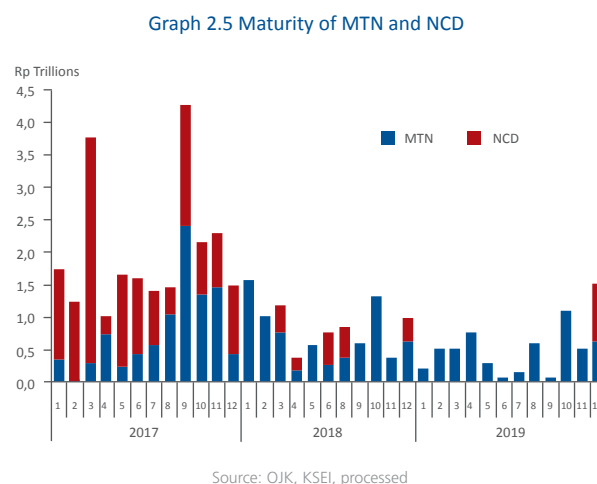
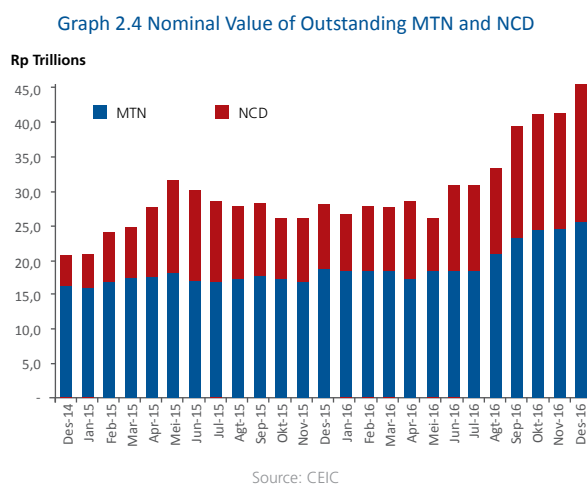


Aside from economical cost's aspect, the more moderate issuance requirement such as by not requiring certain rating fulfillment also contributed to the increase of funding through NCD and MTN. Accordingly, the issuance process of these two

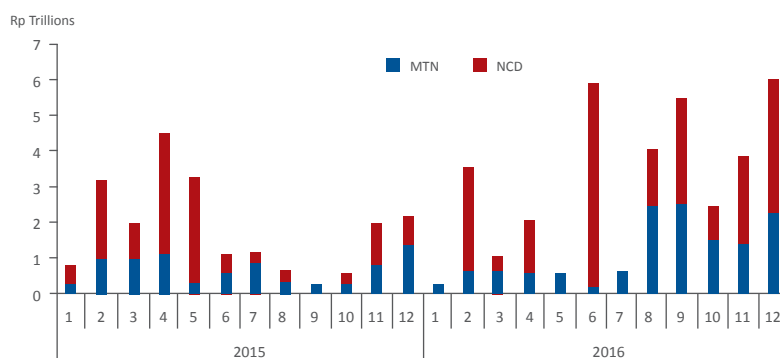
instruments became shorter. Investors' perception also played a role, while they were aware of the risks involved in investing in NCD and MTN, the investors perceived both instruments as relatively secure investments in a view of no default event in the instruments' performance in the past few years.

As an alternative financing source for banks, 10 banks issued bonds in second semester of 2016 with the total issuance reached Rp19.3 trillion, higher than the issuance of 9 banks in semester I, 2016 at Rp17.7 trillion. The bond issuance by banks reached 32.37% of the total corporate bond issuance, higher than the previous semester of 31.24%. On the contrary, IPO and rights issue by banking issuers in the same period was only Rp3.5 trillion, lower than the previous semester which stretched to Rp8.01 trillion.

As part of strategy to optimize liquidity management, Interbank Money Market (PUAB) also served as both as funding source and funding placement outlet, especially for short-term funding. During the second semester of 2016, 96 banks received additional liquidity from Interbank Money Market (PUAB), while



Graph 2.6 Nominal Value of MTN and NCD Issuances



Source: OJK, KSEI, processed

103 banks placed funding in Interbank Money Market (PUAB) with daily average volume reached Rp11.13 trillion, decline from Rp12.38 trillion in the previous semester as the liquidity of banking industry remained adequate, thus reducing the needs to obtain short-term banking funding.

Such condition also led to lower demand in Interbank Money Market in foreign exchange. During the second half of 2016, Interbank Money Market in foreign exchange experienced a decrease in transaction value, despite an increase in the number of banks conducted

the transaction. The more varied foreign exchange monetary operation transaction, such as in the form of Term Deposit (TD), added the placement outlet for the bank's foreign exchange. It, therefore, contributed to the decline of activity in Interbank Money Market in foreign exchange. Simultaneously, the number of banks borrowed from Interbank Money Market in foreign exchange increase from 31 in the previous semester to 38 banks. The increase also occurred in lending banks from 37 banks in the previous semester to 45 banks in the reporting period.

Table 2.2 Sources of Funds by Bank Total

Description	2012		2013		2014		2015		2016	
	Sem I	Sem II	Sem I	Sem II	Sem I	Sem II	Sem I	Sem II	Sem I	Sem II
Fund Accumulation										
I. Domestic										
Borrowing from Rupiah Interbank Money Market	54	79	74	81	81	76	76	86	85	96
Borrowing from Foreign Exchange Interbank Money Market	51	51	50	48	47	39	40	33	31	38
Repo to BI/Lending Facility	3	4	3	10	1	7	19	9	12	9
Repo by Banks					17	16	18	20	10	22
Bond Markets	7	6	8	3	2	3	6	1	9	10
- Bonds	2	2	3		1	2	1	1	-	2
- Continuous Bonds	4	4	4	3	1	1	4	-	7	7
- Sukuk	1	-	1	-	-	-	1	-	2	1
Stock Market	3	4	7	9	3	3	-	4	6	7
- IPO	-	-	4	2	1	1	-	1	1	-
- Rights Issues	3	4	3	7	2	2	1	3	5	7
II. International										
USD Bonds	1	-	1	-	-	-	-	-	-	-
Fund Distribution										
I. Domestic										
Lending to Rupiah Interbank Money Market	89	95	93	95	94	99	98	100	98	103
Lending to Foreign Exchange Interbank Money Market	48	47	48	49	45	42	39	31	37	45
Deposit Facility	107	105	110	100	107	134	98	114	100	98
Term Deposit	51	65	39	-	-	-	-	-	-	31
SDBI	-	-	-	43	50	76	79	74	81	71
SBI + SBIS	95	86	91	98	98	108	75	74	86	91
Reverse Repo SUN	38	30	31	25	36	59	37	17	25	41
SBN	86	86	88	88	91	87	84	95	101	108

Table 2.3. Sources of Collection and Disbursement of Bank Funds by Volume

RP Trillions

Description	2012		2013		2014		2015		2016	
	Sem I	Sem II	Sem I	Sem II	Sem I	Sem II	Sem I	Sem II	Sem I	Sem II
Fund Accumulation										
I. Domestic										
Borrowing from Rupiah Interbank Money Market										
- Volume	1,076	1,234	1,375	1,280	1,325	1,388	1,426	1,439	1,537	1,370
- Average Daily Volume of Rupiah Borrowing	8.6	10.2	11.2	10.3	11.1	11.1	11.6	11.7	12.4	11.1
- Average Daily Volume of USD Borrowing (millions)	683.1	409.3	429.4	396.2	359.4	533.7	429.2	240.2	386.1	274.1
Repo to BI/Lending Facility	0.4	1.1	0.5	5.5	0.1	2.4	11.0	5.8	2.6	2.7
Repo by Banks					0.5	0.6	0.7	0.6	0.4	1.1
Bond Markets	6.8	7.1	8.5	3.7	5.0	2.0	11.4	0.5	17.7	19.3
- Bonds	0.5	0.3	1.2		1.0	1.3	1.5	0.5	-	1.0
- Continuous Bonds	5.5	6.8	6.6	3.7	4.0	0.7	9.4		16.4	17.3
- Sukuk	0.8		0.7				0.5		1.3	1.0
Stock Market	1.9	4.7	4.2	9.4	1.5	2.1	0.6	1.0	8.0	3.5
- IPO			1.7	0.6	0.1	0.1	-	0.1	0.6	-
- Rights Issues	1.9	4.7	2.4	8.8	1.5	2.0	0.6	0.9	7.5	3.5
II. International										
USD Bonds	500		500							
Fund Distribution										
I. Domestic										
Interbank Money Market										
- Average Daily Volume of Rupiah Lending	8.6	10.2	11.2	10.3	11.1	11.1	11.6	11.7	12.4	11.1
- Average Daily Volume of USD Lending (millions)	683.1	409.3	429.4	396.2	359.4	533.7	429.2	240.2	386.1	274.1
Deposit Facility	118.3	81.6	121.1	123.5	125.3	98.5	127.2	112.3	134.6	104.5
Term Deposit	88.7	180.9	51.7	-	-	-	-	-	-	23.2
SDBI	-	-	-	26.5	23.3	102.3	62.4	39.9	66.5	47.0
SBI + SBIS	89.9	79.4	82.1	89.6	98.6	87.0	72.7	31.1	78.8	103.9
Reverse Repo SUN	60.3	81.4	73.5	74.6	74.4	88.6	64.1	5.7	11.0	23.6
SBN	286.0	282.0	298.0	316.0	338.0	374.0	346.7	350.0	361.5	399.5

Source: Bank Indonesia, Financial Services Authority (OJK)

2.2. Condition and Risk Assessment in Financial Markets

The increase of risk in domestic financial market in the second semester of 2016 was relatively limited compared to previous semester. The increase in volatility followed by the decline in asset prices during the second half of 2016 only occurred in the government bond and corporate bond markets. In terms of stock market, amid increasing volatility in the end of 2016 or post-election of Trump as the US president, asset prices were still growing albeit with a limited increase. Asset prices in the stock and bond markets reached their highest point in November 2016, but halted towards the end of 2016. Meanwhile, improved volatility in the interbank money market (PUAB) was more due to the decrease of interest rate benchmark. Meanwhile, the mutual fund market still attained NAV growth along with the increase of net buying of mutual fund units.

The positive sentiments of domestic economy, such as the revenue of tax amnesty, the authorities' pro-growth policies, the relatively higher economic growth compared to that of other countries in region, the stable inflation and exchange rate, as well as the downward trend of BI 7 days reserve repo rate, contributed to the continued rise of asset prices amidst the heightened risk. Conversely, the heightened uncertainty of global economy, triggered by negative sentiment of US presidential election result and speculation on FFR hike in the end of semester II 2016, as well as the slow economic growth of three biggest countries, namely United States of America, China, and Japan, halted the rise of asset prices by the end of 2016.

Albeit the global sentiments, the domestic financial market remained attaining capital inflow. During the first half of semester II 2016, Rupiah strengthened against USD until reached its peak at the end of September 2016 to the level below Rp13,000 per US dollar. Yet, towards the end of 2016, Rupiah weakened against USD without volatility hike. Meanwhile, the stock market and government bond market attained capital inflows of Rp2.69 trillion and Rp21.87 trillion.

By observing the developments, particularly during the second half of 2016, in 2017, the financial market is anticipated to encounter challenges mainly from external. From financial sector, the external challenge will be the imminent ending of prolonged low interest policy introduced by The Fed since 2008 global crisis, which in the past few years has driven low borrowing cost, trend prompted by the FFR planned hike as a response to infrastructure development program that serves as the policy focus of US new government. Nonetheless, it leads concern regarding portfolio rebalancing in the global market that will also impact the Indonesia financial market. From real sector, the external challenge will be the US government's plan to implement protectionism policy especially in trade area. The policy is anticipated to impact the demand of Indonesia's export commodities.

Upon such developments, Indonesian government has issued several policies that expected to stimulate the country's economic growth. The policies are, among others, the so-called "Sejuta Rumah Untuk Rakyat" program, the allocation of the tax amnesty's repatriation fund to property sector, as well as the reduction of Income Tax on the Transfer of Rights on Land and/or Buildings from 5% to 2.5%. In addition,

the Government has launched 12th Economic Policy which focused on the improvement of “ease of doing business” for SME.

2.2.1. Money Market

Risk in money market, both in uncollateral market and collateral market, in the second semester of 2016, remain contained. The liquidity of banking industry remained adequate as indicated by a limited decline in Interbank Money Market volume transaction and an increase in Repo volume transaction. Despite the volatility hike of Interbank Money Market interest rate, it was more due to the decline of BI interest rate benchmark, not due to the deterioration of the banking liquidity. Along with lower Interbank Money Market interest rate, Repo transaction interest rate also observed lower.

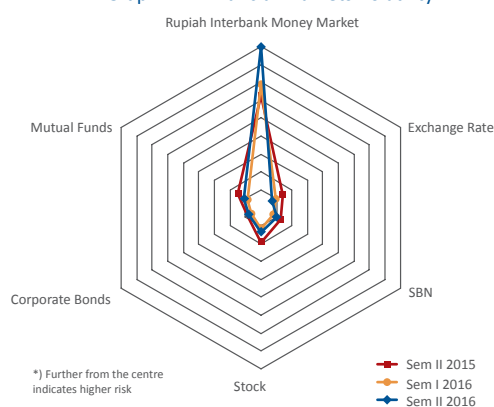
2.2.1.1. Interbank Money Market (PUAB)

Albeit the volatility hike of Interbank Money Market interest rate, risk in Interbank Money Market tended to recede as reflected from lower the weighted average daily interest rate of Interbank Money Market of overnight tenor in Rupiah at 4.54%, lower

if compared to that of semester II, 2016 at 5.08%. Accordingly, the weighted average daily interest rate of Interbank Money Market of all tenors also lower from 5.30% to 4.78%. Likewise, the interest rates also lower compared to that of semester II, 2015 for both the overnight’s and the all tenors’ weighted average daily interest rate, respectively at 6.02% and at 6.21%. Bank Indonesia’ interest rate policy cut resulted to the interest rate volatility hike occurred at the end of Q3 2016 and at the beginning of Q4 2016.

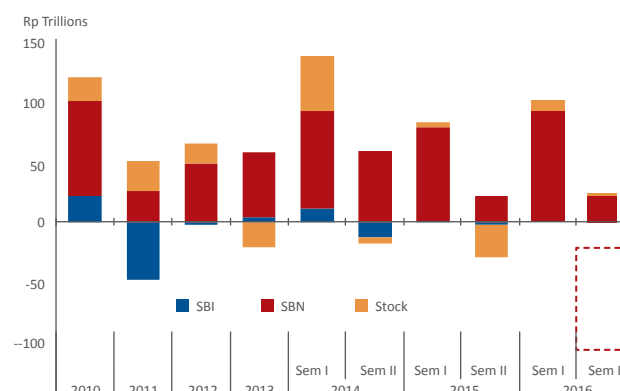
The transaction volume of interbank money market during the second semester of 2016 declined compared to the first semester of 2016. The daily average transaction volume of overnight interbank money market fell from Rp15.15 trillion to Rp13.33 trillion. Similarly, the daily average of non overnight interbank money market also fell from Rp9.62 trillion to Rp8.68 trillion. The higher volume of Interbank Money Market transactions in the first semester of 2016 than that of the the second semester of 2016 was more due to the seasonal cycle of the celebration of religious holidays (Lebaran) and school holidays led to greater economic activities, resulted to the fulfillment

Graph 2.7. Financial Markets Volatility



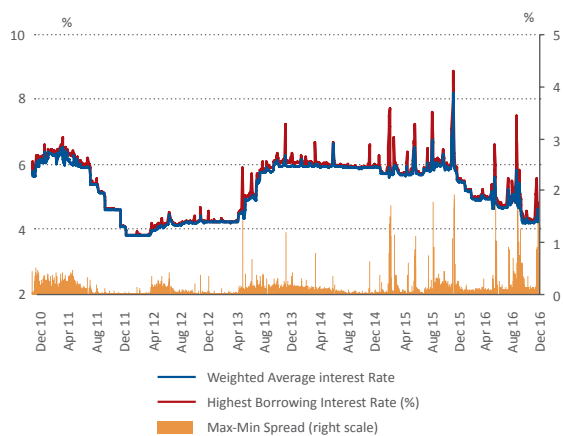
Sourced: Bloomberg, processed

Graph 2.8 Non-Resident Capital Flows in Stocks, SBN and SBI



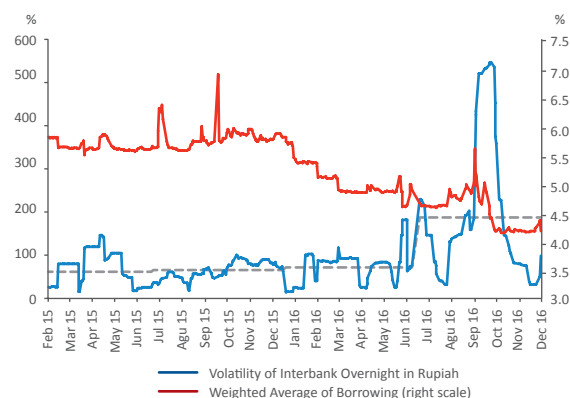
Source: Bloomberg and Bank Indonesia

Graph 2.9. Interbank Overnight Interest Rate in Rupiah



Source: Bank Indonesia

Graph 2.10. Volatility of Interbank Overnight Interest Rate in Rupiah



Source: Bank Indonesia

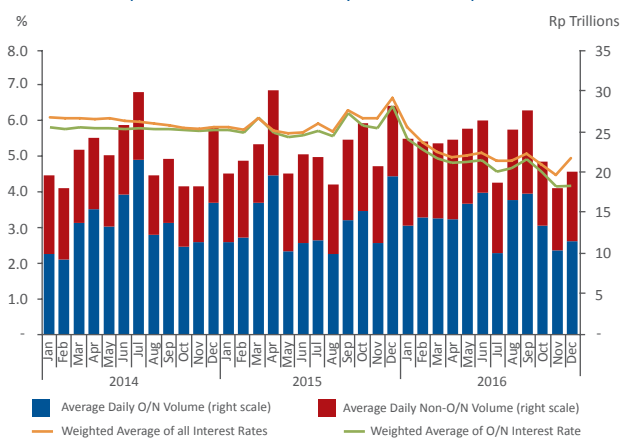
of the bank's short-term liquidity needs met through interbank money market.

In the second half of 2016, in general the transaction pattern of the interbank money market's players remained except a slightly changed in that of banks in the BUKU (Commercial Bank Groups Based on Business Activity) 2 as net borrower from previously as net lender. Banks in BUKU 4 and BUKU 1 tended to act as the lender of funds and banks in BUKU 3 as the borrower of funds. Banks in BUKU 3 dominated

the market share of the transaction in the Interbank Money Market by 48.12% of the total transaction volume and the total transaction frequency reached 43.56%.

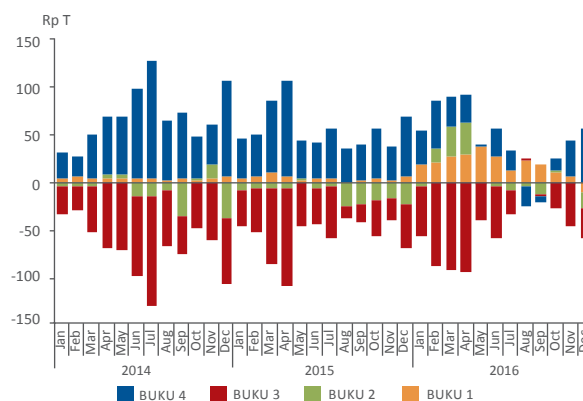
In contrast to the decline of interest rate in the Rupiah interbank money market, the interest rate of interbank money market in foreign exchange for both the daily weighted average of overnight interbank money market interest rate and daily weighted average of interbank money market interest rate in

Graph 2.11. Interbank Money Market in Rupiah



Source: Bank Indonesia

Graph 2.12. Rupiah Interbank Transaction Distribution



Source: Bank Indonesia

all tenors rose in the second half of 2016 respectively to 0.37% and 0.39% from previously 0.28% and 0.30% in the first half of 2016. In addition to higher foreign exchange demand at the end of the year, the hike of Bank Indonesia's interest rate on foreign exchange monetary operation also contributed to the rise of the foreign exchange interbank money market's interest rate. Despite the interest rate increase of the foreign exchange interbank money market, the spread between the maximum and minimum interest rates as well as the volatility of the interbank money market interest rate declined, indicating that the risk in the foreign exchange interbank money market remain maintained. The average spread was at 16.57 bps, decline from that of the previous semester of 19.65 bps. Meanwhile, the average of foreign exchange interbank money market volatility was at 91.28%, lower than that of the previous semester of 120.78%.

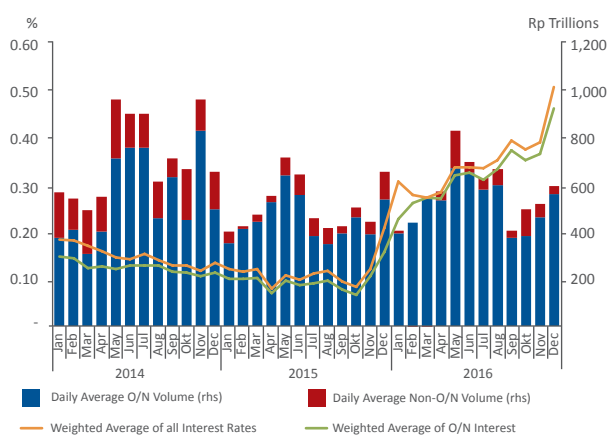
In terms of volume, the transaction of overnight interbank money market experienced a decline while that of other tenors increased. During the second half of 2016, the daily average transaction volume of

overnight interbank money market stood at USD491.39 million, down from that of the previous semester of USD537.38 million. Meanwhile, the daily average transaction volume of non overnight interbank money market rose from USD40.88 million to USD59.22 million. In terms of bank group behavior, in the last two years banks in BUKU 4 remained as borrower banks while in prior years tended act as lender banks. Conversely, in the same period, banks in BUKU 3 were as lender banks from formerly as borrower banks.

2.2.1.2. Inter Bank Repo Market¹

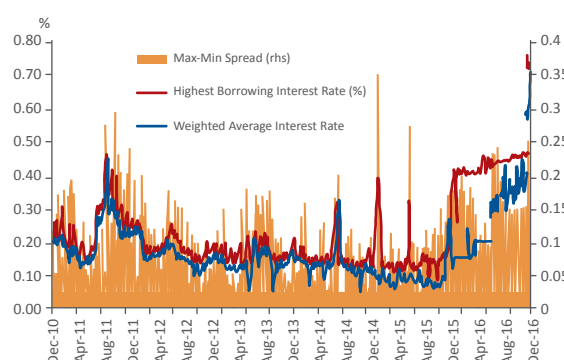
Repurchase Agreement Transaction (Repo) is a form of lending and borrowing transactions with the function similar to that of Interbank Money Market transactions. Repo is defined as a purchase and sale contract of securities with a commitment to repurchase or resell at a determined date and price agreed by the parties involved. Unlike the uncollateralized interbank money market, repo transactions are collateralized as securities served as collateral of underlying transactions. Repo transactions, therefore, are more resilient to economic shock than that of

Graph 2.13. Foreign Exchange Interbank Money Market Performance



Source: Bank Indonesia

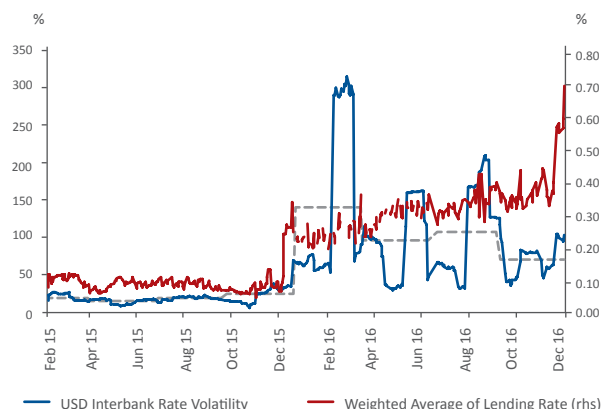
Graph 2.14. O/N Foreign Exchange Interbank Interest Rate



Source: Bank Indonesia

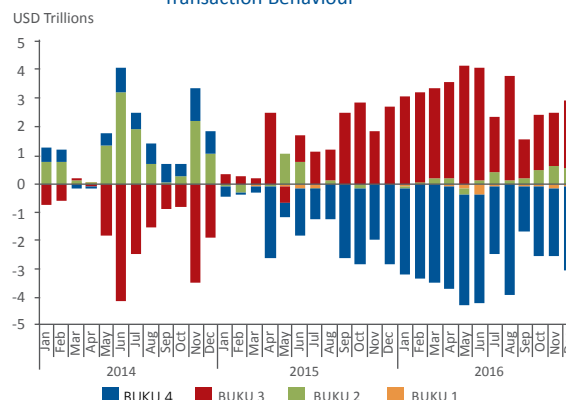
¹ Repurchase Agreement (Repo) is the agreement to resell and repurchase of securities in a determined date and price. In general, Repo market consists of Interbank Repo and Repo to Bank Indonesia through Lending Facility

Graph 2.15. The Volatility of Foreign Exchange Interbank Interest Rate



Source: Bank Indonesia

Graph 2.16. Foreign Exchange Interbank Money Market Transaction Behaviour



Source: Bank Indonesia

Interbank Money Market transactions since the lending party obtains the “guarantee” of securities as the underlying asset of the Repo transaction. The risk in the collateralized Repo is more minimal even in times of crisis or high volatility. Aside from being more resilient to economic volatility, the development of interbank Repo transactions is also in accordance with Bank Indonesia’s policy of 7 days reverse repo as the interest rate benchmark.

After the requirement to apply GMRA as a standard agreement of domestic repo transaction took in place, as governed by POJK No. 09/POJK.04/2015 on Repurchase Agreement Transaction Guideline, interbank repo transaction experienced a decline since it took time for the banking industry to adjust and renegotiate the agreement stated in Annex-1 of the GMRA agreement with the bank’s counterpart.

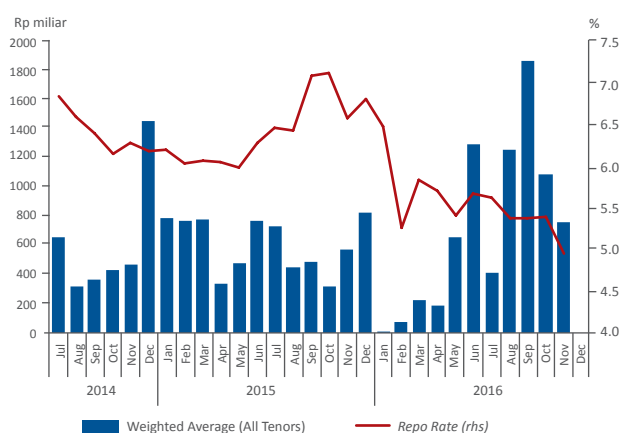
To mitigate the declining of the Repo market volume, Bank Indonesia in cooperation with Financial Services Authority (OJK) conducted several educational and dissemination events of the use of GMRA agreement standard. Following the continued and intensive events, greater number of banks adopted the GMRA agreement.

The banks adopted Repo GMRA and counterparty with that of Repo GMRA’s adopter increased from 4 banks to 74 banks, while the banks conducted repo transactions increased from 4 banks to 44 banks. In accordance with the greater market participants, the daily average of repo volume transactions of all tenors rose twofold from Rp412 billion in semester I, 2016 to Rp1,064 billion in semester II, 2016.

Correspond to the decline in the Interbank Money Market interest rate in semester II, 2016, the Interbank Repo interest rate also decreased compared to that of the previous semester. The daily average of interbank Repo interest rate for all tenors decreased from 5.28% - 6.50% to 4.96% - 5.69%.

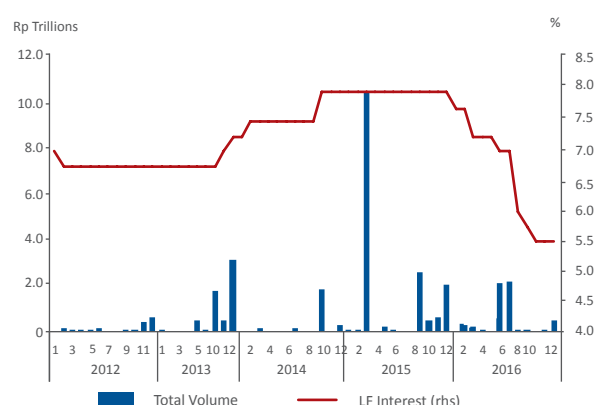
In addition to liquidity management through interbank Repo market, banks are also able to conduct Repo transaction with Bank Indonesia. In the reporting semester, Repo transaction between banks and Bank Indonesia increased, as reflected in the rise of total transaction volume of Lending Facility (LF) from Rp2.6 trillion in semester I, 2016 to Rp2.69 trillion in semester II, 2016. The higher LF volume in semester II, 2016 compared to that of semester I, 2016 was due to short-term liquidity mismatch.

Graph 2.17. Interbank Repo Transactions



Source: Bank Indonesia

Graph 2.18. Lending Facility Transaction



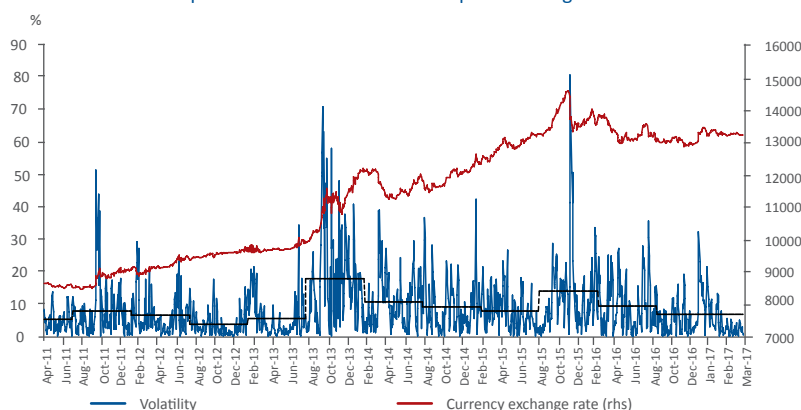
Source: Bank Indonesia

2.2.2. Foreign Exchange Market

In the second semester of 2016, risk in foreign exchange market tended to decline, reflected by the decrease of average volatility of exchange rate (Rupiah against USD) from 9.54% in semester I, 2016 to 6.81% in semester II, 2016 and the relatively stable risk premium. Meanwhile, the weakening of Rupiah from Rp13,210 per US Dollar at the end of semester I, 2016 to Rp13,473 per US Dollar in the end of semester II, 2016 was affected by the seasonal factor of higher demand on US Dollar at the end of the year despite US presidential election sentiment and speculation towards FFR hike.

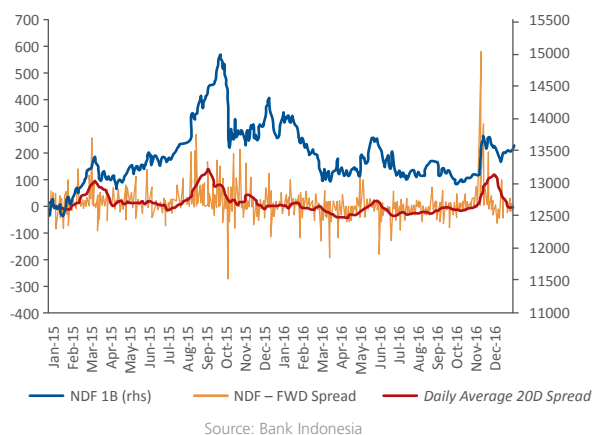
Unlike the average volatility of Rupiah exchange rate that tended to decline, the spread of NDF transaction against domestic forward tended to be higher. The spread increased was temporary, triggered by Trump's elected sentiment before the spread decline at the end of 2016. In the second semester of 2016, the average of NDF transaction spread against 1 month forward domestic recorded at 9.33 points, higher than that of the previous semester at minus 10.09 points. Meanwhile, in some countries in the region, NDF transaction spread against forward domestic varied, reflected foreign investor's perception towards the countries' exchange rate.

Graph 2.19 The Performance of Rupiah Exchange Rate

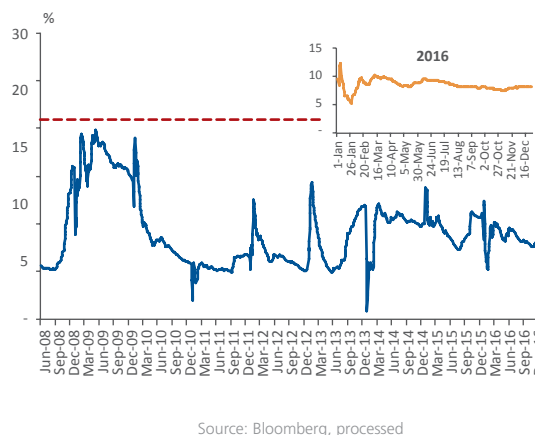


Source: Bloomberg, processed

Graph 2.20. Foreign Exchange Market Risk Premium



Graph 2.21. Rupiah Volatility



Transaction in domestic foreign exchange market remained predominantly by spot transaction that reached to 63.42% from total transaction. Meanwhile, the share of swap and forward derivative transactions was 30.63% and 5.95% respectively, lower than that of the previous semester at 31.52% and 5.58% respectively. Less demand from business players and the relatively high premium cost of derivative transaction contributed to the remain low share of swap and forward transactions.

2.2.3. Bond Market

2.2.3.1. Government Securities (SBN) Market

In the semester II, 2016, the SBN market was fairly

distressed due to negative sentiment from external, especially concerns regarding economic policies that will be issued by the new government of the United States such as trade protection, tax cuts, corporate tax repatriation, and FFR increase towards the end of second semester 2016. Pressures in the SBN market, reflected in falling prices and rising yield on government securities impacted the foreign investors' ownership in the SBN market. The SBN ownership by foreign investors during the second semester of 2016 was recorded at Rp21.87 trillion or in terms of share, it slightly decreased from 39.10% to 37.55% of the total volume of outstanding SBN. However, the

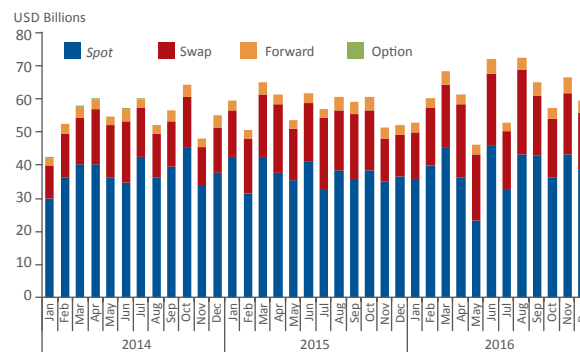
Table 2.4 A Comparison of Average NDF Spread in the Region

Point

Country	2014		2015		2016	
	Sem I	Sem II	Sem I	Sem II	Sem I	Sem II
Thailand	0.01	0.02	0.04	0.06	(0.00)	(0.01)
Malaysia	(0.00)	0.00	(0.00)	(0.00)	(0.01)	0.00
Philippines	(0.01)	0.01	(0.02)	0.05	0.04	0.09
India	(0.12)	(0.11)	(0.08)	(0.05)	(0.04)	(0.05)
Indonesia	(54.18)	14.20	25.77	41.45	(10.09)	9.33

Source: Bloomberg

Graph 2.22 Composition of the Domestic Foreign Exchange Market



decline lower than that of the previous semester's of Rp85.47 trillions or fell to 15.30% from the value of the previous year's second semester. The relatively high yield of Indonesian Government Bonds compared to the yield of similar instruments from other developing countries was a balancing factor for foreign investors to retain their ownership in the Indonesian government securities.

Meanwhile, the SBN ownership by domestic investors particularly by bank, insurance company, and pension fund rose. The increase of SBN ownership by insurance and pension funds was influenced by among others the implementation of Financial Services Authority (OJK)² regulation that requires Non-Bank Financial Institutions (LKBB) to meet certain percentage of total investment in SBN. Although the LKBB's SBN ownership tended to increase, the SBN ownership by domestic investors remained dominated by banks. At the end of semester II 2016, banks held 22.53% of total outstanding SBN, up from 21.95% in the previous semester. Likewise, the ownership of SBN by LKBB investors such as insurance and pension funds

increased both in nominal and percentage. Compared to the previous semester, the percentage of SBN ownership by insurance and pension funds rose to 13.44% and 4.92%.

Throughout the second semester of 2016, SBN price fall, as reflected by the decline of Inter Dealer Market Association (IDMA) Index from 101.77 to 99.09 or decreased by 2.63% compared to that of semester I, 2016. It followed by the hike of SBN yield, mainly for 10-years tenor which increased by 50 bps to 7.91%. The increase in yield was also followed by an increase in average volatility to 15.33% from the previous period of 9.81%.

Overall, yields for all SBN tenors rose with the highest increase in short tenor. This indicated that investors' perception on the Trumps' sentiment and FFR increase will remain influence the Indonesian economy in the short term. In addition, the increase of yield and volatility of SBN were also in line with the increase of government bonds' yield of some neighboring countries affected by external sentiment.

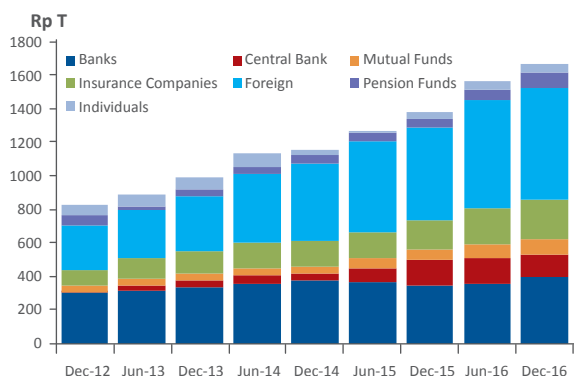
Table 2.5 Composition of SBN Holdings

Holder	2015				2016				Δ Sem II-I	
	Sem - I		Sem - II		Sem - I		Sem - II		Nominal (Rp T)	Share
	Total (Rp T)	Share	Total (Rp T)	Share	Total (Rp T)	Share	Total (Rp T)	Share		
Banks	369.11	27.21%	350.07	23.95%	361.54	21.95%	399.46	22.53%	37.92	9.49%
Central Bank	80.58	5.94%	148.91	10.19%	150.13	9.12%	134.25	7.57%	(15.88)	-11.83%
Mutual Funds	56.28	4.15%	61.60	4.21%	76.44	4.64%	85.66	4.83%	9.22	10.77%
Insurance Companies	161.81	11.93%	171.62	11.74%	214.47	13.02%	238.24	13.44%	23.77	9.98%
Foreign	537.53	39.63%	558.52	38.21%	643.99	39.10%	665.81	37.55%	21.82	3.28%
Pension Funds	46.32	3.42%	49.83	3.41%	64.67	3.93%	87.28	4.92%	22.61	25.91%
Individuals	0.03	0.00%	42.53	2.91%	48.90	2.97%	57.75	3.26%	8.85	15.33%
Others	104.02	7.67%	78.50	5.37%	86.72	5.27%	104.80	5.91%	18.08	17.25%

Source: CEIC

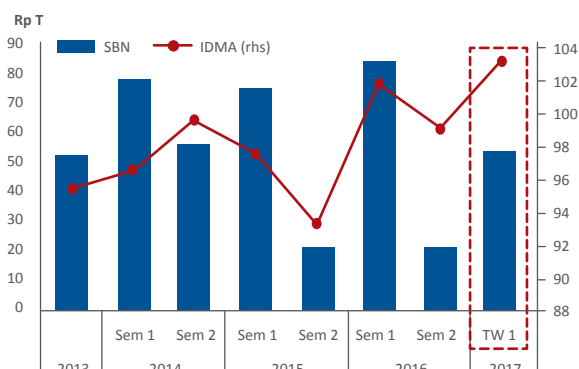
² POJK No. 1/POJK.05/2016 dated January 11, 2016 concerning Investment in Government Securities for Nonbank Financial Institutions

Graph 2.23 Composition of SBN Holdings



Source: CEIC

Graph 2.24 Net Foreign Flows to SBN and IDMA



Source: Bank Indonesia

The increase risk of the SBN market led to SBN's lower trade volumes as reflected by the decline in the turnover ratio from 19.91% in the semester I, 2016 to 14.30% in October 2016.

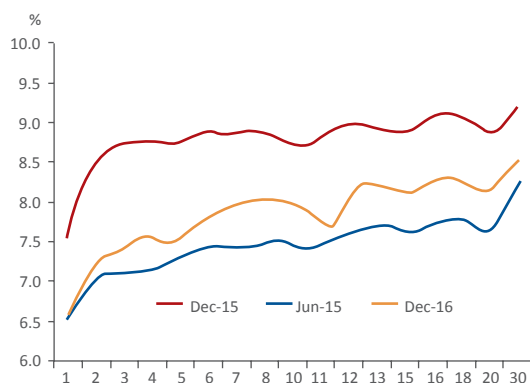
In line with the increase of SBN issuance, the ratio of SBN to GDP in Indonesia also arose in September 2016 that recorded at 54.4%, higher than that of 52% in the previous semester.

Nevertheless, the ratio of SBN to Indonesia's PDB remained lower than that of other neighboring countries where Thailand recorded the highest ratio followed by Philippines and Malaysia.

2.2.3.2. Corporate Bond Market

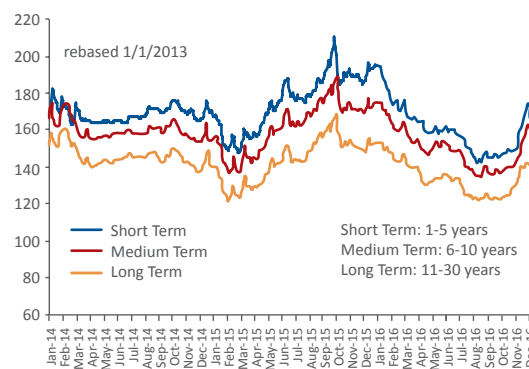
Similar to the development in SBN market, risks in the corporate bond market also increased as reflected by the rising of corporate bonds' yields and volatility. The higher corporate bonds' yield was not only due to the downward correction of SBN prices, but also due to the weakening performance of domestic corporations hence investors required for higher yields. During the second semester of 2016, the yield of corporate bonds for all ratings improved compared to that of the previous semester. The average volatility of corporate bond yields of all tenors also increased from 6.10% to 7.89%.

Graph 2.25 SBN Yield Curve



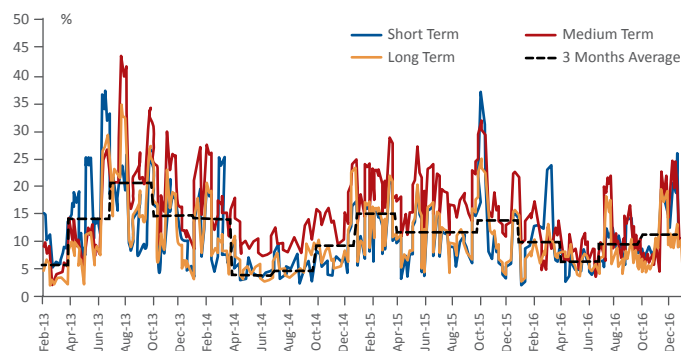
Source: Bloomberg, processed

Graph 2.26 Rebased SBN Yield by Tenor



Source: Bloomberg, processed

Graph 2.27 SBN Yield Volatility by Tenor

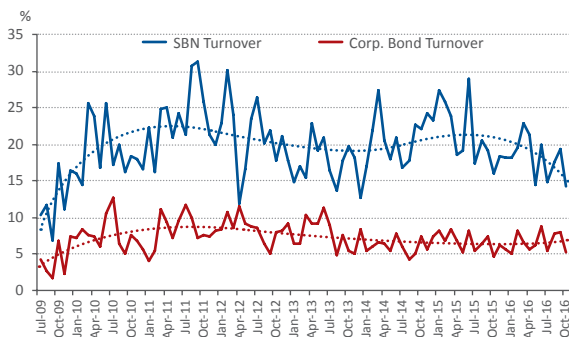


Source: Bloomberg, processed

Meanwhile, outstanding corporate bonds at the end of semester II 2016 rose by Rp34.79 trillion from the position of the previous semester to Rp302.09 trillion. From the total, the value of corporate bonds owned by foreign investors increased by Rp1.13 trillion to

Rp19.34 trillion, or grew 6.22%. Despite improved in terms of nominal, the share of corporate bonds by foreign investors decreased from 6.81% to 6.40%.

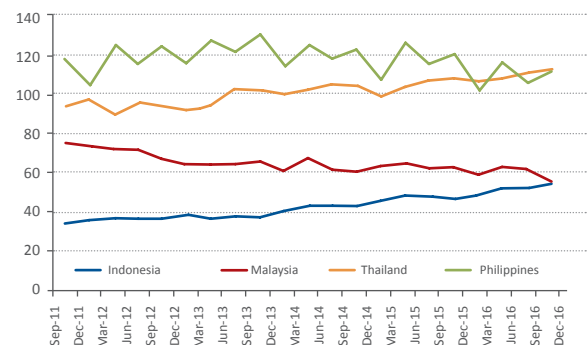
Graph 2.28 SBN and Corporate Bond Transaction Turnover



Turnover = Traded bonds volume/ outstanding bonds

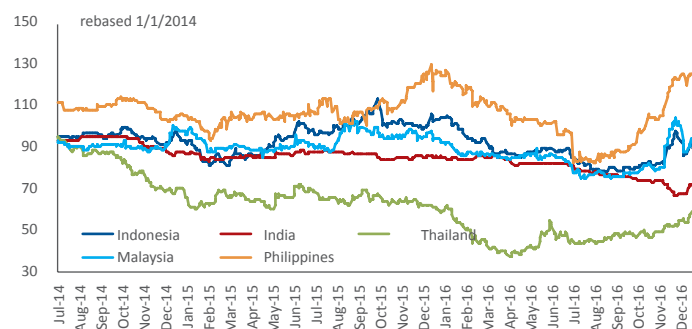
Source: CEIC, processed

Graph 2.29 SBN to GDP Ratio



Source: CEIC, processed

Graph 2.30 Rebased 10-Year SBN Yield in Emerging Market



Source: Bloomberg

Table 2.6 10-Year SBN Yields in the Region (%)

	INDO	INDI	THAI	MALY	PHIL
Jun-15	8.26	8.09	2.62	3.82	3.68
Jul-15	8.42	8.06	2.50	3.88	3.76
Agt-15	8.50	8.02	2.52	4.32	3.67
Sep-15	9.51	7.82	2.53	4.10	3.76
Oct-15	8.67	7.80	2.46	4.05	3.80
Nov-15	8.43	7.89	2.39	4.00	4.16
Dec-15	8.75	7.86	2.25	3.89	4.27
Jan-16	8.18	7.74	1.99	3.62	3.96
Feb-16	7.91	7.85	1.75	3.63	3.84
Mar-16	7.37	7.76	1.46	3.56	3.70
Apr-16	7.37	7.57	1.59	3.65	3.54
May-16	7.51	7.58	2.08	3.66	3.48
Jun-16	7.26	7.49	1.74	3.43	3.33
Jul-16	6.72	7.15	1.73	3.26	2.87
Aug-16	6.77	7.06	1.83	3.20	3.01
Sep-16	6.79	6.88	1.79	3.28	3.16
Oct-16	6.93	6.77	1.87	3.37	3.56
Nov-16	7.92	6.24	2.02	4.33	4.22
Dec-16	7.50	6.62	2.14	3.72	4.27

Source: Bloomberg, processed

Table 2.7 10-Year SBN Yield Volatility in the Region (%)

	INDO	INDI	THAI	MALY	PHIL
Jun-15	18.11	6.56	25.71	27.06	29.16
Jul-15	10.76	4.36	13.12	21.74	33.09
Aug-15	13.43	5.55	21.62	27.22	31.42
Sep-15	13.61	6.73	23.26	22.64	137.68
Oct-15	22.25	4.51	20.11	13.37	24.42
Nov-15	7.81	3.66	19.32	20.36	14.63
Dec-15	15.45	3.47	8.57	13.14	44.29
Jan-16	12.20	2.57	24.13	12.62	20.61
Feb-16	7.56	5.66	41.71	11.86	31.95
Mar-16	14.42	4.57	21.01	8.37	26.02
Apr-16	6.76	6.62	31.36	10.86	20.09
May-16	8.13	1.81	45.47	28.62	11.25
Jun-16	9.79	2.69	46.81	7.38	22.05
Jul-16	12.50	6.49	21.88	25.72	65.48
Aug-16	10.21	3.20	16.27	10.27	32.05
Sep-16	9.24	6.43	23.47	11.97	13.50
Oct-16	9.00	2.54	23.89	14.82	17.27
Nov-16	29.95	14.95	22.90	46.69	18.69
Dec-16	21.04	14.98	20.98	33.67	21.26

Source: Bloomberg, processed

Based on the group of ownership, there was no significant change in the share of corporate bond holding of each group. The largest holder remained mutual funds, pension funds, and financial companies. During the reporting period, the ownership of corporate bonds by the three groups increased with

the ownership of mutual funds and pension funds increased of 32.47% and 29.35% respectively.

2.2.4. Stock Market

Throughout the second semester of 2016, risk in stock market rose despite relatively limited. Its volatility increased compared to that of previous period, both

Table 2.8 Corporate Bond Holdings

Rp Triliun

Holder	2015				2016			
	Sem I		Sem II		Sem I		Sem II	
	Total	%	Total	%	Total	%	Total	%
Corporate	10.57	4.55%	9.37	3.86%	9.39	3.60%	7.89	3.25%
Individual	6.28	2.71%	6.32	2.61%	6.54	2.51%	8.96	3.69%
Mutual Funds	48.49	20.89%	54.38	22.43%	63.82	24.45%	78.72	32.47%
Securities Companies	0.92	0.40%	0.68	0.28%	0.84	0.32%	0.42	0.17%
Insurance Companies	34.22	14.75%	36.66	15.12%	41.58	15.93%	55.22	22.78%
Pension Funds	65.17	28.08%	68.92	28.43%	68.80	26.36%	71.16	29.35%
Financial Companies	49.11	21.16%	54.07	22.30%	56.68	21.72%	65.38	26.97%
Foundations	1.38	0.59%	3.06	1.26%	3.55	1.36%	3.76	1.55%
Others	10.34	4.46%	8.98	3.70%	9.80	3.76%	11.42	4.71%
Total	232.07		242.44		261.00		302.92	

Source: OJK Reports, processed

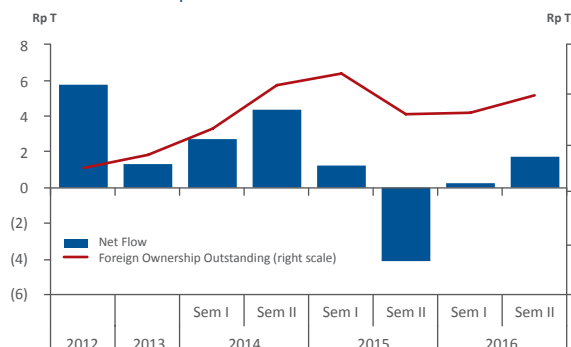
in aggregate and sectoral. However, JCI remained increase despite lower than that of previous semester. By the end of 2016, Jakarta Composite Index (JCI) strengthened by 5.58% to 5,296.7, although the strengthening was lower than that of in semester I, 2016 which reached 9.22%.

The weakening stock market was also experienced by several countries in the region such as by India, Malaysia, and the Philippines. The weakening stock market in the region was mainly influenced by the sentiments of US presidential elections. Concerns over the global economic outlook following potential changes in the new US government's economic platform prompted investors to adjust their portfolios,

leading to an increase in average stock market volatility in the second half of 2016.

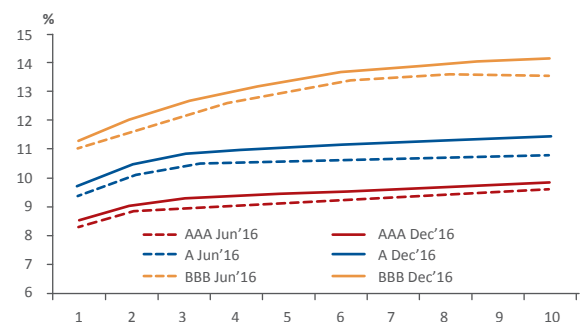
In the reporting period, foreign investors remained purchasing stocks thus foreign capital inflows reached Rp2.69 trillion. Nonetheless, by net stock unit, the stock holding by foreign investor decreased of 20.65 billion units. The largest decline in ownership occurred in the mining sector amounted to 38.16 billion units. In sectoral, stock prices volatility in miscellaneous industry and mining sectors tended to be higher than that of in other sectors. The high volatility in the miscellaneous industry sector was due to the movement of Astra stock price which held almost 85% of the capitalization of the miscellaneous industry

Graph 2.31 Net Foreign Flows and Foreign Holdings of Corporate Bonds



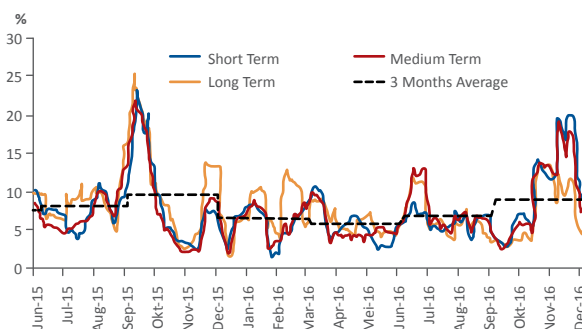
Source: CEIC, processed

Graph 2.32 Corporate Bond Yield Curve



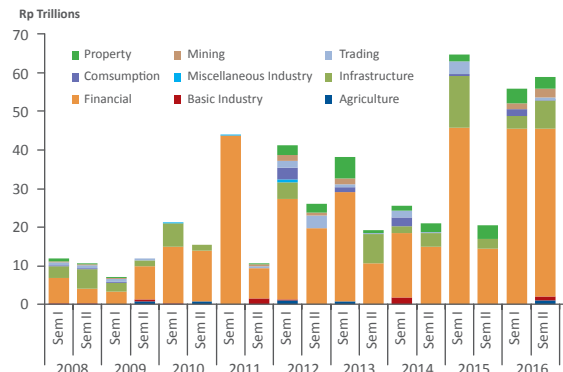
Source: CEIC

Graph 2.33 Corporate Bond Yield Volatility by Tenor



Source: Bloomberg, processed

Graph 2.34 Corporate Bond Issuance by Sector



Source: OJK Reports, processed

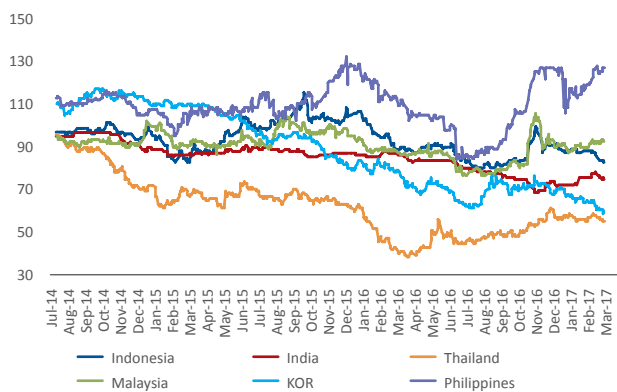
sector. Meanwhile, the high volatility of the mining sector was influenced by the rising of commodity prices, especially coal, which triggered the significant stock prices increase of several mining companies.

Throughout second semester of 2016, the daily average of stock transaction volume recorded an increase by Rp7.7 trillion compared to that of semester I, 2016 by Rp5.86 triliion. Transaction ratio turnover in stock market also rose which indicated more liquid stock market condition through reporting period than that of previous period.

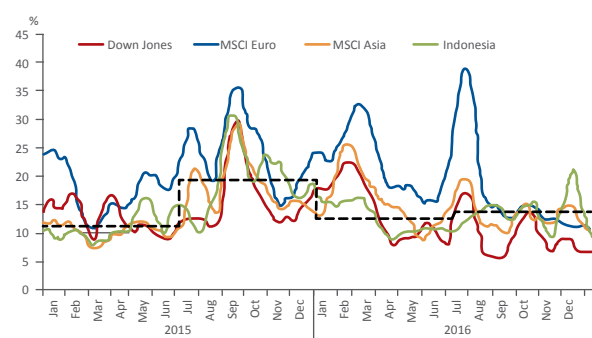
This was attributed to the JCI performance which considered remain prospective along with the positive sentiment of the increase in revenue of the majority of issuers. The sound performance of stock market issuers was also in accordance with the improvement of domestic economic fundamentals so as to have a positive effect in increasing the volume of stock market transactions.

Technically, stock movement in the second half of 2016 remained positive despite stock movement weakening from November to December. JCI's positive movement was triggered by the increase of blue chip stocks as reflected by the strengthening of the index of LQ45 of 2.78% from 860.72 during the first half of 2016 to 884.62 in the second half of 2016. The rise of

Graph 2.35 Regional Stock Indexes



Graph 2.36 Stock Price Volatility



Graph 2.37 Foreign Capital Inflows to Regional Stock Markets



Graph 2.38 Net Foreign Trade on the Stock Market and JCI

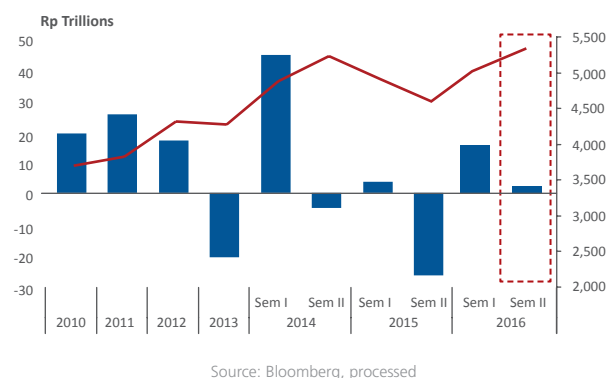


Table 2.9 Foreign Stock Holdings by Business Group (Rp, trillions)

Equity	Jun-15	Dec-15	Jun-16	Dec-16	ΔSem II'15	Δ Sem I'16	ΔSem II'16
Financial Institutions	240.20	241.78	245.91	234.46	1.58	4.13	(11.45)
Consumption	38.54	38.55	72.75	73.43	0.01	34.20	0.68
Trading	243.00	255.11	249.18	266.86	12.11	(5.94)	17.68
Infrastructure	117.33	128.57	131.74	131.63	11.24	3.17	(0.11)
Property	159.48	158.19	170.29	184.52	(1.29)	12.09	14.24
Miscellaneous Industry	36.02	36.39	35.68	34.71	0.37	(0.71)	(0.97)
Basic Industry	79.09	75.01	76.32	76.18	(4.07)	1.30	(0.14)
Mining	160.78	163.27	179.24	141.07	2.49	15.96	(38.16)
Agriculture	42.25	43.97	43.55	41.14	1.72	(0.42)	(2.41)
Foreign Ownership	1,116.71	1,140.86	1,204.65	1,184.00	24.15	63.79	(20.65)

Source: OJK Reports

Table 2.10. Sectoral Indexes Volatility

Equity	2014		2015		2016	
	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2
JCI	14.56	10.79	11.41	19.53	11.84	13.84
Financial	19.51	13.52	14.00	25.38	15.76	15.16
Agriculture	18.50	16.38	21.78	24.57	19.82	14.42
Basic Industry	21.21	16.17	16.22	31.85	16.79	17.65
Consumption	15.13	11.82	17.76	22.71	18.33	20.26
Property	21.55	17.75	17.13	21.71	13.66	16.23
Mining	15.95	15.49	13.25	18.09	18.95	21.92
Infrastructure	16.72	12.33	12.20	19.55	16.60	18.19
Trading	11.94	11.90	12.51	16.01	11.28	12.87
Miscellaneous Ind	24.02	19.42	22.73	36.11	27.93	27.64

Sumber: Bloomberg, diolah

the LQ45 index was influenced, among others, by the strengthening of miscellaneous industry, consumption, and infrastructure indexes where the strengthening of each sector index was influenced mainly by the movement of shares of Astra International, HM Sampoerna, and Telkom. The shares of these issuers control 31.7% of the capitalization of LQ45 and 21.7% of JCI capitalization.

2.2.5. Mutual Funds³

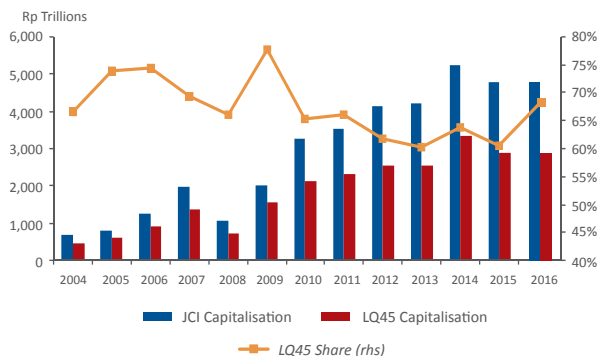
Throughout the second half of 2016, mutual funds continued to grow positively amidst the SBN market weakening and the stock market limited strengthening. The increase in net purchases of mutual fund units led the Net Asset Value (NAV) in the second semester of 2016 to grow by 6.97%, although it was lower than that of the first semester of 2016 which improved by

Graph 2.39 Stock Market Turnover

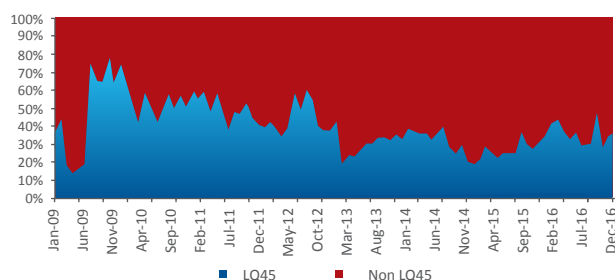


Source: Bloomberg, processed

Graph 2.40 JCI and LQ45 Capitalisation



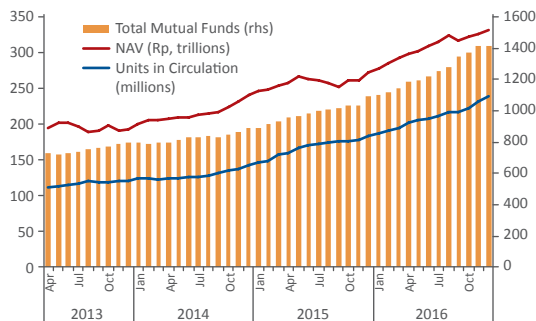
Graph 2.41 The Share of JCI Trade Frequency



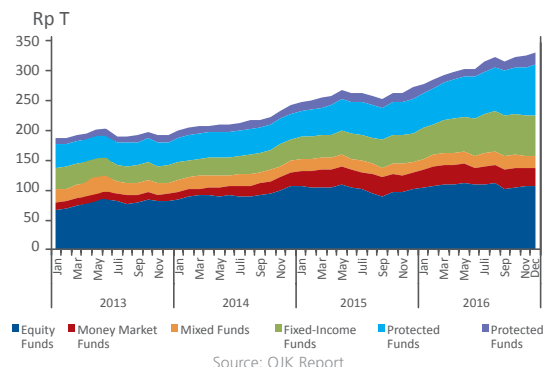
13.78%. The slowing down of NAV growth was due to the weakening of underlying assets' prices. It was also influenced by the performance of equity funds that held 32.02% of mutual fund market share amid a limited increase in the stock market performance

due to the impact of external pressures. By nominal, the types of mutual funds that experienced the greatest increase in NAV were fixed income funds and protected funds. During the reporting period, NAV volatility of fixed income funds, mixed funds,

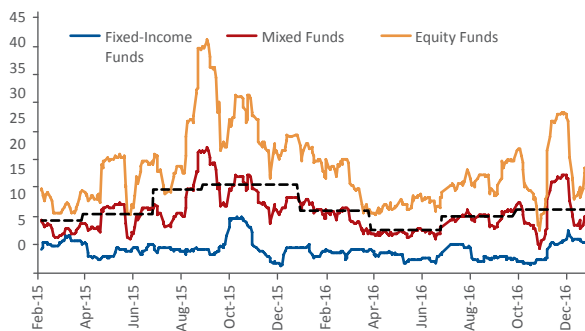
Graph 2.42 The Performance of Mutual Funds



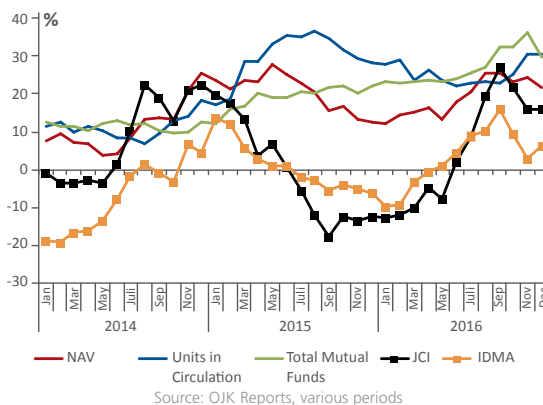
Graph 2.43 NAV of Mutual Funds by Type



Graph 2.44 NAV Volatility of Mutual Funds



Graph 2.45 Growth of Mutual Funds (yoy)



³ Mutual funds are investment vehicle managing a pool of investors' funds accumulated through the purchase of mutual fund units for the purpose of investing the accumulated fund in available market instruments.

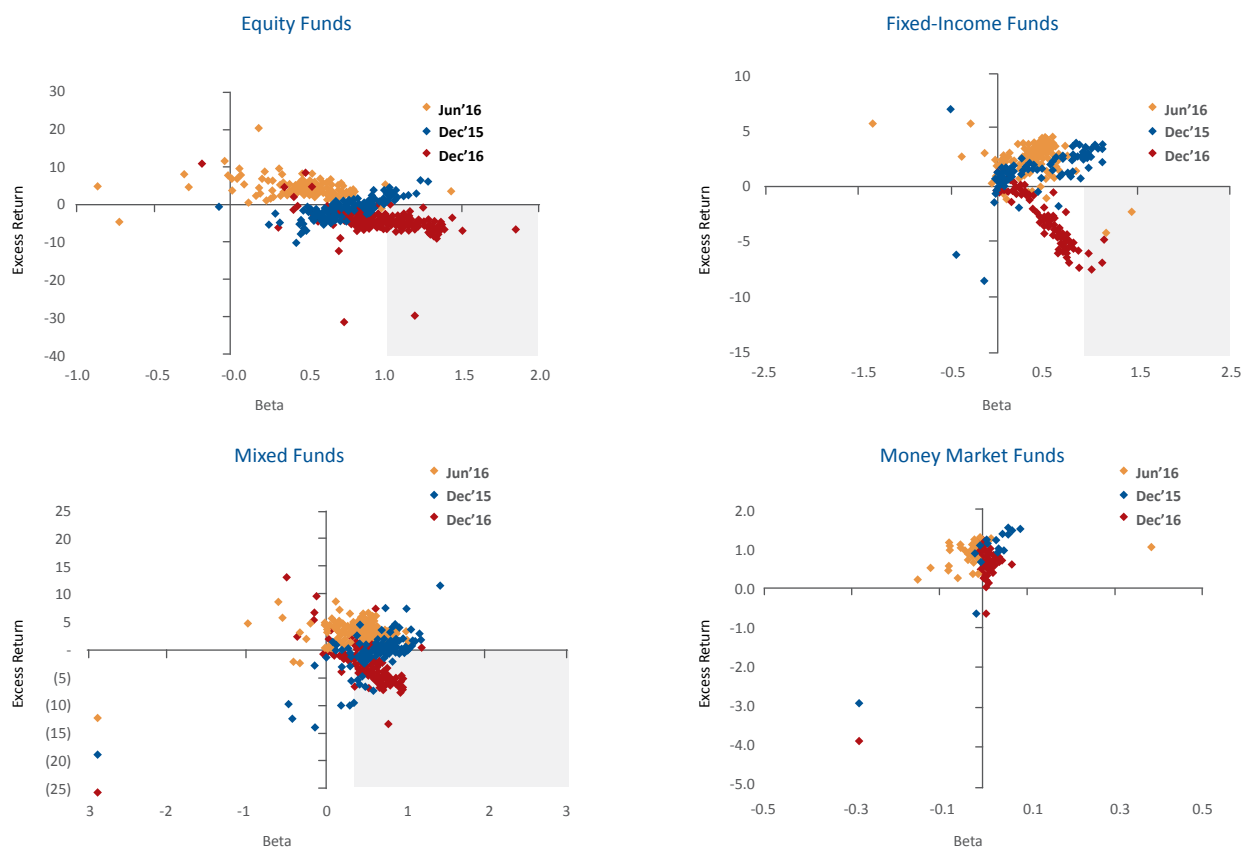
and equity funds increased, among the three types of mutual funds, higher NAV volatility increase recorded by mixed mutual funds and equity funds.

Based on the types of mutual funds, the majority performance of mutual funds in semester II, 2016 declined compared to that of semester I, 2016. The risk profile quadrant showed that the majority of excess return positions in December 2016 (red dots) was lower than that of the position of June 2016 (green dots). In terms of risk, the volatility of stock and

fixed income funds increased during the second half of 2016 in line with the increased risk of the mutual funds' underlying assets.

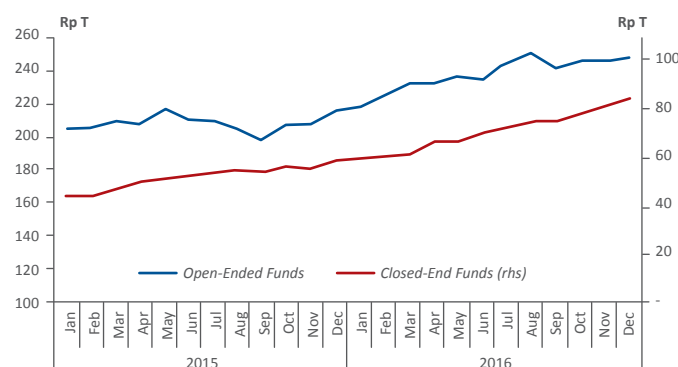
In the second semester of 2016, the growth of open end and close end mutual funds were 5.45% and 20.60% respectively. The growth was slower than that of semester I, 2016 which correspondingly reached at 9.26% and 20.96%.

Graph 2.46 The Risk Profile of Mutual Fund Products



Source: Bloomberg, processed

Graph 2.47 The average NAV of Closed-End and Open-Ended Funds



Source: OJK, processed

*) Protected Mutual Funds was used as a proxy of Close End Mutual Fund

2.3. Assessment of Sharia Financial Market Conditions and Risks

2.3.1. Sharia Capital Market

The performance of Sharia capital market throughout the second semester of 2016 improved as suggested by the growth of market capitalization of Sharia Stock Index (ISSI), the outstanding of government and corporate sukuk, as well as Sharia mutual funds. The positive performance reflected the development of sharia instruments and sharia financial sector penetration to the national financial sector.

As of December 2016, the value of sharia stock market reached Rp3,170 trillion. Meanwhile, the outstanding government and corporate sukuk were recorded at Rp413 trillion and Rp12.3 trillion respectively. Furthermore, the NAV of sharia mutual funds reached Rp14.9 trillion. Among the instruments of sharia financial market, in the second half of 2016 government sukuk recorded the highest growth of 40.8% in line with the increase of instruments' transaction volume of sharia financial institutions.

Outstanding corporate sukuk in December 2016 recorded at Rp11.82 triliun, increased from Rp11.11 triliun in June 2016. However, the growth of outstanding corporate sukuk in December 2016 was recorded only at 20.62% (yoy), lower than that of in June 2016 which recorded at 31.58% (yoy).

The high performance of sharia capital market has increased the share of sharia capital market to national capital market. The contribution or the share of sharia capital market to the national capital market total capitalization reflected by the share of sharia equity market capitalization compared to that of national equity market (55.11%), the share of outstanding government sukuk compared to that of government bonds (14.84%), the share of outstanding corporate sukuk compared to that of corporate bonds (3.78%), and the share of sharia mutual funds NAV compared to that of national mutual funds NAV (4.41%).

2.3.2. The Performance of Sharia Stock Market

In the second semester of 2016, the performance of sharia stock market improved as reflected by the growth of market capitalization of Indonesian Sharia Index (ISSI) which reached 21.89% (yoy), higher than

the market capitalization growth of ISSI and JCI in December 2016 which reached at 5.24% (yoy) and 17.96% (yoy) respectively. The performance of sharia stocks contributed to the performance of JCI due to the large share of sharia stocks that constituted 55.11% of the overall stocks that formed the JCI.

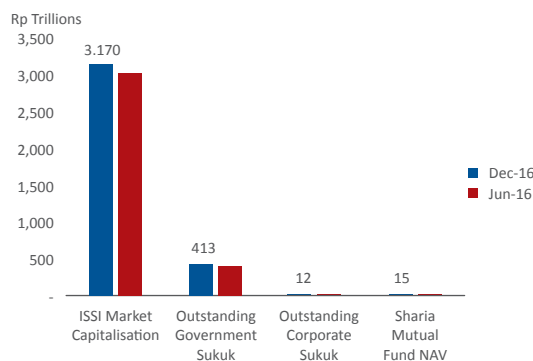
From the issuer's side, the list of issuers whose share met the criteria of sharia securities and the issuers formed the sharia index were listed on the list of sharia securities, published regularly by OJK (FSA). As of December 2016, the number of sharia securities issuers has reached 345 companies or increased by 24 companies from that of June 2016.

The number of companies listed in the stock exchange and met the criteria of sharia stocks tend to increase

every year. Although no IPO was conducted by sharia compliant companies in 2016, the sharia stock market capitalization at the end of 2016, as represented by ISSI market capitalization, reached Rp3,170 trillion, higher than that of the previous semester of Rp3,030 trillion.

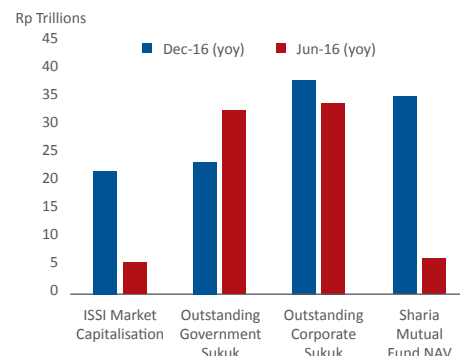
By the end of the semester II, 2016, ISSI was recorded at 172.08, an upswing of 6.14 points and 27.02 points compared to that of June 2016 and at the end of December 2015 respectively, while ISSI volatility recorded at 16.44 points at the end of 2016. Meanwhile, the Jakarta Sharia Index (JII), consisted of 30 sharia stocks with high liquidity, recorded volatility of 21.2 points in December 2016, higher than that of ISSI and JCI. The JII only increased 90.78 points from that of December 2016, but it fell 0.22 points compared to that of June 2016.

Graph 2.48 Accumulated Funds on Sharia Capital Market

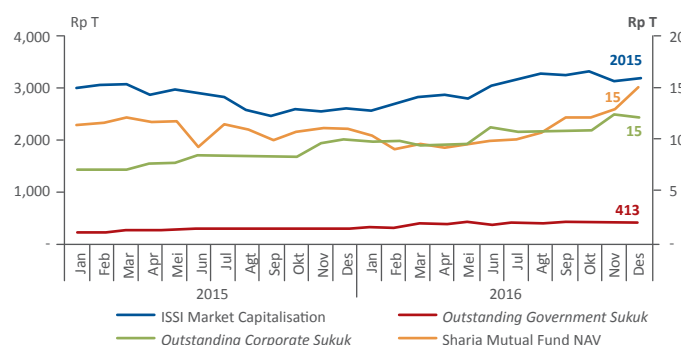


Source: Bloomberg and OJK Share Statistics, processed

Graph 2.49 The Growth of Sharia Capital Market

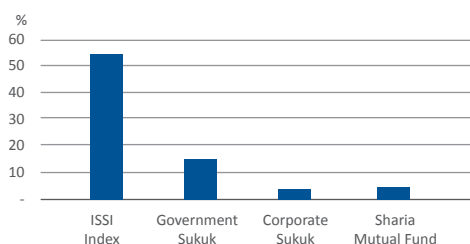


Graph 2.50 Sharia Capital Market Development



Source: Bloomberg, OJK Capital Market Statistics

Graph 2.51. The Share of Sharia Capital Market Share as of December 2016



Graph 2.52. Sharia Securities List Development

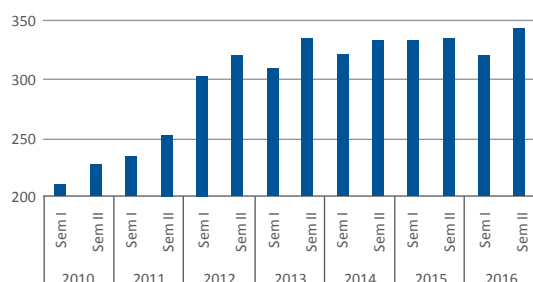


Table 2.11. Sharia Securities List Distribution

Period		Efek				Number of Securities
		Listing	Public	Non Listing	IPO	
2014	Sem I	301	4	12	5	322
	Sem II	314	4	13	3	334
2015	Sem I	313	4	13	4	334
	Sem II	315	4	12	4	335
2016	Sem I	307	4	10	0	321
	Sem II	332	4	9	0	345

Source: The List of Sharia Securities, OJK

2.3.3. Sharia Mutual Fund

Throughout semester II, 2016, the NAV growth of sharia mutual fund tended to increase, higher than that of conventional NAV mutual funds. Nevertheless, the market share of sharia mutual funds to total mutual funds was still relatively small at 4.41% at the end of second semester of 2016, slightly increased compared to that of at the end of the first semester of 2016 and at the end of the second semester of 2015 which recorded at 3,2% and 4.05% respectively.

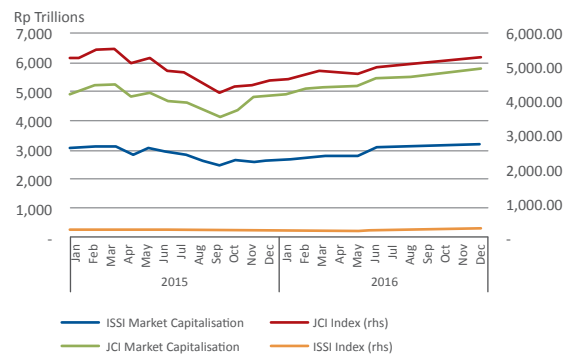
According to the type of sharia mutual funds, the NAV of the sharia equity funds remained dominate the sharia mutual funds' NAV with the sharia equity funds' NAV of Rp8.01 trillion or 53.65% of the total NAV of sharia mutual funds, followed by the share of protected sharia mutual funds and fixed-income sharia mutual funds, respectively at 14.47% and 12.46%. Whilst, the share of index mutual funds to the sharia mutual funds total was the smallest, with NAV of Rp450 billion or 3.01% of the total NAV of sharia mutual funds.

2.3.4. Government Sukuk

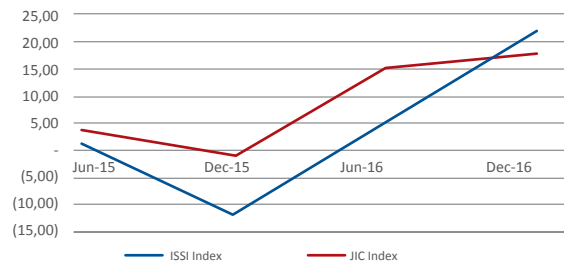
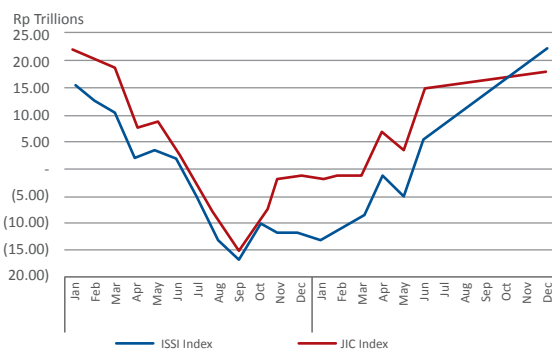
During the second semester of 2016, the issuance of government sukuk recorded at Rp56 trillion or lower than that of the first semester of 2016 at Rp934.98 triliion. The issuance value of government sukuk in the reporting semester was also lower than that of conventional government securities (government bond) of Rp222.97 trillion.

The total issuance value of government sukuk in 2016 was recorded at Rp991 trillion or higher than that of the issuance value of government bond of Rp878 trillion. This was in contrast to the government sukuk issuance in the previous two years, where in 2014 and 2015 the issuance of government bonds was recorded double from the government sukuk issuance. Additionally, the share of government sukuk to government bonds continues to increase since 2014. By the end of the second semester of 2016, the share of the government sukuk reached 14.8% of the total government bonds. This showed that the interest to government sukuk was sufficiently high.

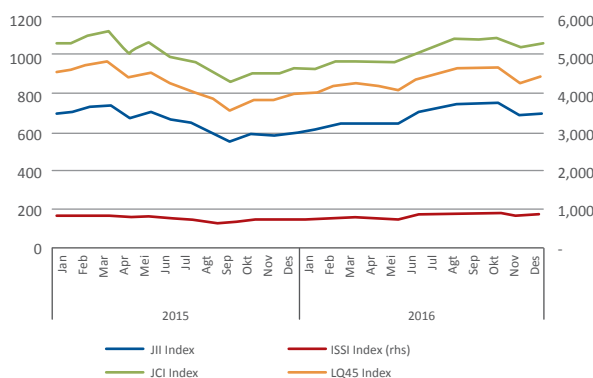
Graph 2.53. JCI and ISSI Comparison



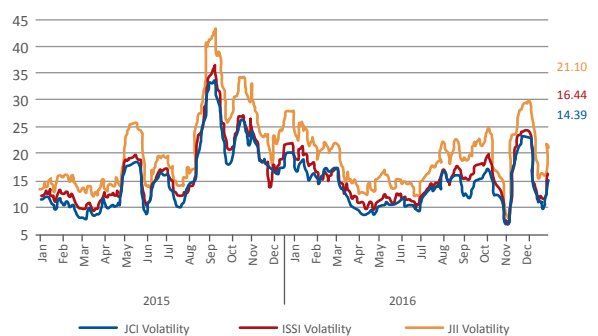
Graph 2.54. Market Capitalisation Growth (yoy)



Graph 2.55. Sharia Stock Index Development



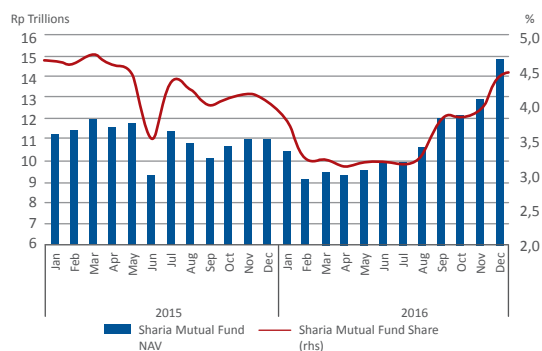
Graph 2.56. Stock Index Volatility



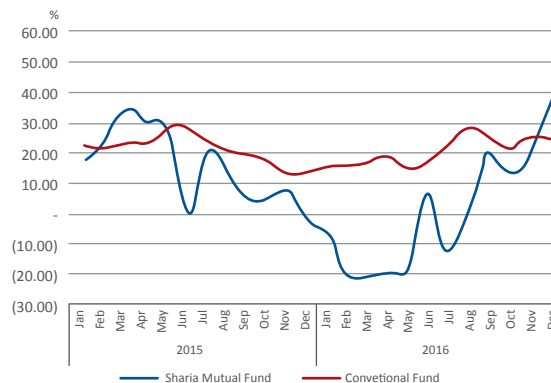
The greatest issued sukuk by government in the second semester of 2016 was Global Sukuk (SNI) with total issuance of Rp331 trillion. SNI was sukuk issued in international market in USD currency with 5-10 years terms and the State's property as underlying asset of the sukuk.

At the end of second semester of 2016, the greatest outstanding Sukuk was Project Based Sukuk (PBS) or medium-long term sukuk issued with underlying assets in the form of projects funded by the State Budget (APBN). The outstanding of PBS sukuk reached Rp154 trillion, or an increase of 86.14% (yoy). This

Graph 2.57. Sharia Mutual Fund Net Activa Value (NAV)

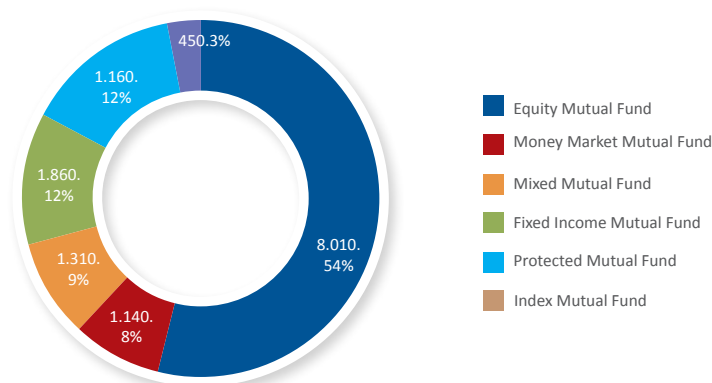


Graph 2.58. Sharia NAV Growth



Source: OJK Capital Market Statistics, processed

Graph 2.59. Sharia Mutual Fund NAV based on Mutual Fund Types

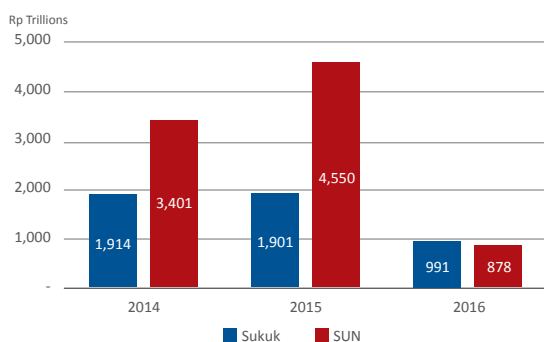


Source: OJK Capital Market Statistics, processed

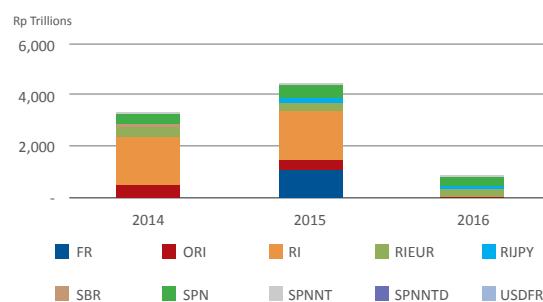
high growth reflected the potential source of funding for government projects other than sourced from the state budget. Based on the sukuk's term, since 2015, the issuance of the government sukuk was dominated by sukuk with term longer than 10 years.

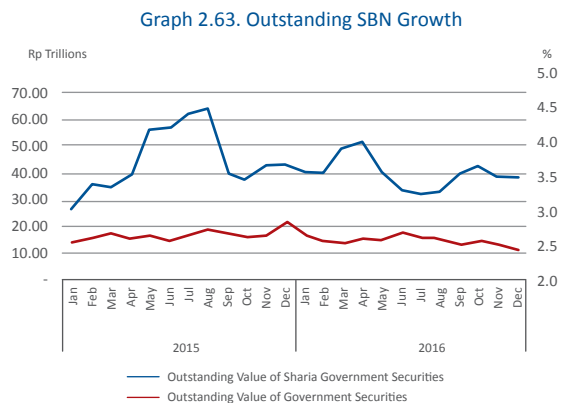
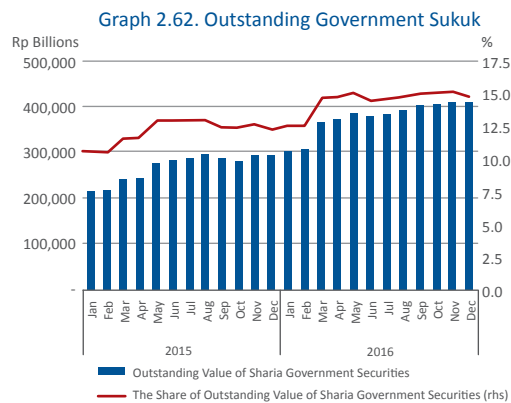
The outstanding of sukuk with more than 10 years term reached Rp163.2 trillion at the end of second semester of 2016, higher than that of at the end of first semester of 2016 recorded at Rp155.50 trillion.

Graph 2.60. Government Securities Issuance



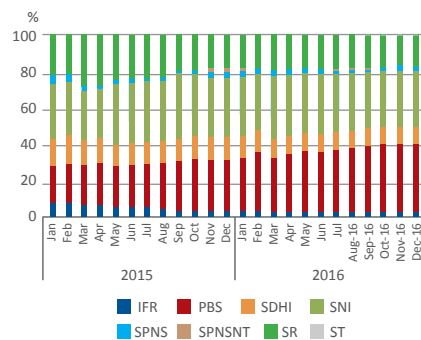
Graph 2.61. Sukuk Issuance Based on Types



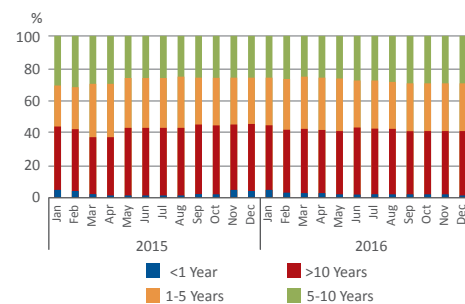


Source: DJPPR, Ministry of Finance, processed

Graph 2.64. Sukuk Composition Based on SBSN Series



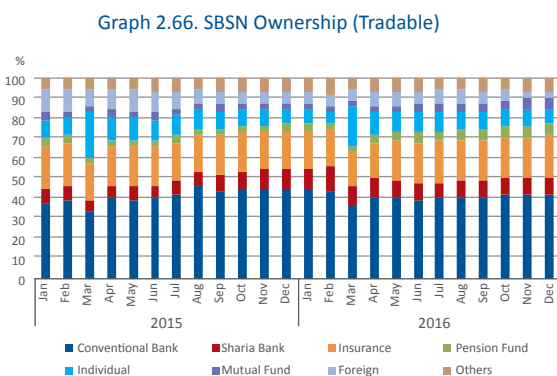
Graph 2.65. Sukuk Composition Based on Terms



Source: DJPPR, Ministry of Finance, processed

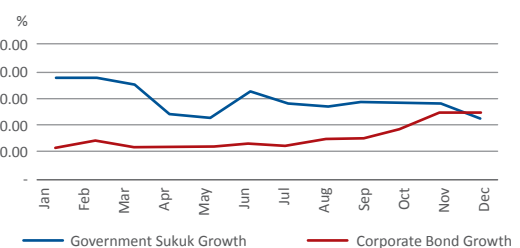
Government sukuk excluding Indonesia's Hajj Fund Sukuk (SDHI) is a tradable instrument in the secondary market, in which the SDHI outstanding by the end of December 2016 was 8.89% of the total outstanding of government sukuk. Until the end of second

semester of 2016, the ownership of tradable global sukuk in domestic market was still dominated by conventional banking with ownership share reached 41%. Meanwhile, ownership by insurance and sharia banking was recorded at 20.3% and 9.1%, respectively.



Source: DJPPR, Ministry of Finance, processed

Graph 2.67. The Growth of Government Sukuk and Corporate Bond



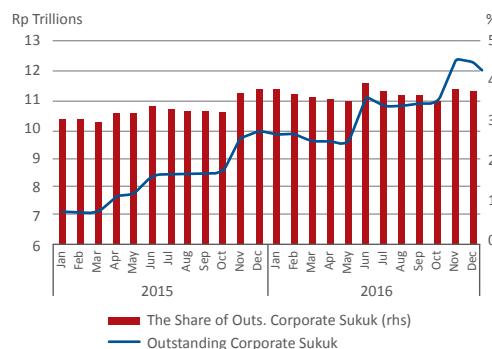
Source: OJK Capital Market Statistics, processed

From the total of global sukuk ownership, both tradable and non tradable, the banking ownership continued to increase. At the end of second semester of 2016, government sukuk ownership by banks reached 50.28% or Rp123.54 trillion by which the conventional banks dominated the ownership by Rp101 triliion and the rest by Rp22 trillion owned by sharia banks. Non-banks ownership such as individuals also increased i.e. reached Rp19.06 trilion or 7.8% of the total government sukuk.

2.3.5. Corporate Sukuk and Corporate Bonds

In second semester of 2016, both the number and the value of corporate sukuk increased namely there were 53 corporate sukuk with total outstanding of Rp12.25 trillion or grew by 23.74% (yoy). However, this growth was lower than that of semester I, 2016 which reached 31.58% (yoy). In addition, corporate sukuk growth in the second semester of 2016 was also slower than that of corporate bonds which grew by 24.73% reached Rp311.67 trillion. The market share of corporate sukuk was relatively stable at 3.8%. By the end of second semester of 2016, mutual funds held the largest share of corporate that equals to 32.21%. Additionally, in the reporting semester, corporate sukuk ownership started to record the sukuk's ownership by individual investors following the increasing offer of alternative products of sharia-based retail investment by the government to individual Indonesian citizens. Corporate sukuk ownership by individual at the end of second semester of 2016 was Rp104 billion or 0.85% of total corporate sukuk.

Graph 2.68. The Market Share Development of Corporate Sukuk



Source: OJK Capital Market Statistics, processed

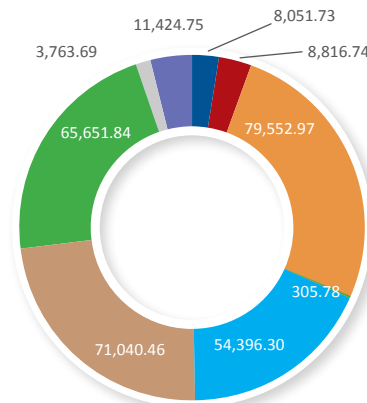
2.3.6. Social Economic Sector

The collection and distribution of annual zakat, infaq, and sadaqah (ZIS) increased. The increase of ZIS collection, however, was higher than that of the distribution. This resulted the less efficient fund management of the ZIS fund in the second semester of 2016. The improvement of the ZIS collection and distribution attributed to better governance and transparency of management and distribution of the ZIS fund by amil zakat and nazhir institutions.

In the second semester of 2016, the collection and distribution of ZIS grew by 11% and 9.5% respectively. This showed that the society commitment to zakat and infaq remained high although it has not accompanied by the ability of zakat management organization in distributing ZIS fund.

Allocation to Collection Ratio (ACR), as a measure of ZIS fund management efficiency, slightly declined from that of previous year, i.e. from 61.6% to 60.6%.

Graph 2.70. Corporate Bond Based on Ownership



■ Corporate ■ Securities Company ■ Financial Institution
■ Individual ■ Insurance ■ Foundation
■ Mutual Fund ■ Pension Fund ■ Others

Source: OJK Capital Market Statistics, processed

West Java, Central Java, East Java, West Sumatera, and Riau provinces. Furthermore, the greatest ZIS fund distribution conducted by West Java, East Java, Aceh, Riau, and West Sumatera provices.

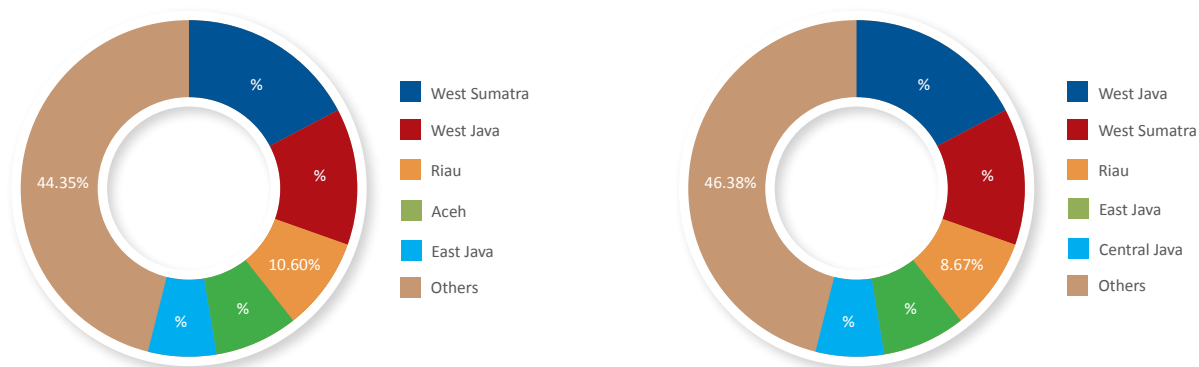
Moving forward, the prospect of social financial sector remains positive following better consolidation of

The chart displays three data series over a three-year period from 2014 to 2016. The left Y-axis represents values in Rp Miliar, ranging from 500 to 4,500. The right Y-axis represents percentages, ranging from 55% to 62%. The legend indicates that blue bars represent Total Collection, red bars represent Total Distribution, and an orange line represents ACR (rhs).

Tahun	Total Collection (Rp Miliar)	Total Distribution (Rp Miliar)	ACR (rhs) (%)
2014	3,450	2,350	61.7
2015	3,700	2,500	62.0
2016	4,100	2,650	60.5

Source: 2017 Zakat Outlook Baznas

Graph 2.72. The Share of ZIS Fund Collection and Distribution based on province



Source: BAZNAS Mustahik System Information (SIMBA)

zakat management organization in accordance with sharia, trust, beneficial, fairness, legal assurance, integrated, and accountability thus improving the

effectivity and efficiency of services in managing zakat as regulated by Law No. 23 dated 2011 concerning zakat management.

Box 2.1 Regulation on Commercial Paper

A deep and liquid money market condition serve as one of preconditions to encourage improvements in monetary policy transmission effectivity. One of the strategy to deepen money market is through the development in money market instrument, which currently dominated by monetary operational instrument. Money market instrument which currently being stimulated to develop is commercial paper instrument or known as Commercial Paper in Indonesia.

Commercial Paper has utmost strategic function compared to other money market instrument. Currently, corporate is fully depend on funding from banks to fulfill short term fund needs for working capital or supporting fund. The high dependency on corporate funding to banks has a weakness, namely the high cost that must be carried by corporate then continued to final costumer which reflected in higher selling price of product or service. On the other side, banking also faced limitation in collecting fund due to the higher level of industrial competency.

With the existence of Commercial Paper as short-term fund alternative, corporate which fulfill certain precondition is able to collect short term fund through money market with economical cost and in larger amount compared to fund from banking. The low fund cost enables more efficient corporate production cost, thus selling price is expected to be more competitive. Additionally, the existence of Commercial Paper is expected to encourage healthy competition between fund from bank and

fund from money market, thus it is expected to encourage lower fund cost in turn from bank sector.

Commercial Paper is one of money market instrument that defined as unsecured debt issued by corporate which has good credit quality and has term under 1 year (short term). Before the crisis in 1998, the issuance of corporate Commercial Paper by warkat had a booming period. However, in the aftermath of 1998 crisis, the issuance and trading of Commercial Paper was no longer exist in domestic market with the exception of re-publishing by corporate in 2005, the motivation of the issuance was due to the need for an alternative instrument following the failure of corporate bond issuance plan due to the less supportive market.

Nowadays in Indonesia, investors' confidence in Commercial Paper is still relatively low. This is due to investors' concerns about the potential return of Commercial Paper default as happened at 1998 crisis. The concerns also influence the investors' investment decision, thus affecting the domestic Commercial market liquidity.

Regulation on Commercial Paper in Indonesia is regulated under the Decree of Director No. 28/52/KEP/DIR/1995 concerning the Issuance and Trading Requirement of Commercial Paper through public bank in Indonesia, where the regulation only governed the issuance and trading of commercial paper that conducted through public bank in Indonesia. Therefore, there is no provision governing the issuance and trading of

Commercial Paper for corporations and non-bank financial institutions except through commercial banks. For corporations themselves, Commercial Securities instruments are still rarely used as an alternative to short-term banking financing.

By considering the course development of Commercial Paper market, improvement regulation on prudent and credible Commercial Paper issuance and trading is needed. In this case, Bank Indonesia planned to issue Bank Indonesia Regulation (PBI) concerned on Commercial Paper Issuance and Trading. PBI issuance is aimed to create credible, effective, and efficient Commercial Paper market thus became one of short term fund source for non-bank corporate and as investment instrument alternative for investor. This is expected to accelerate deepening process on financial market and support monetary policy transmission.

Several objectives that will be regulated in PBI are related to: i) instrument criteria; ii) actor criteria; iii) permission; iv) transaction and administration; and v) other aspects.

Instrument criteria definition that will be used in PBI is referred to definition regulated in KUHD⁴, namely unsecured promissory note, issued by corporate which has good credit quality and has term under 1 year (short term). From issuer, PBI will regulate number of criteria that must be complied by issuer

of Commercial Paper. The criteria as follows: i) corporation in the form of limited company (PT) which complied requirement such as listed as company in Indonesia Stock Exchange (IDX); ii) Corporate which is not listed as company or public company with no less than 3 years operation; iii) has equity no less than Rp50.000.000.000,00 (fifty billion Rupiah); and iv) has operational income for the last 1 (one) year.

PBI will also stipulate that the party issuing Commercial Paper must obtain a license for issuance from Bank Indonesia. Licensing granted by Bank Indonesia is a license to register and administer commercial securities to an agency designated by Bank Indonesia. In granting permission, Bank Indonesia will consider various aspects such as fulfillment of criteria/requirements as the issuer of Commercial Paper and Commercial Paper instrument criteria to be issued.

Another aspect that will be regulated by PBI is Commercial Instrument instrument criteria. These criteria include: i) issued by a non-bank corporation in scripless form; li) interest paid on a discount basis; lii) may be issued in denominations of Rupiah and Foreign Currency; lv) has a tenor of one month, 3 months, 6 months, 9 months, 12 months; V) minimum instrument rate of investment grade issued by a rating agency recognized by the Financial Services Authority.

⁴ Code of Commercial Law

In addition, PBI will also regulate requirement on information disclosure in Commercial Paper issuance. In this case, issuer has to deliver Commercial Paper issuance information to the party who will buy through memorandum information required by potential investors in making investment decisions.

In relation to transactions in the secondary market, it will be stipulated that Commercial Securities transactions by Banks and Securities Companies may be conducted directly or through the brokerage of transaction support institutions. Meanwhile, Commercial Securities transactions on the secondary market by the Corporation, natural persons, and non-residents shall be conducted through the agency of transactions supporters.

PBI will also regulate the transaction price calculation using day-count convention, namely Actual/360, the pricing of trade can refer to the benchmark interest rate, among others JIBOR, the maximum period of transaction settlement in the money market (secondary market) must be made

a maximum of 3 working days after the transaction (T+3).

In addition, to achieve credible Commercial Paper market, Bank Indonesia also conducted monitoring which includes: (i) monitor towards regulation compliance and (ii) monitor towards reporting on issuance and transaction in secondary market.

Several regulations in PBI concerned on issuance and trading of Commercial Paper that are relatively firmer than previous regulation such as the issuer's criteria, instrument criteria, money market funding institutional criteria, particularly in the issuance of publications, information disclosure, transaction arrangements in the secondary market, Prudence and risk management, investor protection, and transaction reporting and supervision. It is intended to realize a more prudent Commercial Paper market and can provide more informed and more transparent information to investors. All of these will in turn support the maintenance of financial system stability.

Box 2.2

Local Currency Settlement Framework

Today, currencies that dominate world international trade are the United States dollar (USD) and euro (EUR) driven by very large liquidity, and the resistance of both currencies that is relatively higher than other currencies (Auboin, 2012)⁵. The use of both currencies also dominates the trade between exporters and importers in Asian countries (intra-Asia). With the economies of scale and the volume of international trade of Asian countries, including Indonesia, which is increasing year by year, the use of USD has become a natural thing. The share of intra-Asian trade increased from 49% in 2000 to 53% in 2010 against total world trade. Nevertheless, the use of regional currencies in the Asian region in international trade is still relatively low. This also occurs in Indonesia, where the majority of trade and financial transactions are in USD. The number of Indonesia Financial Economic Statistics showed USD dominating with reached 78% average from all currencies used in international trade in Indonesia.

Considering these conditions, it is considered necessary to reduce dependence on USD usage and minimize the exchange rate risk associated with the movement of the IDR-USD exchange rate. One of the alternatives is the use of local currency for settlement of international trade transactions (Local Currency Settlement - LCS). The use of local currency for international trade settlement is expected to diversify currency exposure, reduce

transaction costs, develop regional currency markets, and open access for business actors. In relation to efforts to mitigate exchange rate risk, Auboin also explained that with the use of LCS framework the benefits obtained include exporters and importers can set prices in local currency so relatively less exposed to major currency movements, especially in the event of turmoil in USD and EUR.

Efforts in Increasing Cooperation between Indonesia, Malaysia and Thailand.

Started with bilateral meeting between BI and Bank of Thailand as well as BI and Bank Negara Malaysia, there is a similar view of the dominance of certain currencies in the trade of the three countries. In addition, there is a similar desire to reduce that dominance by increasing the use of local currency in the settlement of international trade transactions between the three countries.

In trading, Malaysia and Thailand are Top 10 Indonesia's main trading partner in ASEAN region. The average total trading volume reaches USD20 billion per year for Indonesia-Malaysia trade, and USD15 billion per year for Indonesia-Thailand trade, as shown in table 2.2.1. On the other hand, the use of local currency both Rupiah (IDR), Baht (THB), and Ringgit (MYR) in Indonesia's import export activities to Malaysia and Thailand is still relatively limited. Therefore, there is a need

⁵ Auboin, Marc, "Use of Currencies in International Trade: Any Changes in The Picture?", WTO, May 2012

Box Table 2.2.1. Indonesia's Export and Import Based on Countries

Export and Import Based on Country (Average of 2011 - 2016)							
Import				Export			
No	Country of Origin	Value (USD Bio)	%	No	Country of Origin	Nilai (USD Bio)	%
1	China	29.17	17.53%	1	Jepang	23.64	13.78%
2	Singapore	22.38	13.45%	2	Tiongkok	19.28	11.24%
3	Japan	17.26	10.37%	3	AS	15.84	9.24%
4	South Korea	10.66	6.41%	4	Singapura	13.78	8.03%
5	Malaysia	10.53	6.33%	5	India	12.11	7.06%
6	Thailand	9.81	5.90%	6	Korea Selatan	10.65	6.21%
7	US	8.49	5.10%	7	Malaysia	9.30	5.42%
8	Australia	5.17	3.10%	8	Taiwan	6.00	3.50%
9	Saudi Arabia	5.09	3.06%	9	Thailand	5.67	3.31%
10	Taiwan	3.85	2.32%	10	Australia	4.30	2.51%
11	Germany	3.71	2.23%	11	Philipina	4.03	2.35%
12	India	3.67	2.21%	12	Belanda	4.02	2.34%
13	Other	36.60	22.00%	13	Other	42.94	25.03%
Total		166.39	100.00%	Total		171.57	100.00%

Box Table 2.2.2. Indonesia's Export and Import Based on Currencies

Export and Import Based on Currencies (Average of 2011 - 2016)							
Import				Export			
No.	Currency	Value (USD Bio)	%	No.	Currency	Value (USD Bio)	%
1	USD	129.77	77.99%	1	USD	160.92	93.79%
2	EUR	5.98	3.60%	2	JPY	1.92	1.12%
3	JPY	5.54	3.33%	3	EUR	1.86	1.08%
4	IDR	3.98	2.39%	4	SGD	1.65	0.96%
5	SGD	3.03	1.82%	5	IDR	1.51	0.88%
6	AUD	0.66	0.39%	6	CNY	0.92	0.53%
7	MYR	0.42	0.25%	7	HKD	0.20	0.12%
8	THB	0.33	0.20%	8	AUD	0.17	0.10%
9	GBP	0.30	0.18%	9	MYR	0.13	0.07%
10	CNY	0.29	0.17%	10	GBP	0.09	0.05%
11	CHF	0.22	0.13%	11	THB	0.07	0.04%
12	HKD	0.10	0.06%	12	AED	0.06	0.03%
13	Other	15.79	9.49%	13	Other	2.08	1.21%
Total		166.39	100.00%	Total		171.57	100.00%

Source: OJK Capital Market Statistics, processed

to encourage the use of local currency in trade between the three countries.

One of the efforts to increase local currency use in international trade transactions is by using Local Currency Settlement (LCS) framework. Related to that, on December 23, 2016, Bank Indonesia has signed Memorandum of Understanding with Bank of Thailand and with Bank Negara Malaysia, related

to bilateral cooperation within the framework of LCS between Indonesia - Thailand and Indonesia - Malaysia.

Local Currency Settlement (LCS) framework is an international cooperation framework which allowed appointed bank – Appointed Cross Currency Dealer (ACCD) in every country to conduct banking activity by using counterpart

country currency. The agreed banking activities and financial transactions include:

- (i) Opening an account at a local ACCD bank in the counterpart country's currency.
- (ii) Fund Transfer (Overbooking) of the purchase of goods (import) in local currency, where the exporter will receive payment in their local currency.
- (iii) Providing trade financing assistance in Ringgit (MYR) or Baht (THB) for Indonesian importer,
- (iv) Conducting foreign exchange transaction buy and sale of THB/IDR and MYR/IDR in Spot, Forward, and Swap transactions.
- (v) Direct quotation issuance of THB/IDR and MYR/IDR.

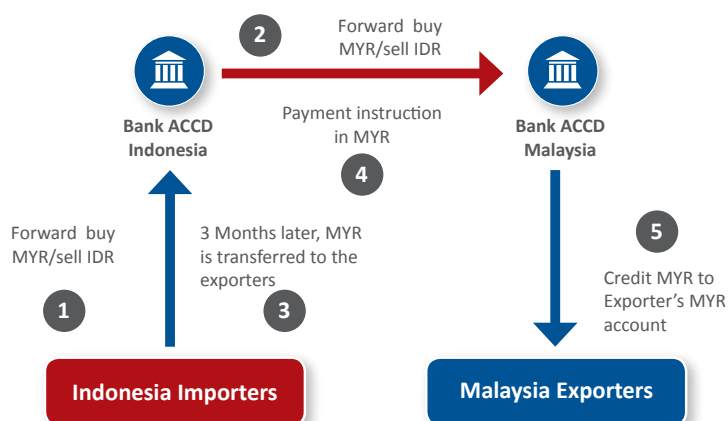
An example of LCS scheme use is illustrated as Figure 2.2.1. In the case of Indonesian importers making transactions with Malaysian exporters, Indonesian importers may open MYR accounts in Indonesia at designated banks to be able to make payments in MYR. In non-LCS schemes, generally USD accounts are required, since payments are

made in USD then this will add pressure to the USD/IDR exchange rate. Through the LCS mechanism, Indonesian importers can forward forward buy MYR/IDR, and no longer have to buy USD. When the payment obligation has mature, the MYR transfer can be made through the ACCD Bank from MYR account in Indonesia to the Malaysian exporter's MYR account at the ACCD bank in Malaysia.

On the other hand, in terms of Indonesian exporter would like to use LCS mechanism, Malaysian importer would open Rupiah (IDR) account in ACCD bank Malaysia to conduct payment in IDR.

In order to use the LCS scheme, banking activities and financial transactions must be conducted based on underlying of trade in goods and services activities. In this framework of cooperation, the appointed bank, Appointed Cross Currency Dealer (ACCD) in Indonesia, Thailand and Malaysia are able to provide financial services in the form of settlement facilities for trade in goods and services using local currency, and some flexibility

Box Figure 2.2.1. Example of Local Currency Settlement Scheme

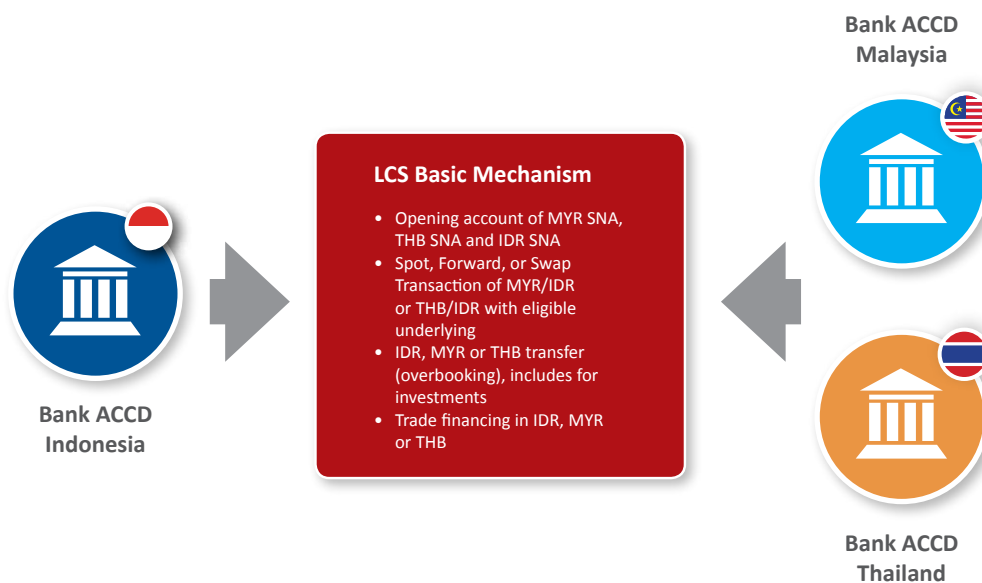


in facilitating trade in goods and services in this three countries.

Surveillance mechanism and sharing information between central bank will be conducted to assure ACCD bank compliance to requirements determined by central bank. Based on experience owned by Malaysia and Thailand, exporters and importers in both countries feel helped by the LCS framework. This is due to LCS provides options for exporters and importers in both countries in settling their transactions.

Through Local Currency Settlement cooperation between Indonesia, Malaysia, and Thailand, international trade settlement between these three countries can use local currency, in this case Rupiah, Ringgit and Baht. This mechanism is expected to reduce USD use, which in turn can contribute to the stability of the Rupiah.

Box Figure 2.2.2. LCS Flow of Implementation Mechanism



Box 2.3

Capital Market Development as Alternative of Funding Source and Investment Apart from Banking

The existence of growing and well-developed financial sector, particularly in banking and capital market will provide a comparative advantage for the economy. This is inseparable from the intermediary function undertaken by banks and capital markets. The intermediary function of both plays a role in bridging the need for financing for economic activity with the interest of investors seeking investment instruments to obtain optimal returns with measurable risks. The strategic role not only makes banking and capital markets a product of an economy but also both as a driver of a country's economic growth.

In addition to strategic role as individual, financial intermediation role which conducted by banking and capital market are complementary to each other, particularly in providing funding for economy. The flexibility possessed by the capital market becomes a counterweight when the banking industry faces obstacles in providing financing to economic actors. In contrast, when capital markets are faced with worsening investor risk perceptions, banks may serve as an alternative provider of credit to corporations or households.

The condition mentioned above also occur in the Indonesian financial system. Typically, the capital market in Indonesia is more instrumental as an alternative funding of domestic business actors and investment facilities for investors. In line with the growing and expanding Indonesian economy, there is an increasing role of capital market as

a source of funding and financing for business players. Accordingly, a number of policies and regulations have been issued by the competent authority to encourage the development of capital markets in terms of infrastructure, ease, and efficiency in funding/financing mechanisms. Complementing these efforts, the authorities also tightened the supervisory aspects to ensure that the development of the capital market runs on a corridor that is in line with economic development, grows healthy, while maintaining investor protection as a top priority. These efforts showed the results as seen from positive capital market developments over the last few periods.

In the last three years, financing through capital market has been showing positive trend as seen from the improvement of Right Issue (RI), Initial Public Offering (IPO), Corporate bonds obligation, Medium Term Notes (MTN), and Negotiable Certificate Deposit (NCD). Throughout 2016, total issuance of those instruments is Rp230.8 trillion which conducted by bank, Non Bank Financial Institution, and Non-Financial Corporate.

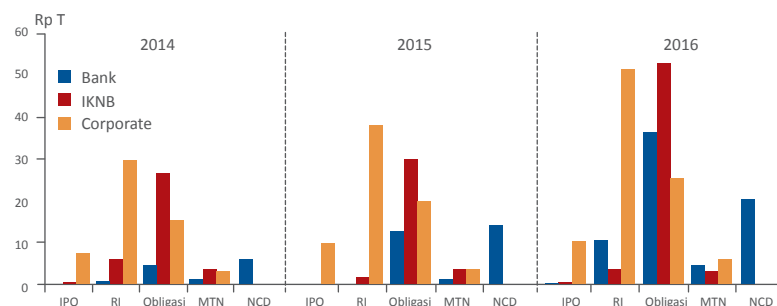
Stock Market

Shares ownership by domestic investors during the last three years since 2014 tends to increase. During 2016 the ownership of domestic investors' shares reached 45.51%, increasing rapidly when compared to the share of ownership in 2014 and in 2015 by 35.7% and 36.21% respectively.

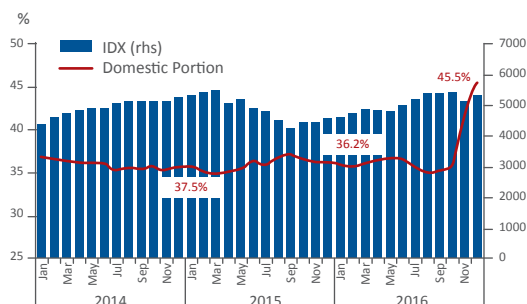
The increase indicates that the interest of domestic investors to diversify their investment portfolio to the domestic stock market is increasing. However, the ratio of the investors registered in the capital market to the total employment of only 0.38% in 2016 indicates that the number of domestic investors in Indonesia is still relatively low compared to the two other Asian countries namely Thailand and the Philippines that reach 3.18% and 1.69%, as illustrated in Graph 2.3.5. This also indicates that the potential increase of share ownership by domestic investors is still quite high.

The increased tendency of domestic investor interest as well as relatively high potential improvement are not separated from domestic investor strategy to reach optimal return from investment portfolio. This is supported among others by the performance of the Indonesian stock market is quite good. At the end of 2016, Indonesia's stock market recorded a positive performance when compared with the previous year's performance, and recorded a relatively better growth than a number of other countries in the region or globally.

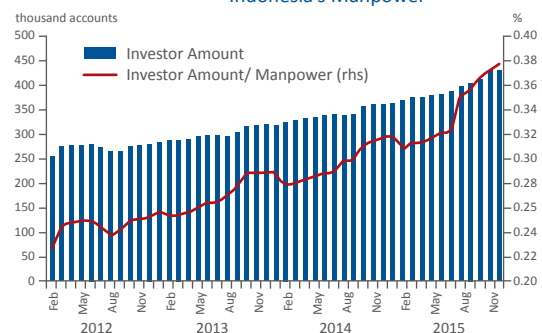
Box Graph 2.3.1. Development of Capital Market Instrument Issuance



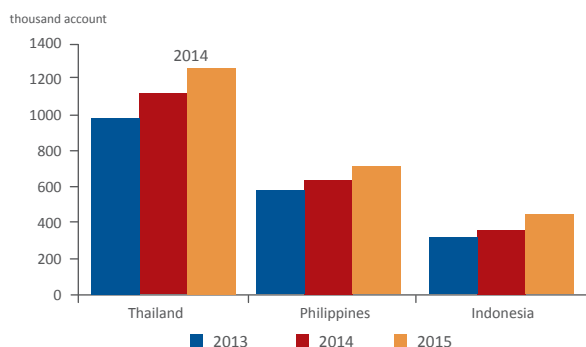
Box Graph 2.3.2. Development of Stock Ownership by Domestic Investor



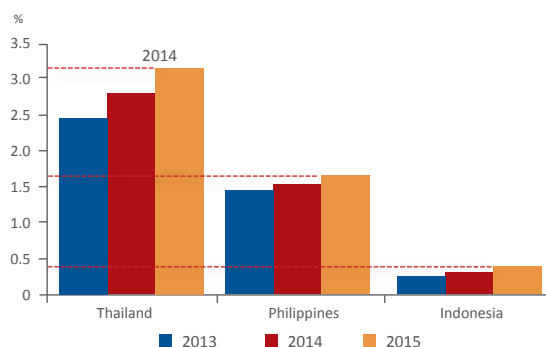
Box Graph 2.3.3. Ratio of Investor Amount to Indonesia's Manpower



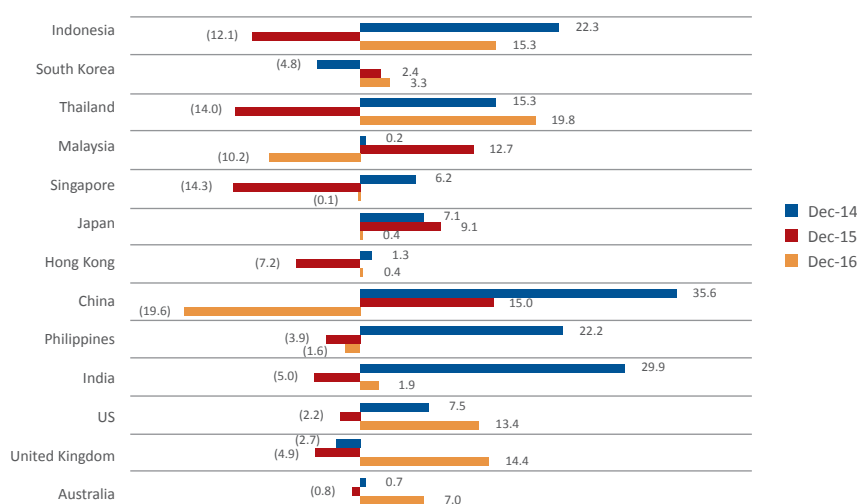
Box Graph 2.3.4. Comparison of Stock Market Investor Account Number Development



Box Graph 2.3.5. Comparison of Stock Market Investor Account Number Percentage to Manpower



Box Graph 2.3.6. The Performance of Indonesia Stock Market and other 12 Countries in the end of 2016



Source: Bloomberg

Securities Market

In 2016, bond trading transactions volume increased as a result of the significant increase in SBN ownership by IKNB that reached Rp127 trillion from Rp284 trillion in 2015 to Rp411 trillion at the end of 2016. This is in line with the fulfillment of OJK requirements that requires SBN investment by Non-Bank Financial Institution⁶. Of all IKNB,

pension and insurance funds recorded the largest share of SBN ownership. In addition to fulfilling the POJK provisions, the increase of SBN ownership by pension and insurance funds is also part of the hedging strategy and liquidity management considering that SBN generally has a long term in accordance with the maturity profile of eligible and insurance fund liabilities. Although the total

⁶ POJK No. 1/POJK.05/2016 dated January 11, 2016 on Government Securities Investment for Non Bank Financial Service Institutions

ownership of domestic investors tends to increase, the share of SBN ownership by foreigners is still quite large, reaching 37%, which influenced by the SBN yield that is relatively higher than other countries.

In line with the increase issuance of SBN, corporate bond issuance also showed encouraging development. Throughout 2016, corporate bond issuance reached Rp114.9 trillion dominated by IKNB particularly Financing Companies (FC). IKNB bond issuance in 2016 increased by 82% compared to 2015's issuance where 46% are bond issuance by FC. Increased bond issuance by FC is influenced by FC's efforts to diversify its funding sources other than those derived from bank debt and external debt, as well as for capital cost management.

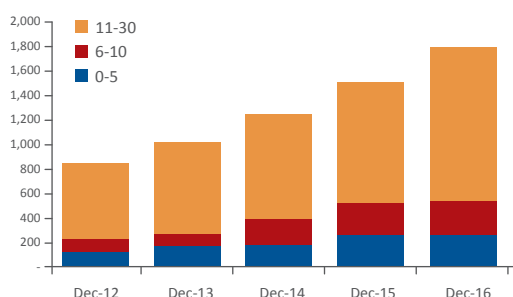
From the investor's point of view, the ownership of corporate bonds is dominated by mutual funds(26%), followed by pension funds (24%), finance companies (22%), and insurance (18%). The dominant ownership of corporate bonds by

IKNB is not separated from liquidity management strategy and investment by IKNB by considering the time and risk profile of corporate bonds in accordance with the profile of obligations of these financial institutions.

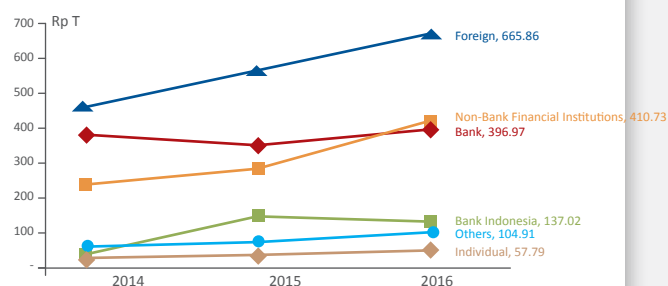
Other Debt Instruments

Other debt instruments whose development also increased significantly were Medium Term Notes (MTN) and Negotiable Certificate of Deposit (NCD). Both debt instruments have a shorter period of time than bonds so they are option of choice for investors who desire investment instruments with a relatively short period of time and attractive returns. MTNs are generally issued by corporations while NCDs are issued by commercial banks. As seen in Graph 2.3.1, over the past three years, MTN and NCD issuance have increased by 75% and 237% respectively. As much as 42% of the total issuance of MTN in 2016 came from corporations, the rest was the issuance of MTN by banks (35%) and IKNB (23%). Increasing the issuance of MTN is part of a medium-term financing needs strategy

Box Graph 2.3.7. The Term of SBN Issued



Box Graph 2.3.8. SBN Ownership



Box Table 2.3.1 Corporate Bond Issuer Institutions

Emiten	Rp Billion		
	2014	2015	2016
Bank	4,750	12,750	35,839
IKNB	26,939	30,372	53,329
Corporation	14,849	20,149	25,780
TOTAL	46,538	63,271	114,948

Source: Stock Exchange Statistics, OJK

of 1 to 5 years. As with the development of MTN, the issuance of NCD by banks has also shown an increase over the past three years. NCD has a fairly variable period ranging from 3 months to 36 months. Most NCD issuance is used by banks as an alternative source of funding other than third party fundraising over the counter.

Future Challenges

To date, investors in the domestic capital market are still dominated by institutional investors. Given the size of the population is large enough, then the effort to encourage development.

Capital markets should also apply inclusive strategies by facilitating individual investor engagement. With the working age population (aged 25-49 years) of 70.54 million people (2015)⁷, the Indonesian capital market has the potential of large individual investors. Moreover, with the increasing number of individual investors in the capital market will strengthen the structure of capital market investors through a more dispersed distribution of stock ownership.

In addition to increasing the growth of individual investors, efforts to develop the capital market can also be done by: i) increasing understanding of capital market products (financial literacy); li) identifying the suitability of the profile and risk appetite with the risk level of the financial instrument to be purchased; And iii) improving investor protection from mis-selling practices (such as information on less-transparent investment products, elusive terms & conditions, risks and benefits not clearly disclosed). This can be done, among others, through improving the quality of certification to the profession of marketers of capital market products and financial planner/ financial adviser, the issuance of code of ethics, and the implementation of strict sanctions against financial institutions and unscrupulous marketers of capital market products proven to do misselling to prospective Investors. Based on data from the Financial Services Authority (OJK), the loss

Box Table 2.3.2 Corporate Bonds Ownership

Corporate Securities	Dec 2014	Dec 2015	Dec 2016	yoy		Share
	Rp T	Rp T	Rp T	Rp T	%	
Corporation	11.6	9.4	8.0	(1.3)	-14%	3%
Individual	6.3	6.3	8.8	2.5	39%	3%
Mutual Funds	42.7	54.4	79.3	24.9	46%	26%
Securities Companies	1.2	0.7	0.3	(0.4)	-55%	0%
Asuransi	33.7	36.7	54.4	17.7	48%	18%
Pension Funds	60.5	68.9	71.0	2.1	3%	24%
Financial Companies	47.8	54.1	65.1	11.0	20%	22%
Foundation	2.6	3.1	3.8	0.7	23%	1%
Others	10.2	9.0	11.4	2.4	27%	4%
TOTAL	216.6	242.4	302.1	59.7	25%	100%

Source: Stock Exchange Statistics, OJK

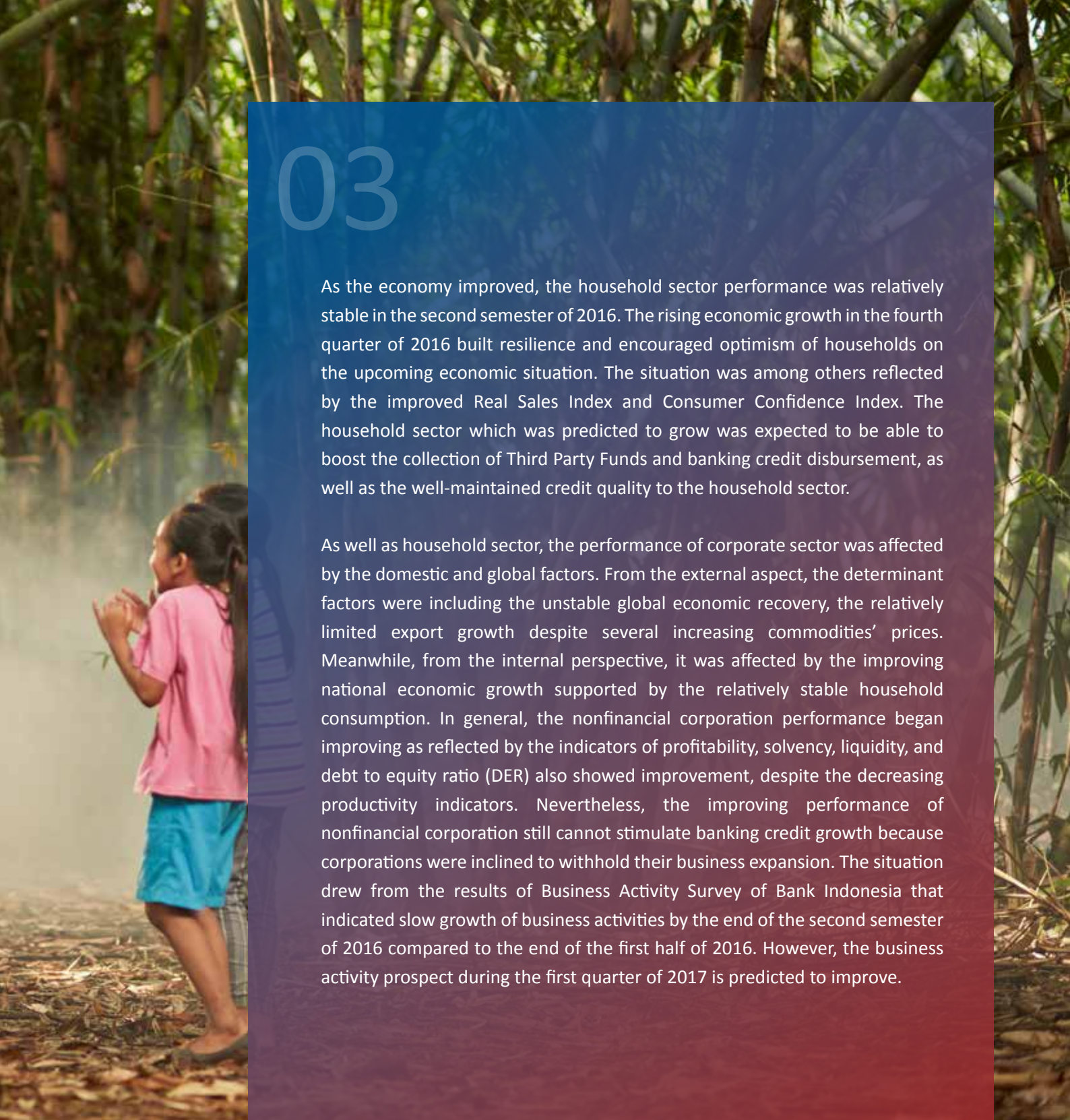
⁷ Statistik Indonesia 2016, BPS, diolah.

suffered by public due to cumulative investment fraud reached at least Rp45 trillion, while customer complaints related to investment of bodong and financial industry disputes in 2013-2014 reached 2,772 complaints. This condition can cause

negative impact in the form of public reluctance to invest especially in the capital market, so efforts to increase financial literacy and investor protection as mentioned above should always be improved.



*In **sack racing games**, participants walk, jump and run while their bodies from waist down are inside sacks. Winners are those who can reach the finish line the fastest. It takes hard work, stamina and a good strategy to be a winner. The hard work, stamina and strategy in sack racing are likened to the performance of non-financial corporations in Indonesia which began to improve and grow along with the improvement of economic growth.*



03

As the economy improved, the household sector performance was relatively stable in the second semester of 2016. The rising economic growth in the fourth quarter of 2016 built resilience and encouraged optimism of households on the upcoming economic situation. The situation was among others reflected by the improved Real Sales Index and Consumer Confidence Index. The household sector which was predicted to grow was expected to be able to boost the collection of Third Party Funds and banking credit disbursement, as well as the well-maintained credit quality to the household sector.

As well as household sector, the performance of corporate sector was affected by the domestic and global factors. From the external aspect, the determinant factors were including the unstable global economic recovery, the relatively limited export growth despite several increasing commodities' prices. Meanwhile, from the internal perspective, it was affected by the improving national economic growth supported by the relatively stable household consumption. In general, the nonfinancial corporation performance began improving as reflected by the indicators of profitability, solvency, liquidity, and debt to equity ratio (DER) also showed improvement, despite the decreasing productivity indicators. Nevertheless, the improving performance of nonfinancial corporation still cannot stimulate banking credit growth because corporations were inclined to withhold their business expansion. The situation drew from the results of Business Activity Survey of Bank Indonesia that indicated slow growth of business activities by the end of the second semester of 2016 compared to the end of the first half of 2016. However, the business activity prospect during the first quarter of 2017 is predicted to improve.

HOUSEHOLDS AND CORPORATIONS

PERFORMANCE OF HOUSEHOLDS AND CORPORATIONS STARTED TO INDICATE A RECOVERY



The economic growth improvement in 2016 positively impacted the households' behaviors.

Strong Household Consumption

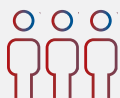


▼ Household Consumption portion became
70.44%

Saving Ability increased



▲ Household saving became
78.92%



▲ Individual Third Party Funds growth of
8.92% (yoy)



▲ Individual Credit growth of
8.32% (yoy)



▼ Individual Non-Performing Loan became
1.59%



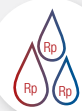
Non-Financial Corporations' Performance Slowed Down with Maintained Risks

Profitability



▲ ROA at
4.85%
▲ ROE at
10.08%

Liquidity and Solvency



▲ Current Ratio at
1.47%
▲ TA/ TL at
2.00%

Debt Repayment Ability



▼ DSR at
74.23%
▼ DER at
1.00%



▲ Third Party Funds growth of
16.60% (yoy)



▼ Credit growth of
9.43%



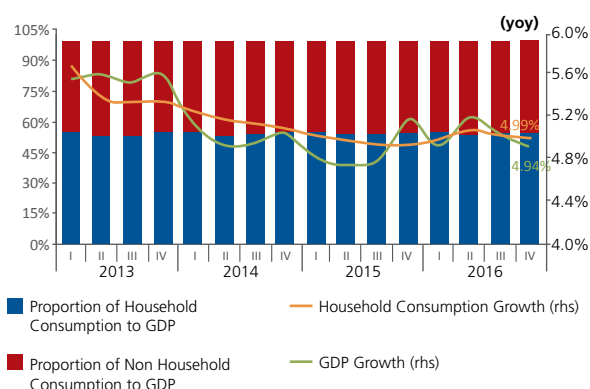
▲ Gross NPL at
3.62%

3.1. The Assessment of Household Sector Condition and Risks

3.1.1. Source of Vulnerability and Conditions of Household Sector

The household sector vulnerability source among other things was the national economic development. Indonesia's economy in 2016 improved compared to 2015, from 4.88% to 5.02% which enhanced household sector's resilience. The economic growth supported by household consumption growth, investment performance improvement, and export increase. In the fourth quarter of 2016, the household consumption grew slightly higher (4.99%) than economic growth (4.94%). The improvement of household consumption was partly due to the transportation, health, education, communication, food and beverage expenditure increased. Along with all these rises, the household consumption expenditure proportion on Gross Domestic Product indicated a slight upswing from 54.77% (fourth quarter of 2015) to 54.80% (fourth quarter of 2016) (graph 3.1).

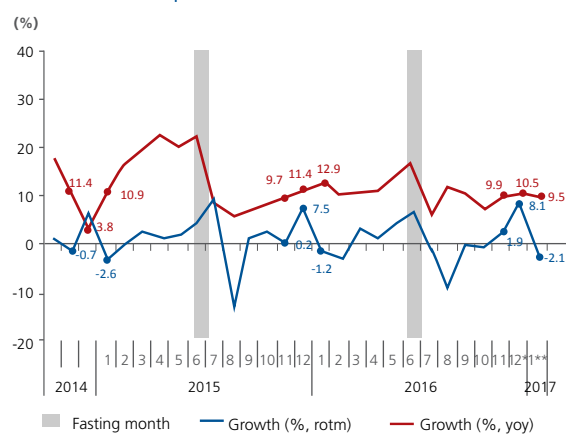
Graph 3.1. The Household Consumption Contribution to GDP



Source: Statistics Center Bureau, 2016

The increasing of households' optimism regarding economic situation has reflected among other things by the improvement of Real Sales Index (RSI) and Consumer Confidence Index (CCI). Retail Sales Survey at the end of the first semester of 2016 showed RSI of 218.0 while at the end of the second half of 2016 it slightly increased to 218.7¹. However, there was slowdown compared to the first semester of 2016, from 16.3% to 10.5% (yoy) in the second half of 2016 (graph 3.2).

Graph 3.2. The Growth of Real Sales



Notes : *) Temporary Number **) Temporary Number

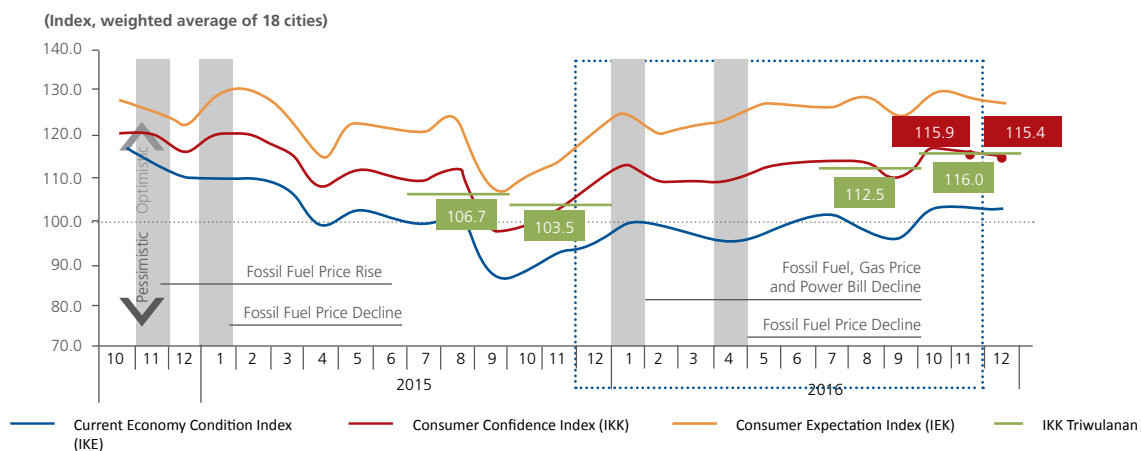
Source: Retail Sale Survey, Bank Indonesia. December 2016

Meanwhile, Consumer Confidence Index (CCI)², reflecting the consumer confidence regarding the current economic situation also increased to 115.4 than at the end of the first semester of 2016 (113.7). The growth of CCI has supported by the rise of two components, namely Economic Condition Index (ECI) and Consumer Expectation Index (CEI). ECI describes consumers' perception concerning the current economic situation, showing an increase from 99.9 by the end of the first semester of 2016 to 102.9 at the end of the second half of 2016 (graph 3.3). The

¹ Retail Sales Real Index is one of the indicators to learn the inflation pressure originating from the aspect of demand and obtained a description of retail sales development and people's consumption in general. The survey result is accessible on Bank Indonesia website (<http://www.bi.go.id/>).

² Consumer Confidence Index is a simple average of Current Economic Condition Index and Consumer Expectation Index. The survey result can be accessed on Bank Indonesia website (<http://www.bi.go.id/>).

Graph 3.3. The Index of Consumer Confidence, Current Economic Situation, Consumer Expectation



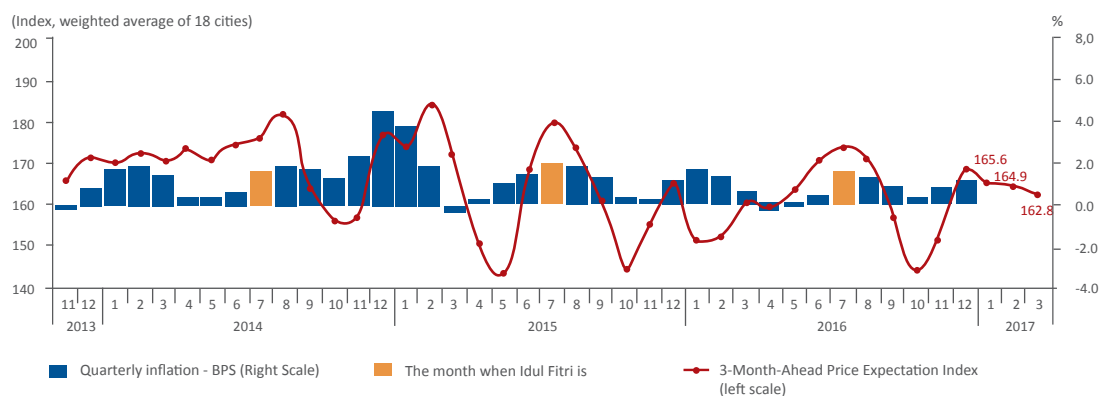
increase has boosted from the rise throughout its forming components namely optimism about labor demand, current incomes, and punctuality of durable goods purchase. Likewise, CEI describes consumers' expectation regarding the economic condition for the next six months increased. The growth of CEI was due to the rising labor demand for the next six months and business activity expectation.

In the next three months, households predicted a slowdown of price pressure due to weakening price

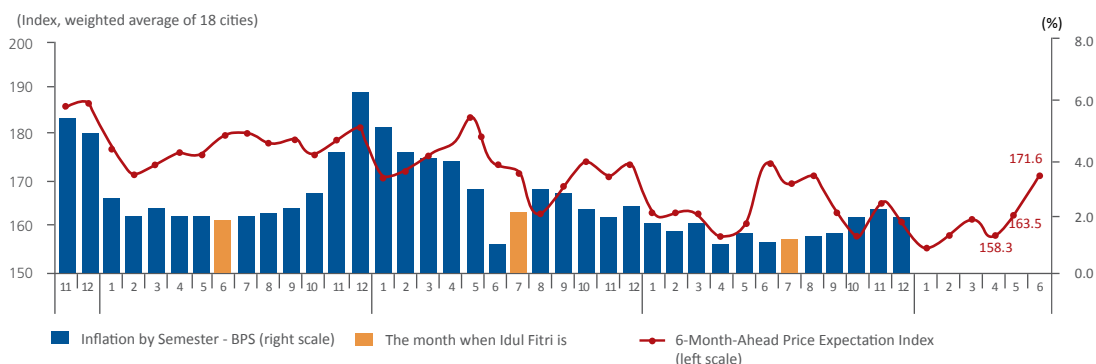
pressure on clothes and food segment (graph 3.4). Meanwhile, the upcoming six month price pressure has predicted to rise because of the demand increase due to Eid Day at the end of June 2017 (graph 3.5.).

The household sector condition can now also be observed from the Survey of Household Balance Sheet. Based on 2016 results of Household Balance Sheet. The household sector condition can also be observed using Household Balance Sheet Survey (SNRT). Based on SNRT results in 2016, in general, the components of

Graph 3.4. The Price Expectation Index in the Next 3 Months



Graph 3.5. The Price Expectation Index in the Next 6 Months



Source: Consumer Survey (18 Cities), Bank Indonesia. December 2016.

household respondents (which are classified based on low, medium, and high income) increased compared to 2015, the asset growth at 1.7%, debt at 33.6% and net worth at 1.0%. If viewed by groups, the household respondent group of low income experienced a decrease of asset and net worth. The detailed explanation of the results of SNRT is in the Box 3.1.

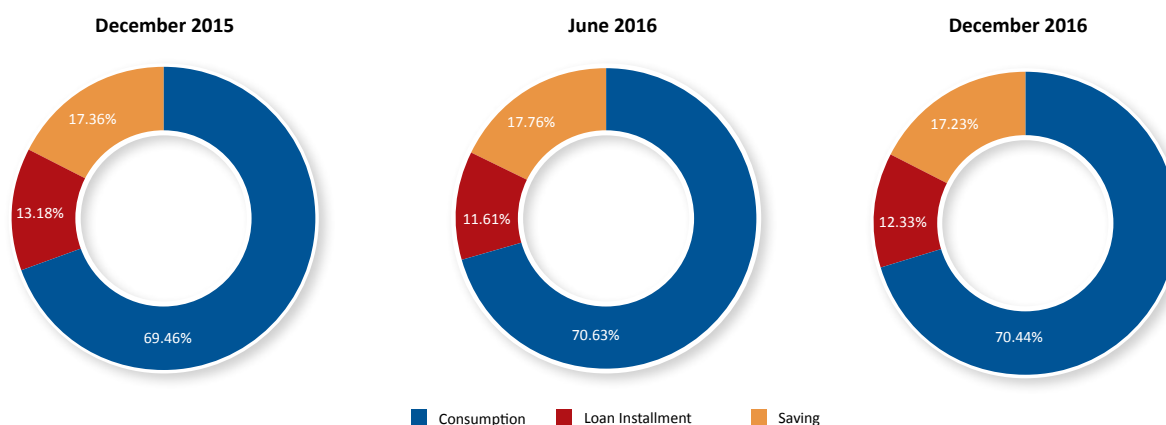
3.1.2. Household Finance Performance

The improvement of economic growth in 2016 positively affected the household behaviors which has indicated by the results of the consumer survey

in December 2016. The household allocation for consumption showed a rise compared to 2015, from 69.46% to 70.44% but if compared to the first semester of 2016, there was a slight downturn (graph 3.6.).

Meanwhile, the allocation of the household for loan installment also increased to 12.33%, while the allocation for saving remained stable, that is 17.23% in 2016 (graph 3.6). The rising of allocation for loan installment among other things has been caused by the distribution for repayment tend to increase at the end of the year.

Graph 3.6. The Household Expenditure Allocation



Source: Consumer Survey (30 Cities), Bank Indonesia. December 2016. Processed.

The rising of household allocation for loan installment occurred due to the growth of household that possesses DSR>30%, from 7.32% of the total respondent (first semester of 2016) to 8.97% (second half of 2016). The increase particularly occurred in the middle to the high-income household segment. Meanwhile, the low-income household segment tends to decrease their debt (table 3.1).

On the other hand, an increase in the allocation of loan installment led to the number of households that could save more than 30% of their income down to 13.29% compared to the previous semester at 20.34%. However, households still try to save money that reflected by the increasing number of households which allocated 0-10% and 10%-20% of their incomes for saving, respectively from 22.80% and 15.96% to 27.41% and 24.34% (table 3.2).

Table 3.1. DSR Composition Based on Income Level per Month

Semester I 2016						Semester II 2016					
Income	Total	DSR				Income	Total	DSR			
		0-10%	10%-20%	20%-30%	>30%			0-10%	10%-20%	20%-30%	>30%
Rp 1.34 - 2.69 million	25.54%	17.52%	3.52%	2.60%	1.90%	Rp 1.40 - 2.79 million	8.78%	4.51%	1.71%	1.33%	1.23%
Rp 2.93 - 4.19 million	34.51%	21.84%	6.10%	4.41%	2.16%	Rp 2.88 - 4.11 million	25.45%	16.25%	4.27%	2.89%	2.04%
Rp 4.55- 5.87 million	21.69%	12.56%	4.38%	3.44%	1.30%	Rp 4.50- 5.80 million	34.14%	21.57%	6.02%	3.90%	2.64%
Rp 6.05 - 7.70 million	9.41%	5.45%	1.89%	1.34%	0.72%	Rp 6.20 - 7.61 million	21.57%	12.11%	4.51%	2.95%	2.01%
> Rp 7.70 million	8.86%	4.55%	1.56%	1.53%	1.24%	> Rp 7.61 million	10.06%	5.34%	2.11%	1.56%	1.05%
Total	100.00%	61.91%	17.44%	13.32%	7.32%	Total	100.00%	59.78%	18.63%	12.62%	8.97%

Table 3.2. Saving Composition Based on Income Level per Month

Semester I 2016						
Income	Total	Saving				Tidak bisa menabung
		0-10%	10%-20%	20%-30%	>30%	
Rp 1.34- 2.69 million	25.54%	5.10%	3.34%	3.26%	7.76%	5.96%
Rp 2.93 - 4.19 million	34.51%	7.63%	5.56%	4.55%	7.13%	9.65%
Rp 4.55- 5.87 million	21.69%	5.84%	3.71%	3.38%	3.19%	5.56%
Rp 6.05 - 7.70 million	9.41%	2.25%	1.66%	1.57%	1.36%	2.57%
> Rp 7.70 million	8.86%	1.98%	1.59%	1.31%	0.91%	3.08%
Total	100.00%	22.80%	15.96%	14.07%	20.34%	26.82%

Semester II 2016						
Income	Total	Saving				Unable to save
		0-10%	10%-20%	20%-30%	>30%	
Rp 1.40 - 2.79 million	8.78%	3.01%	1.84%	1.17%	1.50%	1.27%
Rp 2.88 - 4.11 million	25.45%	6.36%	5.71%	3.49%	3.47%	6.42%
Rp 4.50- 5.80 million	34.14%	9.55%	8.41%	4.43%	3.78%	7.96%
Rp 6.20 - 7.61 million	21.57%	5.63%	5.74%	3.13%	2.98%	4.09%
> Rp 7.61 million	10.06%	2.85%	2.64%	1.67%	1.56%	1.34%
Total	100.00%	27.41%	24.34%	13.89%	13.29%	21.08%

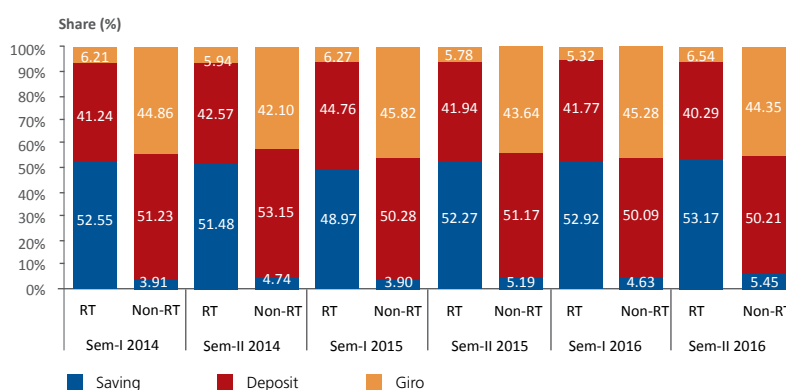
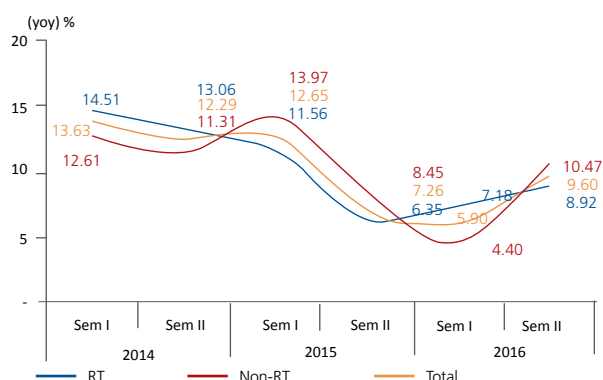
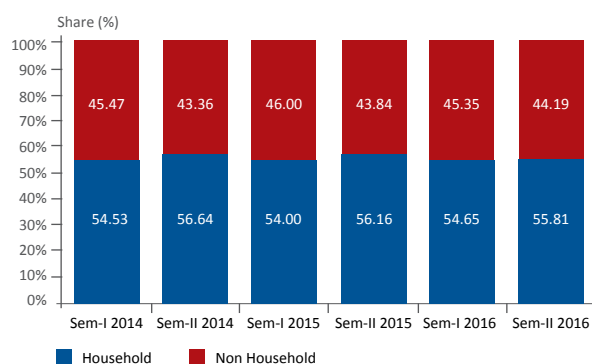
Source: Consumer Survey (30 Cities), Bank Indonesia, December 2015 and December 2016. Processed

3.1.3. Household Third Party Funds³ in Banking

The growth of household Third Party Funds at the end of 2016 increased. By the end of second half of 2016, household deposits grew by 8.92% (yoy) or increased compared to the second semester of 2015 (6.35%) and the first half of 2016 (7.18%). The growth of household deposits was lower than the increase of total banking

deposits (9.60%) and also the non-household deposits (10.47%) (graph 3.7). Despite the slowing down, the household deposits portion still dominates bank deposits, and there was a rise in the second semester of 2016 compared to the first half of 2016, from 54.65% to 55.81%.

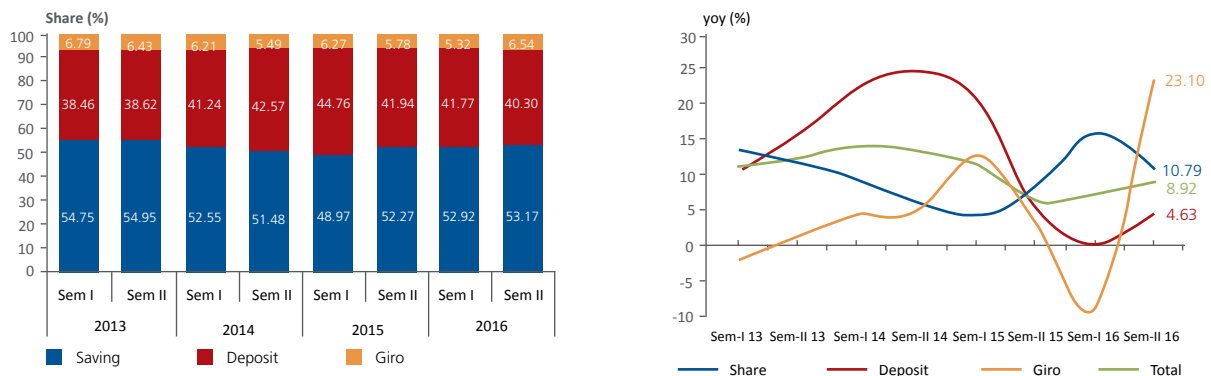
Graph 3.7.
The Composition and Growth of Third Party Funds



Source: Commercial Bank Report, Bank Indonesia. December 2016. Processed.
Note: Household Third Party Fund is proxied from Individual Third Party Fund

³ Third Party Funds of households is calculated using the proxy of Third Party Funds of an individual.

Graph 3.8.
The Composition and Growth of Household Third Party Funds



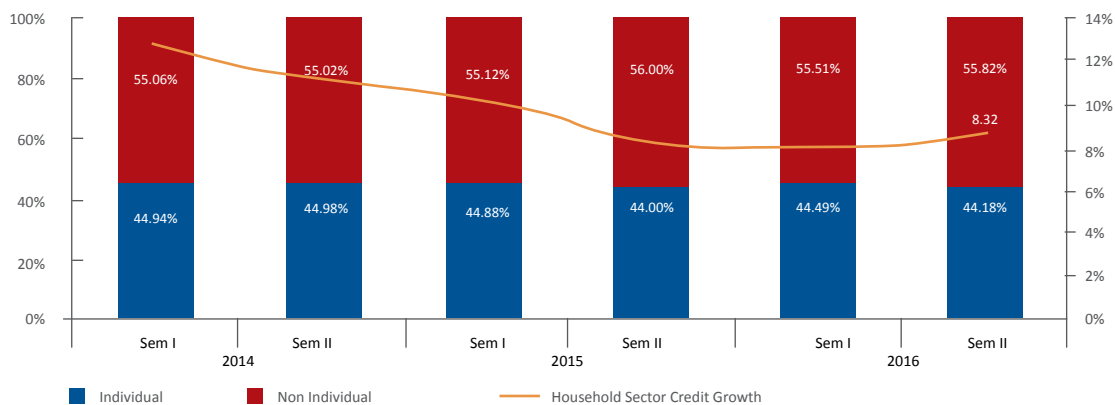
Source: Commercial Bank Report, Bank Indonesia. December 2016. Processed.

Based on its components, the increase in household deposits mainly affected by the rising of demand deposits and time deposit, respective -9.07% and relatively stagnant at the end of first half of 2016 to the growth of 23.10% and 4.63% (yoy) in the second semester of 2016. Meanwhile, saving deposits slowed down to 10.79% from the previous achievement of 15.82% (yoy). However, saving deposits portion against the total household deposits remained the highest and even rose from 52.92% to 53.17% in the second semester of 2016 (Graph 3.8.).

3.1.4. Banking Credit in Household Sector⁴

The banking credit growth to household sector has begun to show an increase after a slowdown. The situation has reflected by loan to household sector in the second semester of 2016 which grew higher, from 8.32% (yoy) compared to the first half of 2016 (7.92%). Loan growth to household sector was greater than total bank loan growth (7.86%). The share of household loan to total bank loan in the second semester of 2016 was 44.18%, slightly decline from the previous half of 44.49% (graph 3.9). The majority of loan to the

Graph 3.9
The Banking Credit Composition



Source: Commercial Bank Report, Bank Indonesia. December 2016. Processed.

⁴ Household sector credit in this sub chapter, it refers to the individual credit both for productive and consumptive purposes.

Table 3.3
The Household Sector Credits based on Type of Use

Types of Allocation	Dec-15			Jun-16			Dec-16		
	Credit (Rp. T)	Share (%)	NPL (%)	Credit (Rp. T)	Share (%)	NPL (%)	Credit (Rp. T)	Share (%)	NPL (%)
1. Work Capital	498.67	27.93	3.75	512.87	27.66	4.21	526.43	27.22	3.54
2. Investment	200.25	11.22	4.53	211.13	11.39	5.01	217.24	11.23	4.21
3. Consumption	1,086.46	60.85	1.51	1,130.28	60.95	1.68	1,190.27	61.55	1.53
TOTAL	1,785.38	100.00	2.47	1,854.28	100.00	2.76	1,933.93	100.00	2.38

Source: Commercial Bank Report, Bank Indonesia. December 2016. Processed

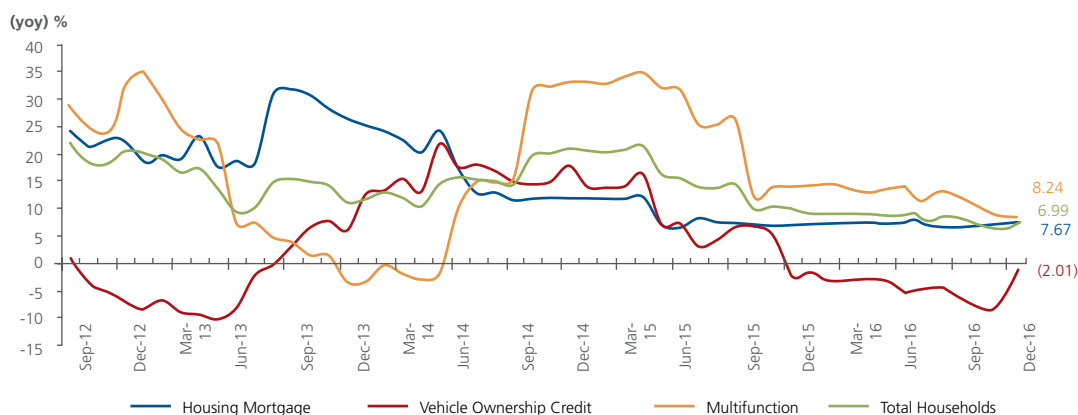
household was consumption loan (61.55%), followed by working capital (27.22%) and investment (11.23%) (table 3.3.).

Loan to household for consumption purposes grew slower from 8.89% in the first semester of 2016 to 6.99% (yoy) in the second half of 2016. The slowdown was mainly due to the declining of the car loan (-2.01%) despite showing an improvement compared to the first semester of 2016 (-5.38%, yoy). The condition of economic and purchasing power that has

not improved significantly affected the decision of purchasing durable secondary goods by households, such as motorbikes. The household consumption credit growth has supported by the credit growth for multi purpose loan and mortgage, respective 8.24% (yoy) and 7.67% (yoy) by the end of 2016.

Based on credit quality, the NPL ratio of household consumption credit in 2016 tends to follow the annual cycle which is lower at the end of the second semester than the first half. By the end of 2016, NPL

Graph 3.10. The Development of Household Consumption Credit Based on Components

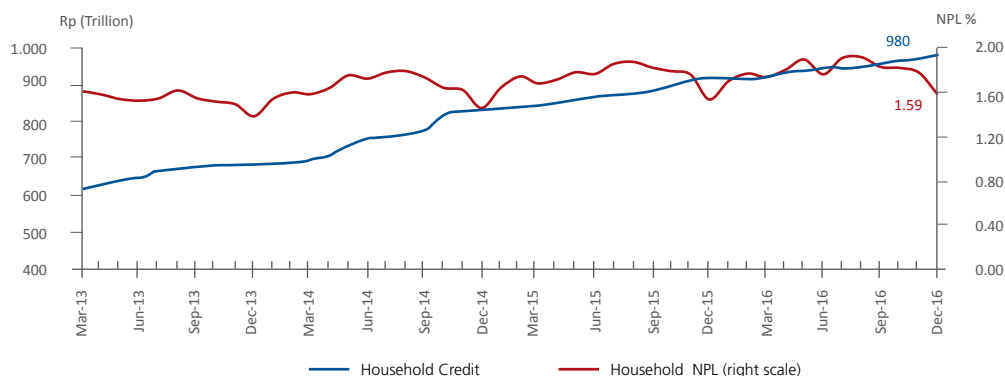


Source: Commercial Banks, Bank Indonesia, December 2016. Processed.

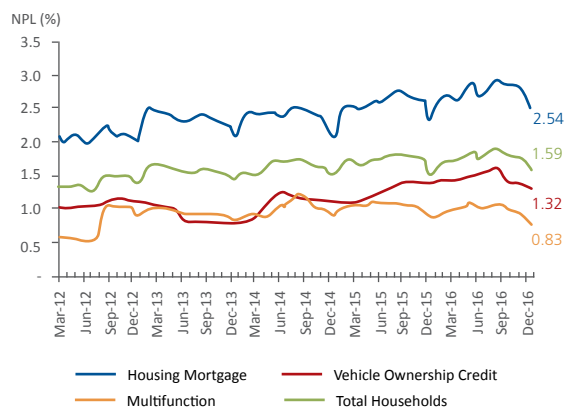
ratio of household consumption credit rises to 1.59% than 1.55% in 2015. However, it tended to improve compared to the first semester of 2016 which is 1.75% (graph 3.11) primarily due to an increase of NPL of the mortgage loan from 2.34% (2015) to 2.54% (2016). In contrast, the NPL of mortgage and multi purpose loan slightly improved from 1.40% and 0.88% (2015) to 1.32% and 0.83% (2016). Despite the NPL of household consumption credit is still below the threshold (5%),

its development still needs to be observed amid the sluggish credit growth, particularly the NPL of the mortgage loan which contributed the most to the NPL household consumption credit. In the meantime, the proportion of household consumption credit in 2016 has dominated by multi purpose credit which reached 41.78% followed by mortgage loan (40.19%) and car loan (12.05%) or similar to the previous year.

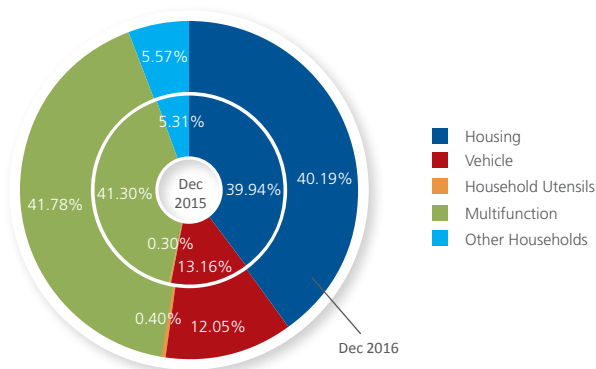
Graph 3.11.
Nominal and Non Performing Loan of Household Consumption Credit



Graph 3.12.
The Development of NPL of Household Consumption Credit per Component



Graph 3.13.
The Composition of Household Consumption Credit by Types



Source: Commercial Bank Report, Bank Indonesia, December 2016. Processed.

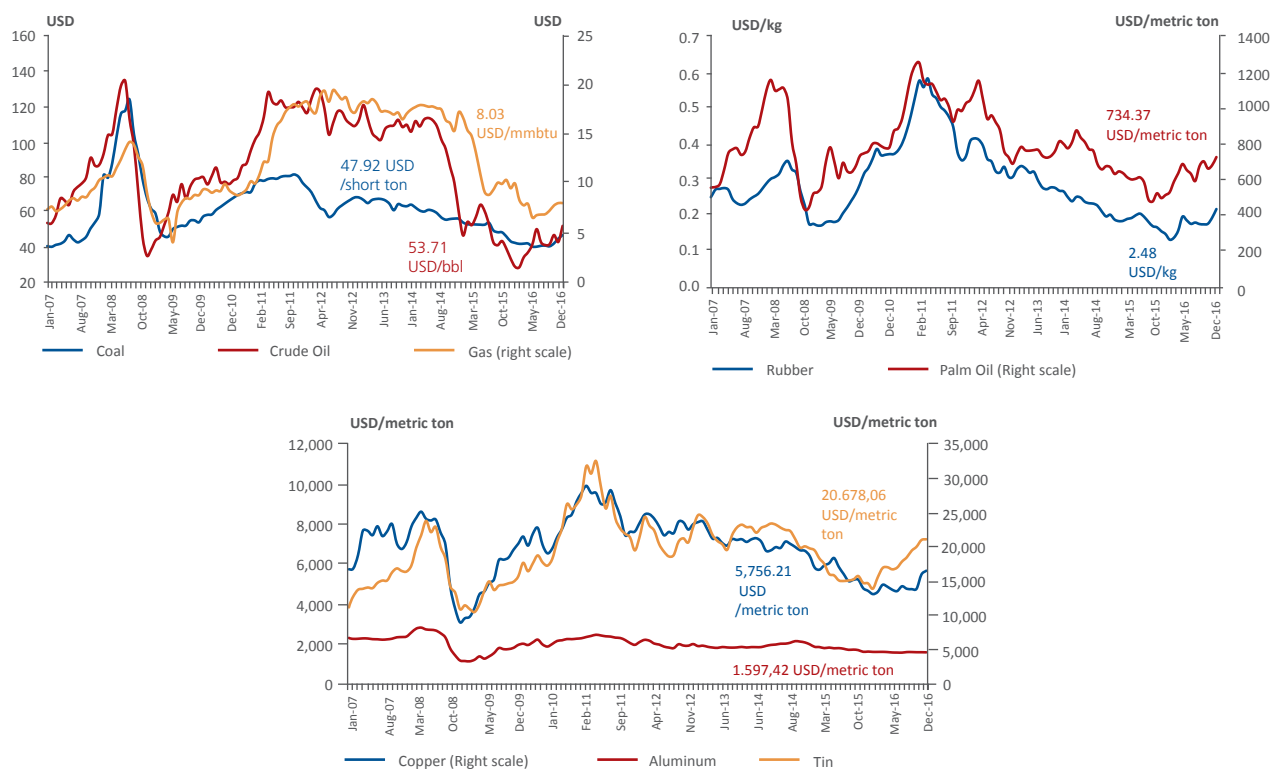
3.2. The Assessment of Conditions and Corporation Sector Risks

3.2.1. Corporation Sector Vulnerability Sources

The development in the internal and external aspect affected the financial performance of the corporate sector in the second semester of 2016. From the internal view, it has been impacted by the improving national economic growth in the fourth quarter of 2016 which was supported by the strong household consumption. Meanwhile, from the external point of view, factors that influence, among others, are not yet strong global economic recovery although the price of some commodities began to increase but export growth is still relatively limited.

Several main commodities showed a rise of prices despite still lower than its highest price in 2011 (graph 3.15). The price hike occurred to several commodities such as crude oil, crude palm oil (CPO), rubber, and metal commodities such as tin and copper encouraged by the increasing demand from abroad. The rise may increase the export performance especially in the fourth quarter of 2016. Currently, despite the fact that the economy of China and the United States as Indonesia's export main destinations has not fully recovered, but there began a rise in demand volume from both countries. Increasing of export not only occurred to commodity goods but also to other non-commodity goods. Besides growing in export, corporation performance was also supported by the domestic demands as the national economic growth grew stronger in 2016.

Graph 3.14. The Price Fluctuation of Several Commodities

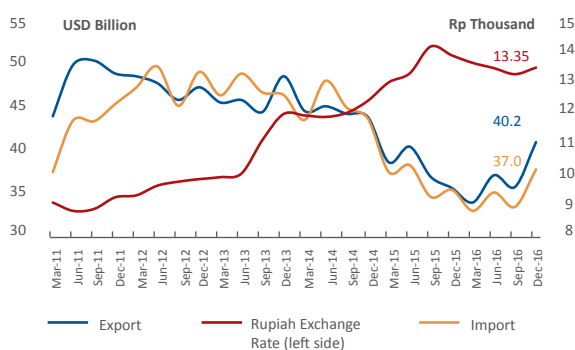


Source: Bloomberg. Processed.

By sector, the performance of palm oil experienced the national rising demand volume due to the mandatory B20 biodiesel program by the government despite the disruption of production after La Nina hit. Simultaneously, the government projects realization at the end of 2016 also supported the corporation profitability improvement despite the relatively limited impact on overall corporation performance in the fourth quarter in 2016.

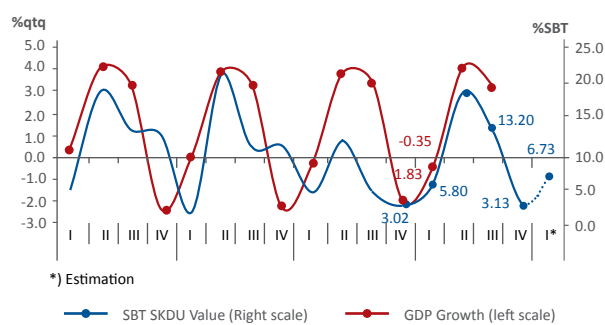
sectors were caused by a seasonal factor and the slowdown in demand. Despite that, business activity prospect in the first quarter of 2017 is estimated to rise, as implied by the increase in Weighted Net Balance to 6.73%. The rise was caused primarily by the improving manufacture industry sector along with the indication of SBT as much as 2.98%, rising from the previous achievement at -0.77% (the first semester of 2016).

Graph 3.15. The Development of Indonesia's Export and Import



Source: Bank Indonesia, Processed.

Graph 3.16. The Development of Realization and Estimation of Business Activity



Source: Business World Activities Survey, Bank Indonesia, Semester II 2016

3.2.2. Corporation Performance

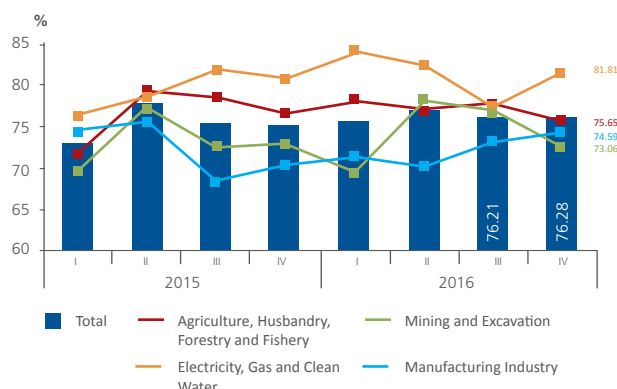
In general, corporation performance is affected by business activity. The development of business activity can derive from the result of Business Activity Survey of Bank Indonesia at the end of the first semester of 2016. The slowdown has reflected by the value of Weighted Net Balance of business activity in the second half of 2016 was 3.13% lower than the first semester of 2016 which stood at 18.40% (Graph 3.16).

The slowdown business activity growth in the second half of 2016 occurred almost in every sector, especially in the field of agriculture, plantation, farming, forestry, and fishery which showed a -4.07% decline, and also from mining and excavation which decreased to -1.82%. The decrease of Measured Valued Net Balance in both

Regarding the slowing growth of business activity, the average of used production capacity also slightly decreased from 77.01% (the first semester of 2016) to 76.28% (the second half of 2016). The highest of the use of production capacity occurred in the sector of electricity, gas and cleaned water at 81.81% on average in the period of reporting. While the lowest occurred in mining and excavation sector which is 73.06% on average.

Despite the sluggish growth of business activity survey, the nonfinancial corporation performance which reflected in the indicator of profitability, solvency, liquidity, and debt to equity ratio (DER) tend to indicate improvement despite the declining of productivity index. The nonfinancial corporation productivity

Graph 3.17. The Used Production Capacity



Source: Business World Activities Survey, Bank Indonesia, Semester II 2016

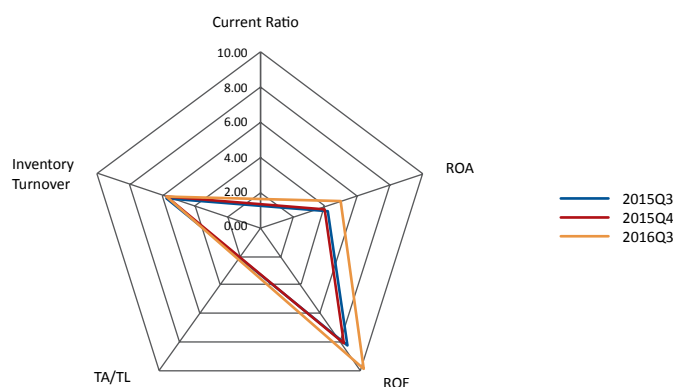
as seen in the asset and inventory turnover ratio indicated a downturn in the third quarter of 2016. Compared to the third quarter of 2015, the turnover asset indicator fell from 0.71 to 0.66, and the turnover inventory indicator subsided from 6.03 to 5.89 in the third quarter of 2016.

In the meantime, the profitability of nonfinancial corporation in aggregate indicated a surge. The ROA and ROE ratio in the third quarter of 2016 was 4.85% and 10.08% respectively or increased compared to

the third quarter of 2015, which stood at 3.81% and 8.21%. The rise of ROA and ROE particularly triggered by the growth of net income due to the efficiency efforts of corporations, both in cost and loan cut. The situation reflected from the corporate loan proportion has declined in the third quarter of 2016 compared to the similar period in 2015. This condition also occurred in almost every sector except mining sector which showed stable loan proportion. In aggregate, the debt to equity ratio (DER) fell from 1.16 (the third quarter of 2015) to 1.00 (the third quarter of 2016). The DER reduction encouraged the rise of solvency indicators (Total Assets/Total Liabilities) and liquidity ratio (current ratio) of corporations by 2.00 and 1.47 respectively (the third quarter of 2016) compared to 1.87 and 1.40 in the third quarter of 2015.

Improved profitability led to the ability of nonfinancial corporations to repay debt in the third quarter of 2016. Debt Service Ratio (DSR) in the third quarter of 2016 was 74.23% (median) or slightly decreased compared to the fourth quarter of 2015 at 74.73% (median). The DSR downswing followed by the declining corporation

Graph 3.18. The Non Financial Corporation Financial Performance Indicators



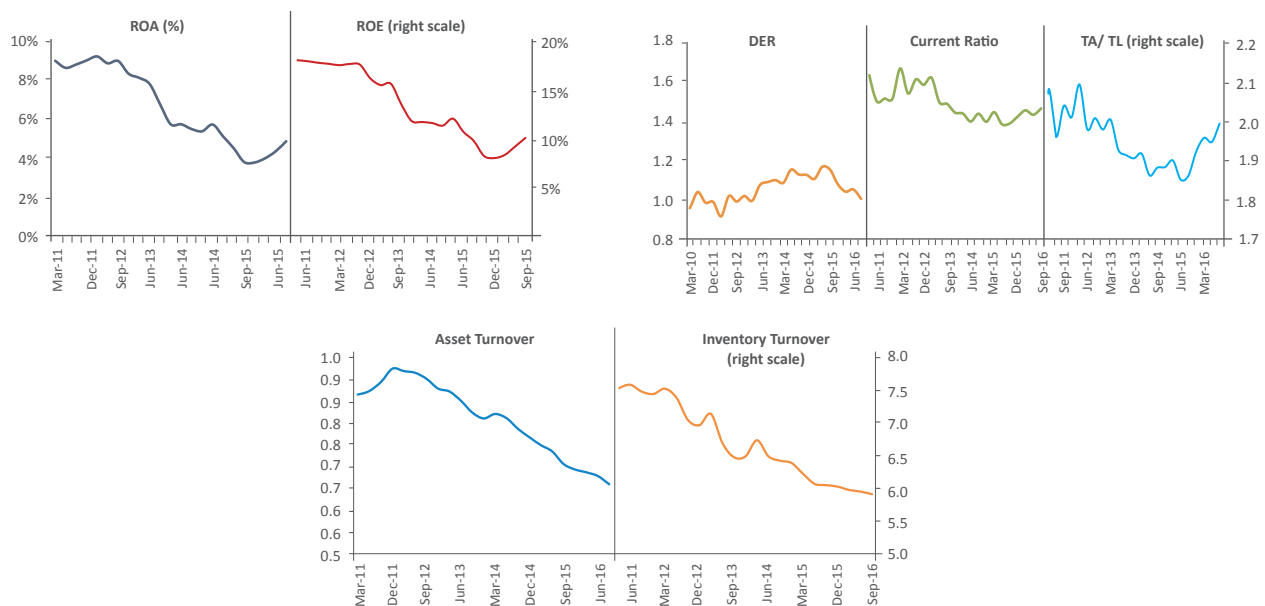
Source: Corporate Financial Report in Indonesia Stock Exchange, Bloomberg. Processed.
Note: How large a ratio (the larger the graphic area is) indicates a relatively better performance.

Table 3.4. The Financial Performance Indicators of Non Financial Corporation

No.	Sector	ROA (%)		ROE (%)		DER		Current Ratio		TA/TL		Asset TO		Inventory TO	
		2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016
1	Agriculture	0.47%	3.28%	1.01%	7.01%	1.26	1.03	0.76	0.91	1.80	1.97	0.61	0.47	8.10	6.66
2	Basic and Industry	2.16%	4.25%	4.48%	8.59%	1.08	0.97	1.36	1.43	1.93	2.03	0.71	0.67	4.97	5.08
3	Consumer Goods Industry	11.00%	12.28%	22.28%	22.86%	1.07	0.71	1.61	1.98	1.94	2.42	1.31	1.31	4.62	4.82
4	Infrastructure, Utility and Transportation	2.52%	5.09%	6.72%	12.58%	1.67	1.30	1.04	0.98	1.60	1.77	0.53	0.52	70.86	66.21
5	Various Industries	4.33%	4.39%	9.88%	9.82%	1.29	1.18	1.20	1.25	1.77	1.85	0.79	0.73	7.38	7.55
6	Mining	1.06%	0.87%	2.06%	1.64%	0.88	0.88	1.63	2.06	2.14	2.13	0.53	0.45	9.81	9.53
7	Property and Real Estate	5.47%	4.61%	11.54%	9.56%	1.09	1.06	1.79	1.70	1.92	1.94	0.36	0.32	1.88	1.70
8	Trade, Service and Investment	3.72%	4.23%	7.16%	7.99%	0.93	0.85	1.58	1.58	2.08	2.18	0.92	0.88	7.27	7.29
Agregat		3.81%	4.85%	8.21%	10.08%	1.16	1.00	1.40	1.47	1.87	2.00	0.71	0.66	6.03	5.89

Source: Corporate Financial Report on Indonesia Stock Exchange, Bloomberg, Processed.
Note: The Position Based on Data in Quarter III 2015 and Quarter III 2016 (The number of non-financial corporations observed is 379).

Graph 3.19. The Development of Financial Performance of Non Financial Listed Corporation



Source: Corporate Financial Report on Indonesia Stock Exchange, Bloomberg, Processed.
Note: The position of data in quarter III - 2015 and quarter III- 2016 (the non financial corporations number observed is as many as 379)

market share which possessed DSR>100% and a negative DSR from 59.21% to 57.31% for the similar period. Besides, the corporation ability to pay the interests also increased, reflected by the value of Interest Coverage Ratio (ICR) in the third quarter of 2016 at 2.21 or slightly

rose compared to the fourth quarter of 2015 (2.18). The situation is in line with a decrease in corporate proportion that has an ICR value of <1.5 which indicated the decreasing in corporate debt at risk⁵.

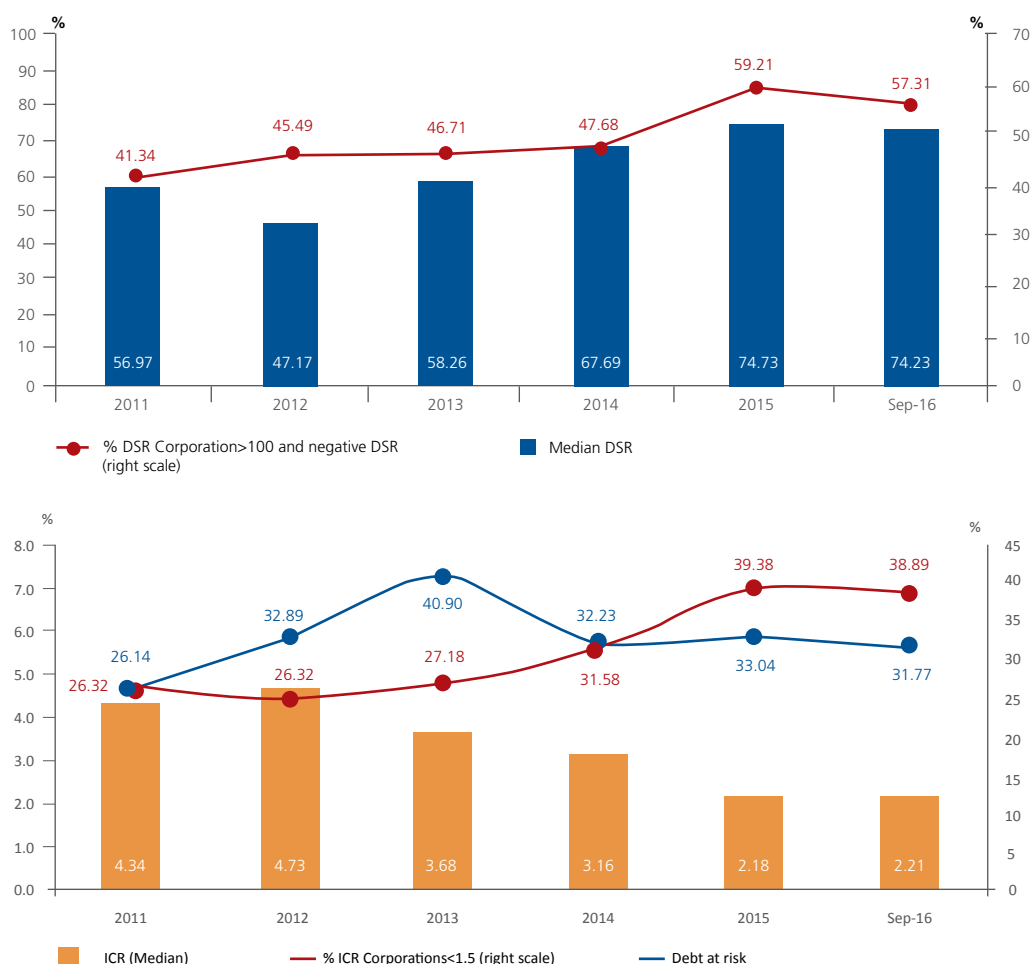
⁵ Debt at risk: Total corporate debts with ICR <1,5 / Total all corporate debts

Meanwhile, the corporation performance in the main commodities sector quite varied. Of five commodities, namely coal, palm oil, rubber, oil and gas, and metal were the two commodities that were showing performance improvement. The performance enhancement caused by the price hike throughout 2016. The lowering value of ROA and ROE in the sector of coal, oil and gas, and metal along with DER value rise caused the rising of corporation vulnerability

level in these three areas in particular in the long run (Table 3.5). Therefore, the increased DER needs to be monitored amid the decrease in profitability and corporate productivity as it may impact on the ability to pay its obligations.

Furthermore, in terms of risk, the potential risk of failure of the corporate sector show a decrease compared to the same period last year. The situation

Graph 3.20. The Development of Non Financial Corporations' Paying Capability



Source: Corporate Financial Report in Indonesia Stock Exchange, Bloomberg. Processed.
Note: The position of data in quarter III - 2015 and quarter III - 2016 (the non financial corporations number observed is as many as 379)

is reflected by the result of Altman Z-Score⁶ calculation using the data of 212 nonfinancial listed corporation which scattered throughout in the economic sectors. The calculation result showed the share of a company in the “risky” areas in the third quarter of 2016 decreased compared to the third quarter of 2015, from 45.45% to 40.57%. Besides that, the trend of the

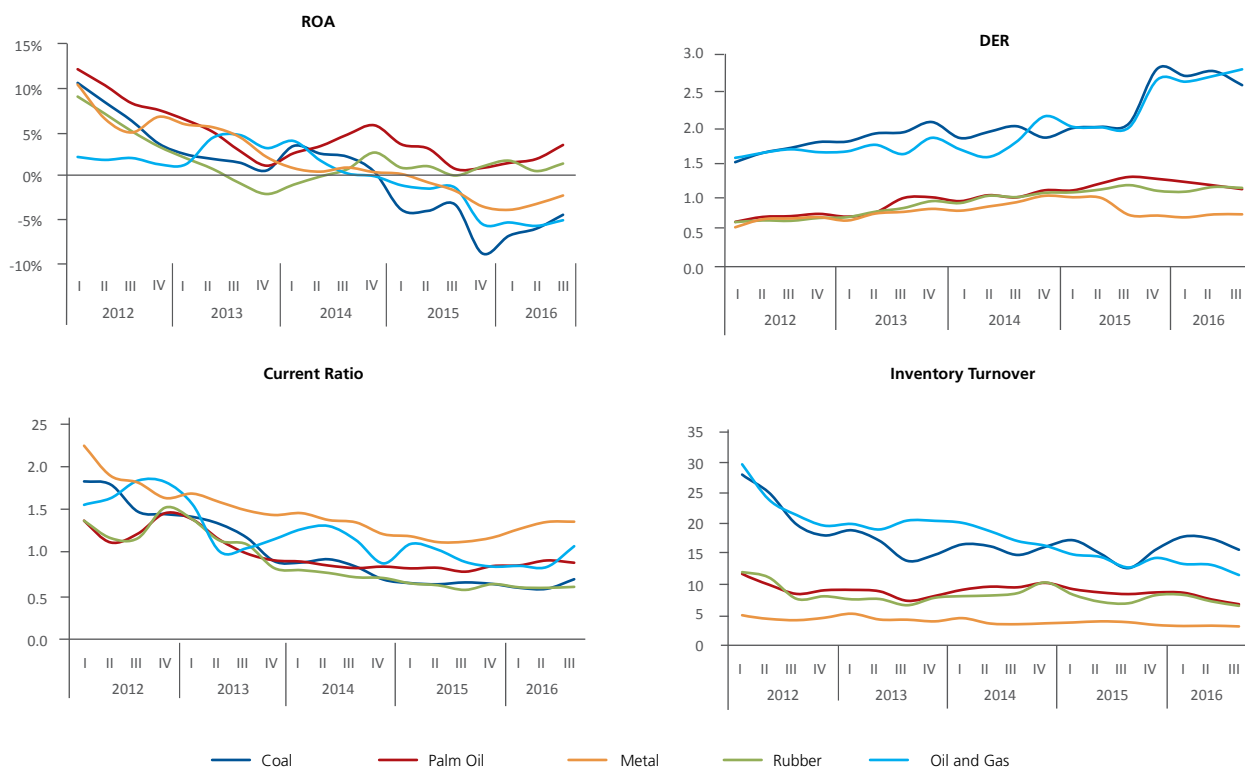
corporation share at risk tend to decline since the first quarter of 2016. The number was also relatively lower if compared to the crisis period of 2008-2009. In the meantime, the result of Altman Z-Score plotting with Gross Domestic Product (GDP) growth showed that the economic condition development might affect corporation performance.

Table 3.5. The Financial Performance Indicators of Main Commodities Corporation

Sector	ROA (%)		ROE (%)		DER		TA/TL		Current Ratio		Asset Turnover		Inventory TO	
	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016
Coal	-3.39%	-4.51%	-10.17%	-14.59%	2.02	2.53	0.63	0.67	1.49	1.40	0.44	0.43	12.86	15.75
Palm Oil	0.71%	3.35%	1.52%	7.34%	1.27	1.11	0.77	0.87	1.79	1.90	0.61	0.47	8.56	7.04
Rubber	-0.08%	1.24%	-0.17%	2.66%	1.16	1.13	0.55	0.58	1.86	1.89	0.36	0.33	7.17	6.79
Oil and Gas	-1.51%	-5.09%	-4.34%	-16.78%	1.97	2.74	0.88	1.07	1.51	1.37	0.26	0.22	12.95	11.75
Metal	-1.80%	-2.31%	-3.34%	-4.11%	0.77	0.78	1.13	1.37	2.30	2.28	0.57	0.42	4.03	3.47

Source: Corporate Financial Report on Indonesia Stock Exchange, Bloomberg, Processed.
The position of quarter III of 2015 and quarter III of 2016 (the number of commodity corporations observed is 73)

Graph 3.21. The Financial Performance Development of Main Commodities Corporation



Source: Corporate Financial Report in Indonesia Stock Exchange, Bloomberg, Processed.

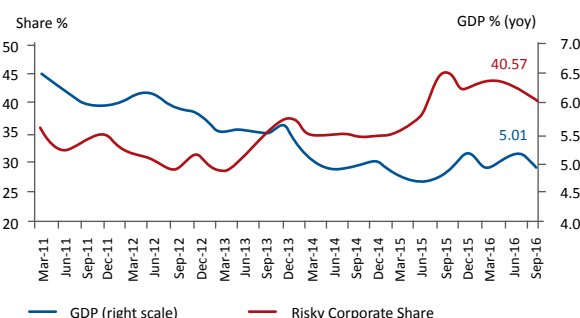
⁶ Altman Zscore, a quantitative method to measure health and probability of corporate bankruptcy. The calculation of Altman's Z-score in which $Z > 2.99$ belongs to "safe" zone, $1.81 < Z < 2.99$ belongs to "moderate" zone, $Z < 1.81$ falls into "risky" zone.

3.2.3. Banking Exposure on Corporation Sector

The performance improvement of the nonfinancial corporation was not in line with corporation credit exposure of banks which showed a slowdown. The condition caused by the fact that the companies tended to suspend their business expansion amid the uncertain global and domestic economic situation, so it affected credit demand. In the second semester of 2016, the banking credit proportion disbursed to the corporate sector slightly increased, from 48.39% in the first half of 2016 to 48.43%. The largest portion of corporate loan portfolio to total banking loan was in Commercial Bank Based on Business Activities (BUKU) 4 and BUKU 3, respective 45.69% and 37.36%. The situation can indicate that the credit disbursement of BUKU 4 and BUKU 3 are more focused on corporate segment, while BUKU 2 and BUKU 1 focused on retail financing (graph 3.24).

The banking credit to the corporate sector in the second semester of 2016 grew more slowly at 9.43% (yoy), compared to the first half of 2016 (12.13%). The slowdown was especially affected by the downswing in the sector of social services and transportation,

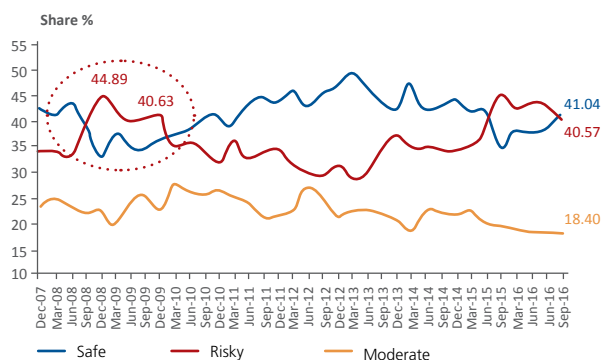
Graph 3.23. The Movement of Risky Corporations and GDP



Source: Bloomberg, CEIC, September 2016. Processed.

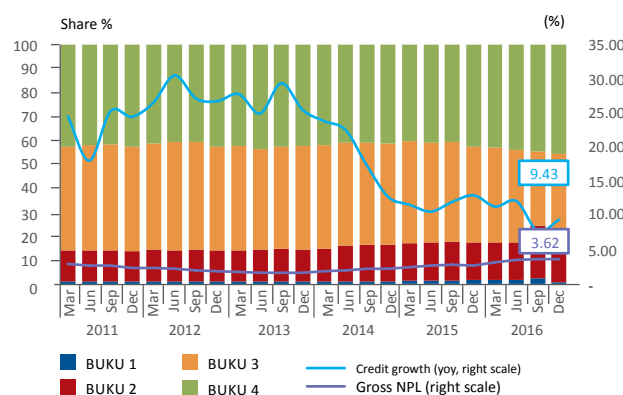
warehouse and communications (Table 3.6). Even in nominal terms, transportation, warehousing, and communications sectors were the only sectors that undergo a decreased in the value of credit. Besides that, the manufacturing sector which is the largest share of credit, the loan growth also slowed. manufacture industryIn the meantime, the mining sector that experienced credit decline since last year began to show improvement in the second half of 2016. Despite growing slowly, the growth of corporate credit is still higher than the credit growth of the banking industry as a whole.

Graph 3.22. The Performance Corporation Based on Altman Z-Score



Source: Bloomberg, CEIC, September 2016. Processed.

Graph 3.24. Corporation Credit per BUKU



Source: Commercial Bank Report, December 2016, Processed.

Meanwhile, the quality of corporate credit was slightly worse, reflected in the gross NPL ratio that grew from 3.56% (first half of 2016) to 3.62% (second half of 2016), while other sectors showed improvement. The highest gross NPL occurred in the mining sector which increased from 6.13% to 7.13% in the second half of 2016. This was partly due to the performance of the mining industry throughout the second half of 2016, which has not improved in the midst of a slowdown in the global economic recovery resulting in low global demand for mining products.

The credit risk of corporations which operate in the five largest main commodities also rose as the corporation performance in this sector still weak. Some commodities, especially coal and oil and gas, have the NPL ratio above the threshold (5%). Meanwhile, although the prices of some commodities have started to improve, the NPLs of borrowers, especially those operating in the coal sector, are still up from 6.51% (December 2015) to 8.31% (June 2016) and up again to

10.30% (December 2016). The upward trend in NPLs may lead banks to become more selective in lending to the commodity sector as part of the consolidation process and also to avoid higher NPLs.

Amid the sluggish credit growth, the banking Third Party Funds from corporations in the second semester of 2016 grew higher at 16.60% (yoy), compared to the growth in the first half of 2016 (9.95%). The Third Party Funds rise was due to the investment slowdown compared to last year so there was idle fund to be placed in the banking industry.

At the end of the second semester of 2016, BUKU 4 and BUKU 3 are the main option of corporations to place their funds. This can be seen from the portion of corporate Third Party Funds to total deposits in banks BUKU 4 of 44.20% and BUKU 3 of 39.82%. Factors that cause, among others, ease of administration, security and comfort in transacting, as well as products and services offered (graph 3.26).

Table 3.6. Corporation Credit by Economic Sectors

No	Economic Sector	Dec-15				Juni-16				Dec-16			
		Debt Tray (Rp T)	Share (%)	Credit Growth. yoy (%)	NPL Gross (%)	Debt Tray (Rp T)	Share (%)	Credit Growth. yoy (%)	NPL Gross (%)	Debt Tray (Rp T)	Share (%)	Credit Growth. yoy (%)	NPL Gross (%)
1	Manufacturing industry	652.68	33.69	15.11	2.39	655.16	32.48	9.46	3.78	680.71	32.11	4.29	3.60
2	Trade, restaurant, and hotel	411.90	21.26	16.29	2.95	430.01	21.32	13.14	3.61	447.05	21.09	8.53	4.47
3	Business world services	173.53	8.96	14.21	2.01	190.20	9.43	24.52	2.15	204.43	9.64	17.81	2.20
4	Agriculture	157.89	8.15	14.76	1.30	179.82	8.92	23.68	1.01	193.65	9.14	22.65	1.68
5	Transportation, warehouse and communications	136.55	7.05	18.76	4.14	157.59	7.81	21.17	4.63	165.68	7.82	21.33	3.63
6	Construction	152.13	7.85	2.52	3.65	151.21	7.50	1.31	5.61	143.69	6.78	(5.55)	5.07
7	Mining	92.79	4.79	22.54	2.38	104.87	5.20	27.78	1.73	128.06	6.04	38.01	1.65
8	Electricity, Gas and Clean Water	122.95	6.35	(5.88)	3.73	109.85	5.45	(14.92)	6.13	116.44	5.49	(5.29)	7.13
9	Social/ Public Services	29.04	1.50	2.25	3.40	31.66	1.57	32.86	3.17	33.33	1.57	14.77	1.92
10	Others	7.64	0.39	(22.92)	2.29	6.52	0.32	(14.28)	4.99	6.63	0.31	(13.13)	0.61
Total		1,937.09	100.00	12.70	2.71	2,016.89	100.00	12.13	3.56	2,119.68	100.00	9.43	3.62

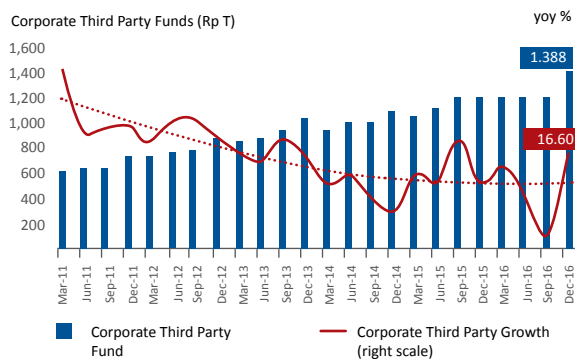
Source: Commercial Bank Report, December 2016. Processed.

Table 3.7. Credit Based on Main Export Commodities

No.	Commodity	Debet Tray as of Jun'16 (Rp T)	Share to Total Credit (%)			Year-on-year Growth (%)			Gross NPL Ratio (%)		
			Des'15	Jun'16	Des'16	Des'15	Jun'16	Des'16	Des'15	Jun'16	Des'16
1.	Palm Oil	267.84	5.84	5.84	6.12	24.61	20.82	13.11	1.11	1.10	1.40
2.	Oil and Gas	102.23	2.19	2.20	2.34	12.01	10.14	15.21	1.42	2.38	2.58
3.	Metal products	98.52	2.64	2.25	2.25	1.59	(6.71)	(8.05)	4.63	5.93	6.04
4.	Coal	39.77	1.14	1.00	0.91	0.66	(17.18)	(14.38)	6.51	8.31	10.30
5.	Rubber	20.28	0.45	0.46	0.46	(5.43)	(2.10)	11.89	4.51	4.24	4.13
	Total	528.65	12.25	11.75	12.08	13.00	7.60	6.31	2.55	3.00	3.27

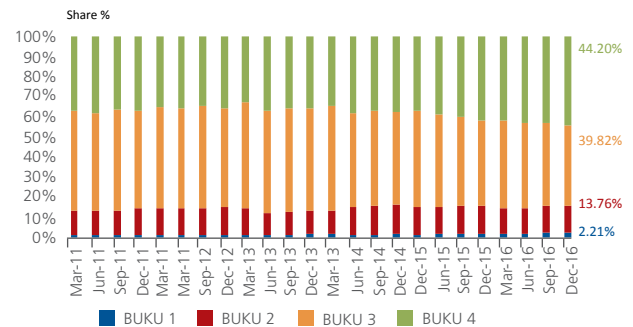
Source: Commercial Bank Report, December 2016. Processed

Graph 3.25. The Development of Corporation Third Party Funds



Source: Commercial Bank Report, December 2016, Processed.

Graph 3.26. Third Party Funds per BUKU



Source: Commercial Bank Report, December 2016, Processed.

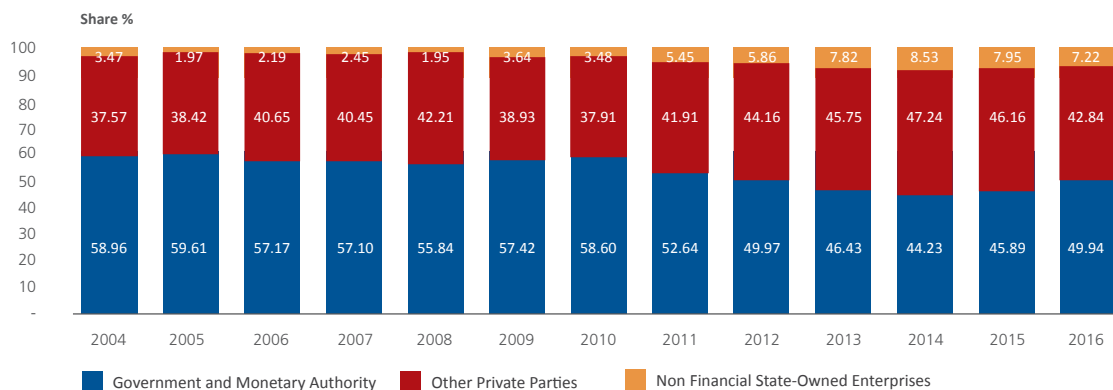
3.2.4. Private External Debt

Indonesia's external debt (ULN) in December 2016 was USD316.97 billion with a relatively comparable composition between the public and private sectors. However, the development of private sector External Debt especially in the financial sector tended to slow down since the end of 2014. The condition was affected by the economic slowdown and the movement of Rupiah. Based on Private Sector's External Debt component, as of December 2016, non-banking financial institutions' External Debt decreased to -12.04% (yoy), followed by the bank (-7.56%), non-financial State-Owned Enterprises (-7.37%), and nonfinancial corporations (-4.55%).

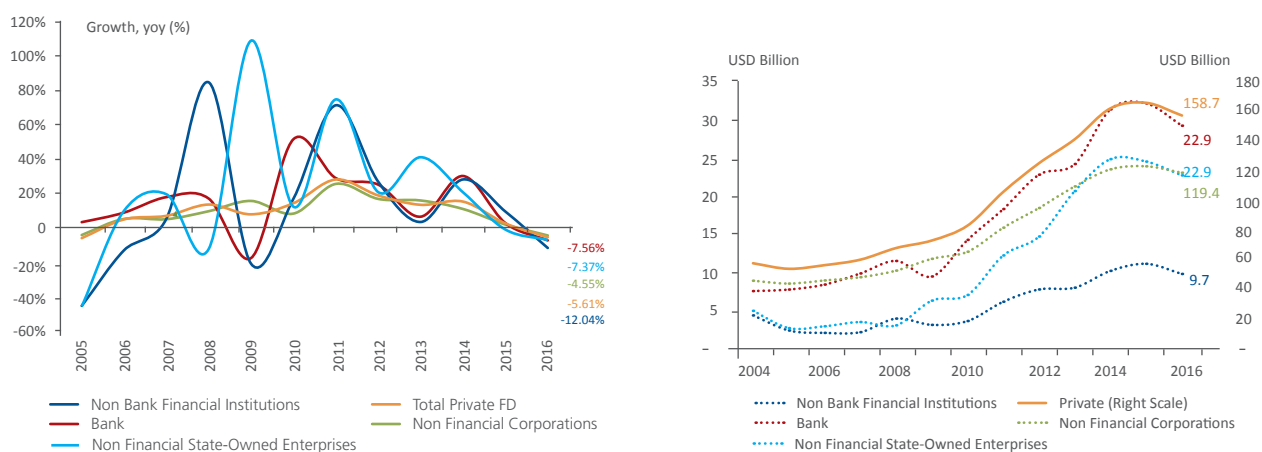
The External Debt downturn in the nonfinancial corporations was in line with the business expansion which was still limited, so the fund needs decreased. In the meantime, the downswing of External Debt in the financial sector (Bank and IKNB) related to the funding/ credit demand which remained low, so the financial institutions (Bank and IKNB) reduced the foreign loans as one of the sources of fund for disbursement of such credit/funding. The decreasing of nonfinancial corporation External Debt resulted in the decrease of restructured External Debt amount.

The amount of nonfinancial corporation External Debt in December 2016 reached USD119.4 billion. Based

Graph 3.27 Indonesia's External Debt



Graph 3.28. The Growth and Nominal of Private External Debt



Source: FD Statistics, Bank Indonesia, Position of December 2016, Processed

on the characteristics, the restructured External Debt of nonfinancial corporation can be categorized into positive tone and negative tone⁷. In the restructured External Debt with a positive tone, the restructuring activities are intended to improve performance and business of corporations which comprised: (i) credit ceiling addition, (ii) refinancing, (iii) rollover, and (iv) creditor takeover. Meanwhile, restructured External Debt with a negative tone is carried out due to the deteriorating corporation performance, among other things were caused by the payment problem, the worsening business prospects, and liquidity. The restructured External Debt with a negative tone

involves: (i) reconditioning, (ii) capitalized interests, (iii) debt to equity swap, (iv) debt reduction, (v) rescheduling, and (vi) other restructured External Debt.

The actions of restructured External Debt with a negative tone can be an indication of worsening company performance which affects debt payment performance both in domestic and foreign banking.

By sector, the highest restructured External Debt nominal was in the manufacture industry (USD13.3 Billion as of December 2016). The condition has caused

⁷ The differentiation of restructured External Debt with positive and negative tone is the result of FGD with corporations with restructured External Debt.

Graph 3.29 Restructured External Debt of Non Financial Corporations

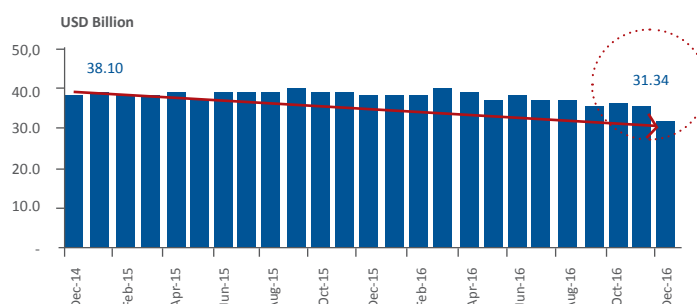


Table 3.8 Restructured External Debt by Economic Sectors

No.	Economic Sector	FD May '16, (USD Jt) ^{*)}				
		Non Restructuring	Restructuring			Total FD
			Positive Tone	Negative Tone	Total Restructuring	
1.	Manufacturing Industry	15,740	1,688	11,586	13,274	29,014
2.	Mining & Excavation	16,341	161	3,976	4,137	20,478
3.	Electricity, Gas & Clean Water	16,981	149	2,652	2,802	19,782
4.	Transportation & Communication	10,727	97	1,999	2,096	12,823
5.	Trade, Hotel & Restaurant	5,074	898	1,876	2,773	7,847
6.	Finance, Rental & Financial Services	5,019	534	1,486	2,020	7,039
7.	Agriculture, Stock Husbandry, Forestry & Fishery	3,058	434	2,274	2,708	5,766
8.	Other Sectors	1,105	14	676	689	1,794
9.	Building	729	183	237	420	1,149
10.	Services	602	416	8	424	1,026
Total		75,576	4,573	26,769	31,343	106,718

Source: FD Statistics, Bank Indonesia, December 2016 Position, Processed

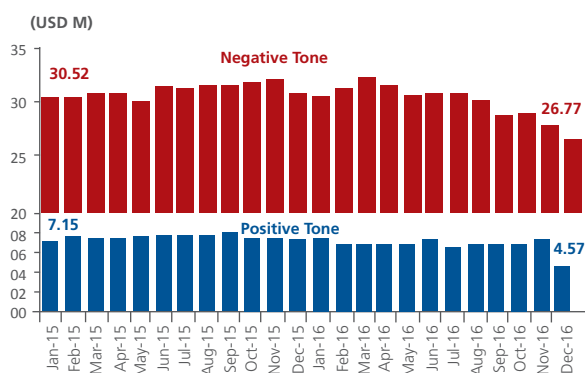
by the fact that the manufacture industry had raw materials with high imported contents which mostly purchased in foreign currencies. On the contrary, the dominant product sales were conducted in the domestic market so that the majority of income was in Rupiah, which caused exposure to foreign exchange risks.

The restructured External Debt of nonfinancial corporations has dwindled since January 2015 and amounted USD31.34 billion in December 2016. There were approximately 704 companies conducting restructuring with a negative tone worthy of USD26.8 billion, aiming to curtail External Debt principals and interest payment as the domestic and global economic

slowdown. Overall, the restructured nonfinancial corporation External Debt development tended to decline, both restructuring with a negative and positive tone if compared to the position at the beginning of December 2016. If viewed from the proportion side, in December 2016, the portion of External Debt with a negative tone rose, on the contrary, the External Debt share with a positive tone declined if compared to December 2015.

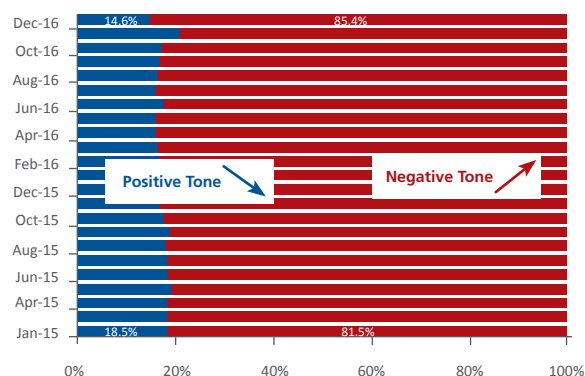
Based on the External Debt outstanding of the nonfinancial corporation, the restructured External Debt with a negative tone has dominated by the reconditioning type amounting 519 facilities as of December 2016. The kind of restructuring with a negative tone in the form

Graph 3.30
The Development of Restructured External Debt Outstanding



Source: FD Statistics, Bank Indonesia, Position of December 2016, Processed

Graph 3.31
The Development of Restructured External Debt Outstanding to Total Restructured External Debt (%)



of reconditioning was carried out through the changes of terms and conditions of External Debt, consist of the changes of debt amount, interest and creditor takeover.

In several cases, the reconditioning carried out if there was a new debt with more interesting requirements offerings, for instance, a lower interest rate with a longer tenor. Meanwhile, for restructured External Debt with a positive tone, the majority would be creditor take over with the number of restructured facilities amounting 121 facilities as of December 2016.

In December 2016, the development of External Debt interest payment with a positive and negative tone decreased if compared to the similar period in the previous year, respective USD10 million and USD106 million. Meanwhile, the principal payment of External Debt with a positive tone restructuring rose to USD3 billion, while the restructuring with a negative tone declined to USD2.4 billion.

In the next six months, the plan to pay and External Debt maturity of the corporation for the negative

and positive tone was higher in January and February 2017. The plan of paying and restructured mature External Debt with a positive tone is estimated to reach its peak in February 2017, around USD250 million. Meanwhile, in March, April, and June 2017 there was no debt maturity of restructured External Debt with a positive tone, while for the payment plan it is estimated to reach around USD50 million every month (March-June 2017). Meanwhile, there needed to be an intensive monitoring especially on the payment of restructured External Debt payment with a negative tone considering the quite significant outstanding share. In January 2017, the payment plan of External Debt with a negative tone is predicted to reach USD2 billion and maturity of External Debt worthy of USD1.4 billion. Meanwhile, for the period of February-April 2017, the payment plan of External Debt and maturity of External Debt amounted around between USD100 million to USD1.2 billion.

In the aim of risk mitigation, Bank Indonesia has issued regulations on the Application of Prudence Principle in the Nonbank Corporation External Debt Management

Table 3.9
Types of Restructured External Debt with Positive and Negative Tone

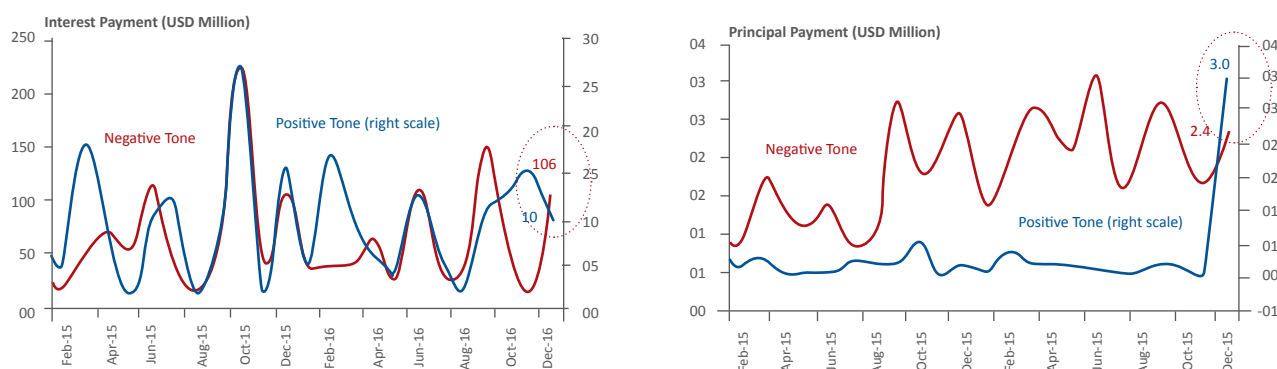
Restructured Tone	Restructuring Types	FD Position, May '16 (in million USD)	Facility Number
Negative Tone	Reconditioning	11,970	519
	Rescheduling	5,751	916
	Capitalized Interest	4,456	238
	Others	4,416	58
	Debt Reduction	121	7
	Debt to Equity Swap	56	13
Positive Tone	Maximum Limit Addition	2,269	121
	Creditor Transfer	1,149	22
	Rollover	634	30
	Refinancing	521	49
Total		31,343	1,973

Source: External Debt Statistics, Bank Indonesia, position of December 2016, Processed.

(Bank Indonesia Regulation No.16/21/PBI/2014). The regulations were issued to manage various risks that may arise from External Debt. Non-bank corporations are required to meet the minimum hedging ratio of 25% based on the negative difference between Foreign Currency Assets and Foreign Currency Liabilities that will mature up to 3 months ahead and which will mature more than 3 months up to 6 months ahead.

Besides that, nonbank corporations are also required to comply with the required minimum foreign currency liquidity ratio, which was 70% at its lowest. Based on the report of Prudence Principle Reporting Compliance, Bank Indonesia may calculate foreign currency liquidity from all nonbank corporations which have External Debt. Based on the reports⁸, from 2,443 nonbank corporations with External Debt which

Graph 3.32
Payment of Interest and Principals of External Debt with Positive and Negative Tone



Source: FD Statistics, Bank Indonesia, Position of December 2016, Processed.

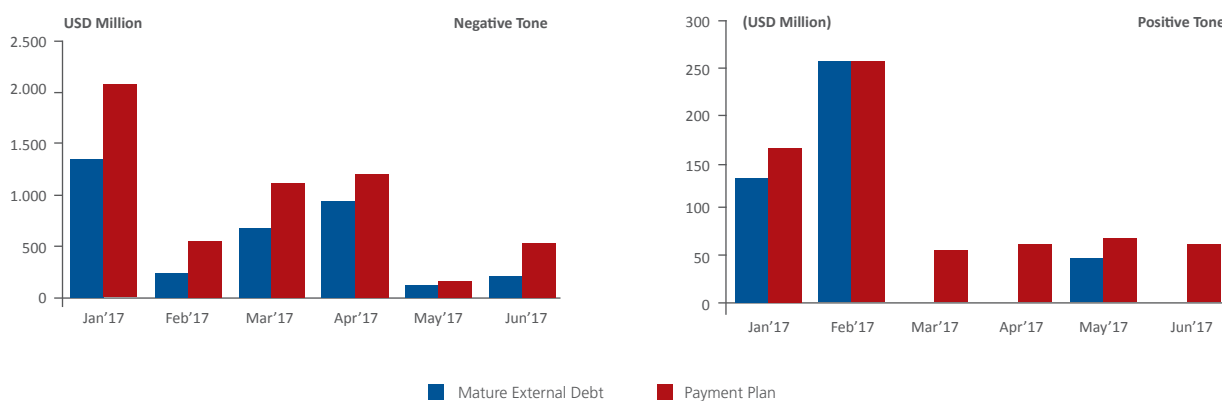
⁸ The position of quarter II 2016

already reported their foreign exchange liquidity to Bank Indonesia, until the next three months there will be 12.4% nonbank companies that have not met the minimum ratio for foreign liquidity or hedging. Meanwhile, for the foreign liquidity, until the next 3 to 6 months there will be 8.06% nonbank companies that have not met the requirements.

As one of the efforts to measure risks that may arise from corporations that have External Debt, Bank Indonesia has conducted a simulation to comprehend

banking resilience against the decreasing repayment capacity of companies with restructured negative tone External Debt. The simulation has performed on corporations with restructured negative tone External Debt using the 20%, 30%, and 50% default scenario. The stress test result showed that the NPL of banking industry is relatively safe (under 5%) and there was no significant impact on banking capitals.

Graph 3.33
Payment Plan of Interest and Principal of Restructured External Debt with Positive and Negative Tone



Source: Bank Indonesia, February 2017

Box 3.1 The Household Balance Sheet Survey

Household is one of the economic units playing an important role in the economy and also in the financial system stability. Therefore, surveillance towards household sector is required to be conducted regularly. One of the surveillance of Bank Indonesia towards household sector is through the holding of Household Balance Sheet Survey (SNRT). SNRT aims to: (i) obtain information on the structure of Indonesia's household balance sheet, (ii) build the data to design surveillance, (iii) obtain asset and liability data of the household sector in composing National and Regional Balance Sheets and financial imbalances indicators.

SNRT 2016 has been conducted in 14 provinces in Indonesia with total respondents amounted 3,500 households. Based on the Susenas data in 2013⁹, the total population in 14 provinces represented 73% of the Indonesia's entire population. The

provinces in the discussion were North Sumatera, West Sumatera, South Sumatera, Jakarta Special Region, West Java, Central Java, East Java, Bali, West Kalimantan, South Kalimantan, East Kalimantan, North Sulawesi, South Sulawesi, and Maluku. To be able to provide a complete description of Indonesian people's economic characteristics, the SNRT 2016 respondents are divided into 3 (three) groups based on low, middle, and high income (Box Table 3.1.1).

Of the total respondents, 88.6% of households have breadwinners who work, and 11.4% of other households do not work for the recent one year. The majority of breadwinners who work are official employees (59.9%)¹⁰, Box Graph 3.1.1. Meanwhile, based on the business sector, the majority of breadwinners who work have a main occupation in the tertiary sector (56.5%), followed by primary sector (31.0%) and secondary sector (12.5%)¹¹.

Box Table 3.1.1. The Distribution of Respondents by Income

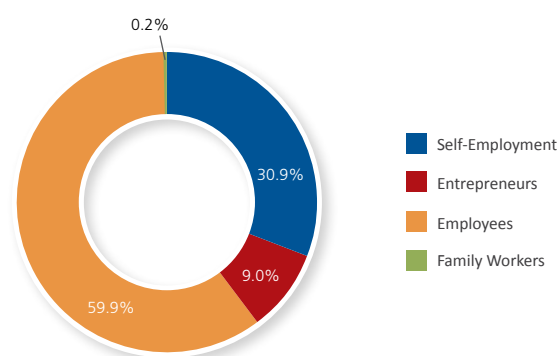
Income Group	Income Range (thousand Rupiah)	Total Respondent	Distribution (%)
Low	< 2,792.5	1,400	40.0
Middle	2,792.5 - 6,900	1,401	40.0
High	> 6,900	699	20.0

⁹ The Framework of SNRT 2016 samples compiled by data of SUSENAS 2013 in the first quarter.

¹⁰ A main occupation is one with the biggest time allocation or generates the largest income. The status of occupational position: 1). Run a business or own an independent business, 2). Employee consisting of (a) manual worker/employee/worker, (b) peasants, and (c) non peasants, 3). Entrepreneurs consisting of (a) those assisted by temporary manual workers/ unpaid workers, and (b) those who run a business and are assisted by permanent manual workers/ unpaid manual workers, 4). Family workers or employed as family workers/unpaid.

¹¹ Primary sectors consisting of (1) agricultural, forestry, and fishery sector, and (2) mining and excavation sector. Secondary sector consists of (1) manufacture industry, (2) electricity and gas generation sector, (3) water generation sector, and (4) construction sector. Tertiary sector consists of (1) retail and big party commerce sector, (2) transportation and warehouse sector, (3) food and beverage and accommodation provision sector, (4) information and communication sector, (5) financial service sector, (6) real estate sector, (7) corporation service sector, (8) mandatory social security and government administration sector, (9) education service sector, (10) social activity and health service sector, and (11) others.

Box Graph 3.1.1. The Main Occupations of Households' Breadwinners



General Description of Indonesia's Household Balance Sheet

Compared to the 2015 condition, in general, the average value of households' total assets in 2016 rose by 1.7% to Rp584.061 thousand per

household. The increase also occurred in the mean value of total debt and net worth of households (Box Table 3.1.2.). Based on income groups, the higher a respondent's income is, the higher the net worth is.

Box Table 3.1.2. The Distribution of Respondents by Income

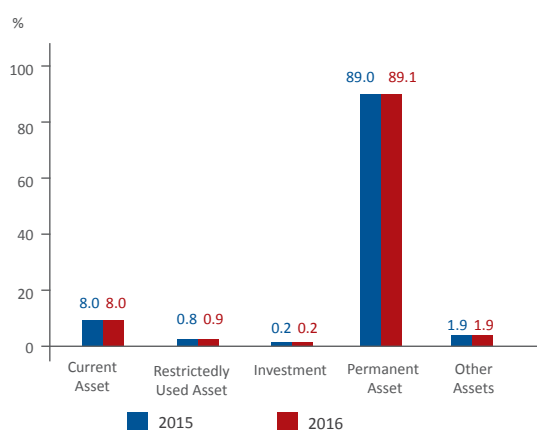
Respondent Group	Note	2015 (thousand Rupiah)	2016 (thousand Rupiah)	Changes (%, yoy)
Total	Asset	574,331.2	584,061.8	1.7
	Debt	13,084.6	17,479.9	33.6
	Net Worth	561,246.6	566,581.9	1.0
Low Income	Asset	262,399.6	254,322.9	(3.1)
	Debt	2,864.7	4,206.5	46.8
	Net Worth	259,534.9	250,116.4	(3.6)
Middle Income	Asset	425,892.9	430,903.0	1.2
	Debt	10,118.1	12,619.4	24.7
	Net Worth	415,774.8	418,283.6	0.6
High Income	Asset	1,496,600.6	1,551,457.8	3.7
	Debt	39,499.4	53,806.4	36.2
	Net Worth	1,457,101.2	1,497,651.4	2.8

Household Assets

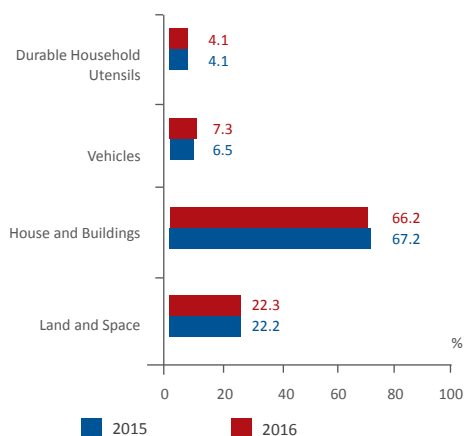
In 2016, the Indonesia's household assets dominated by nonfinancial assets, namely permanent assets (89.1%). Houses and buildings are the largest assets owned by households

(66.2%). In the current asset category, saving account is the largest (29.5%). Meanwhile, household investment is relatively low, at only 0.2% of the total assets. Such investment dominated by business ownership (63.4%).

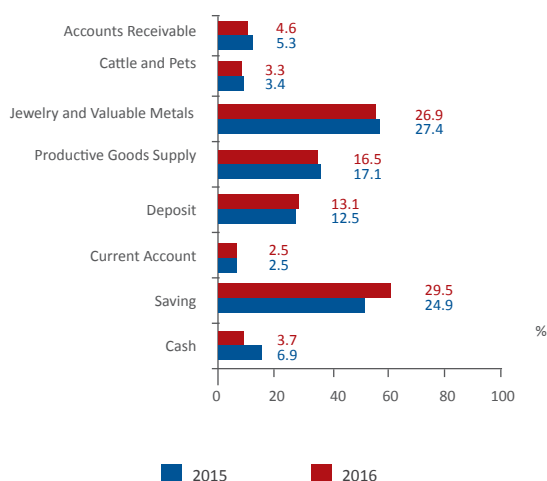
Box Graph 3.1.2.
Household Assets in 2015-2016



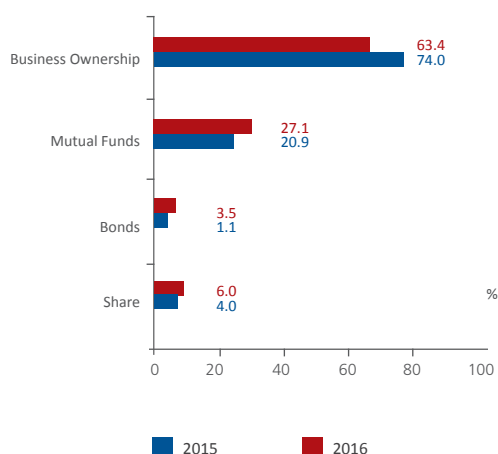
Box Graph 3.1.3.
Fix Asset of Household in 2015-2016



Box Graph 3.1.4.
Current Assets of Households in 2015-2016



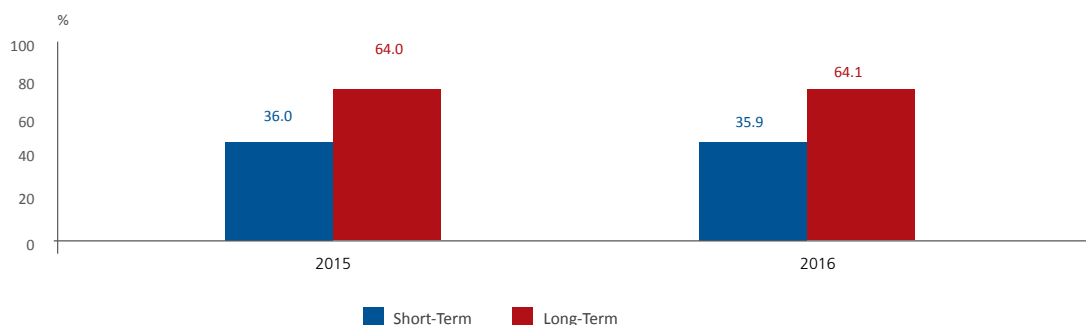
Box Graph 3.1.5.
Household Investment in 2015-2016



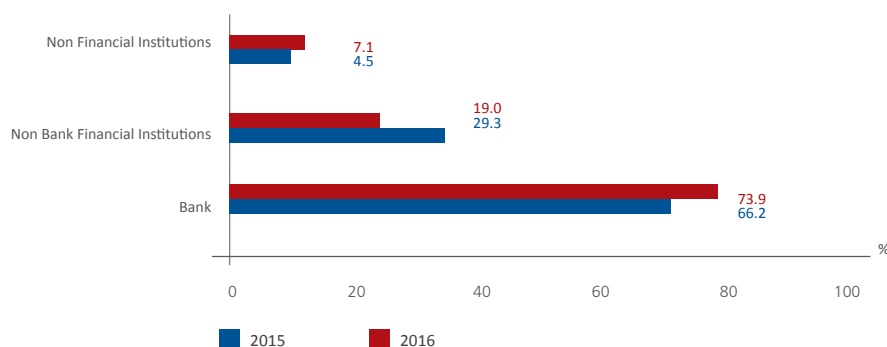
There was 38% of households that stated they have debts. Based on income category, the largest debtors were the middle-income group (44%), followed by low-income group (31%) and high-income group (25%). On average, debt per household in 2016 was recorded to reach Rp17,479 thousand or rose by 33.6% compared to 2015 (Rp13,084 thousand). Based on maturity, the majority of household debts in 2016 were in the form of long-term liabilities (64.1%), this was relatively similar to the condition in 2015 (64%).

Based on sources, the majority of household debts in 2016 derived from Banks (73.9% of total debts). On average, each household's and nonfinancial institutions' Bank debts rose by 49.1% and 109.7% (yoy) respectively. Although debts of nonfinancial institutions rose significantly, yet the debt portion of nonfinancial institutions on total debts was relatively low (7.1%). In the meantime, debt portion of financial institutions other than banks dropped to 19% in 2016 compared to 2015 (29.3%).

Box Graph 3.1.6. Household Debts in 2015-2016 by Tenure



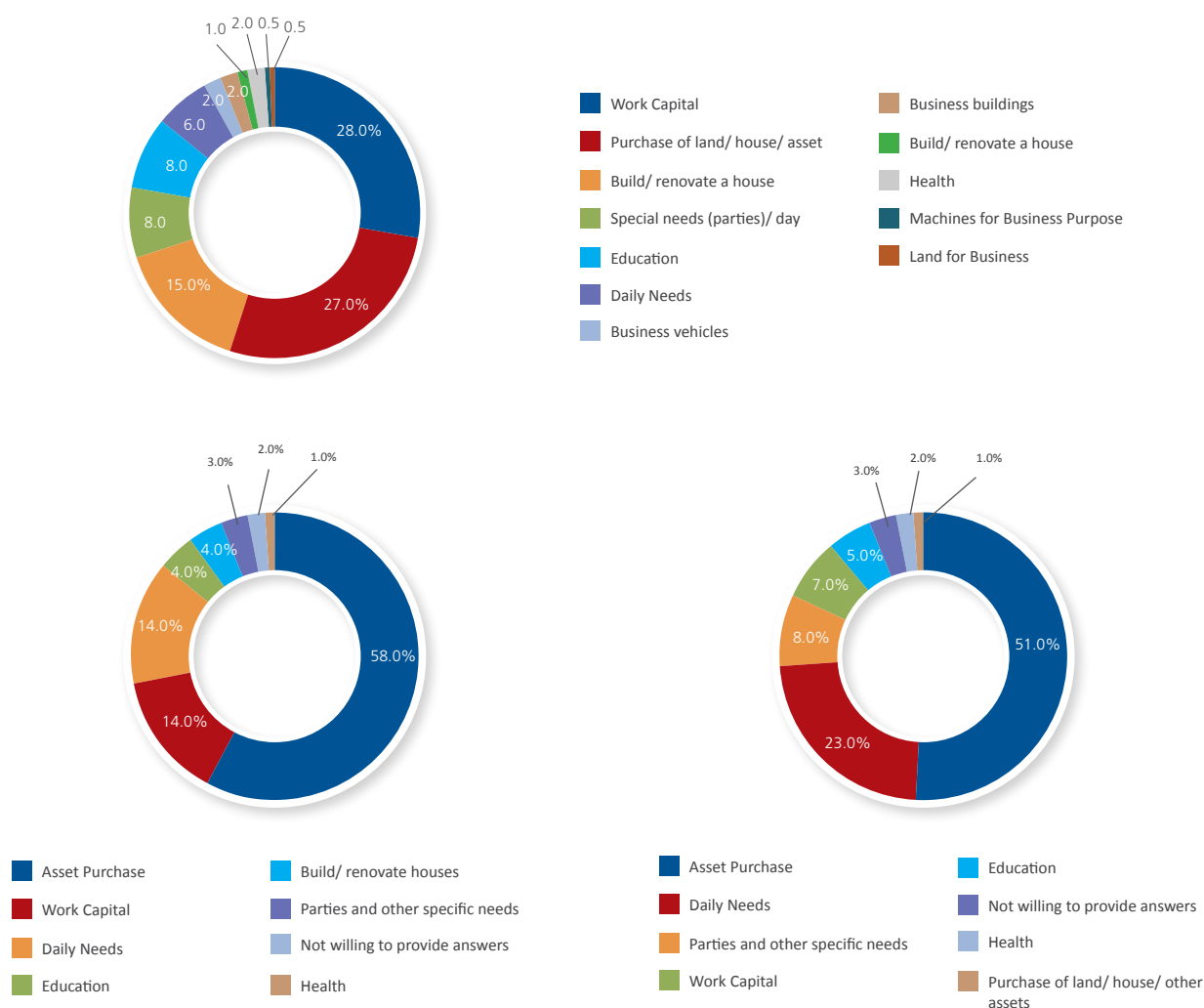
Box Graph 3.1.7. Household Debts in 2015-2016 by Source of Fund



Based on the purpose of borrowing debt, respondents generally stated that the debt is used for business capital and to buy assets of land, houses, and vehicles.

Meanwhile, respondents who have debts from financial institutions other than banks stated that their debts were allocated to fulfill daily necessities.

Box Graph 3.1.8. The Distribution of Households Borrowing from Banks by Objective of Loans



The Net Worth of Households

Based on the household balance sheet in 2016, it can be seen that the main source of household fund from networth is 97.0%. The average net worth per household in 2016 was Rp566,581.9 thousand, rising from 2015 which was only Rp561,246.6 thousand (Table Box 3.1.2).

The 2016 Indonesia's Household Financial Analysis

The 2016 household financial analysis aims to interpret the performance of household finance in general, which consisted of households' liquidity and solvency aspects.

The 2016 Household Liquidity Condition

The analysis of household liquidity depicted the households' capacity to pay out short-term debts through financial ratio, consisting of current ratio and cash ratio.

a. Current ratio

The current ratio or current asset ratio to current household debts in 2016 reached 7.4 times. The condition shows the household condition in Indonesia remained liquid or the possibility of a household to fail to repay the short-term debts was relatively low.

b. Cash ratio

Cash ratio indicated that the household capability to repay short-term debts through cash and equivalent to cash consisted of cash in hand, saving, current account, and deposit. The cash ratio of Household Balance Sheet Survey in 2016 was recorded to reach

3.6 times, which reflected the relatively low potential for household failure in repayment of short-term liabilities (debts).

The 2016 Household Solvability Condition

Solvability defined as the capacity to repay its long-term debt. The survey result showed that the capability of Indonesia's household to repay their debts was quite good. The situation indicated by the household gearing ratio (the ratio of total debts to total assets) and debt to equity ratio/DER (ratio of total debts to net worth) which was relatively low, that is 3.0% and 3.1% respectively. The low value of household gearing ratio also indicated that households still had sufficient capacity to get additional funding from banks.

The 2016 Household Financial Vulnerability Analysis

The analysis of household financial vulnerability was conducted to measure how strong the respondents' households of 2016 Household Balance Sheet Survey in dealing with financial issues which may occur without warning. Such analysis can be carried out by providing questions to respondents as follows:

a. How long can household survive when it loses its main source of income? There was 35.5% of respondents stating that in the case of losing the main income source, saving and cash in possession may be spent for living necessities for a week to less than a month. This fact followed by spending less than a

- week (25.0%) and between a month to less than three months (22.0%).
- b. How much was the unexpected expenditure repayable without causing financial issues? The majority of respondents answered that it topped Rp500 thousand (72.3%) as an amount of unexpected expenditure repayable at once without causing financial issues. Meanwhile, about 17.4% of respondents stated that the sum was not larger than Rp1 million.
 - c. Were there any moments of difficulties to fulfill living necessities? In general, most of the 2016 Household Balance Sheet Survey respondents never experienced difficulties to fulfill living necessities throughout the recent year. Only 33.3% of respondents stated that they had difficulties in meeting their life needs during the past year. Of all respondents who said they had difficulty, the majority (54.4%) came from low income groups.
 - d. Is there any case of debt repayment problem? In general, the majority of respondents (81.4%) stated that they never had experienced difficulties in repaying their debts for the last one year. The respondents stated they had ever experienced problems in repaying their debts in the last one year. The respondents indicating that they experienced issues of fulfilling living necessities or repaying debts in the recent one year only reached 18.6%, 51.5% of which were respondents of low-income group.
 - e. What to do when experiencing difficulties to fulfill living necessities or repaying debts? In general, there were three main steps that these respondents opted for when experiencing issues of fulfilling their living necessities or repaying their debts. There are curtail expenditure (23.8% of those surveyed), borrow for food or money from families or friends (15.7% of respondents), and withdraw funds from savings (12.5% of participants). The ways to limit expenditures is the priority that the respondents chose of all income groups. Meanwhile, the least preferred option as a way to overcome issues of fulfilling living necessities and repaying debts is transferring debts (0.1% of respondents), and using credit cards to earn cash or pay bills or buy foods (0.1% of those surveyed).

Box 3.2

Property Ownership of Foreigners

In order to improve investment in the property sector, the Government issued the First Policy Package on September 9, 2015, which opened the opportunities for foreign parties to possess exclusive apartments at the price of more than Rp10 billion. As the follow-up of such policy package, the Government issued Government Regulation no. 103 year 2015 regarding the Residential Properties Ownership for Foreigners Residing in Indonesia. Following the Government Regulation, foreigners who hold residential permits in Indonesia are allowed to own a residence or house with the following rules:

1. Purchasing a single house that built on the land with Rights to Use title, Rights to Use title over Freehold title based on agreement or Rights to Use title from the change of Freehold title or Rights to Build title.
2. Purchasing units of apartments built on a land of Rights to Use title or from the modification from Right of Strata Title Ownership on Multi-storey Building Units.
3. Rights to Use title granted for not more than 30 (thirty) years, which can be extended for at most 20 (twenty) years, and afterward can be renewed for 30 (thirty) years at most.
4. Foreigners who no longer qualify as a right holder as s/he leaves Indonesia or no longer has the rights to stay required to relinquish or transfer his/her rights over his/her house and land to another party that qualifies within one year.
5. The requirement of residence for foreigners to purchase are as follows:
 - a. Only one plot of land per person/family.
 - b. Land size is not more than 2,000-meter square.
 - c. Foreigners who hold residential permits in Indonesia are allowed to purchase a residential property may hold a residential permit in the forms of:
 - Residential permit for work (granted by the Indonesia Ministry of Foreign Affairs).
 - Residential permit for diplomatic affairs (given by the Indonesia Ministry of Foreign Affairs).
 - Residential permit for tourists (in the form of visitor visa, free of visitor visa as well as visa on arrival).
 - Limited residential permit may be granted in the period of 1 or 2 years and can be extended not longer than 6 years.
 - Permanent residential permit, that is a permit granted to certain Foreigners to live and reside in the territory of Indonesia as Indonesian. This is granted within the five years period and can be extended without any limitation.

Besides, the Government stipulated that the restriction of property minimum price for foreigners to purchase that divided based on a given property's location:

against Mortgage Facilities for Houses for citizens and foreigners. As there are opportunities for foreigners to purchase properties in Indonesia, the benefits are as follows:

Box Table 3.2.1. The Limitation of property price for foreigners to purchase

No	Location/ Province	Single House Minimum Price (Rupiah)	Apartment House Minimum Price (Rupiah)
1	Special Capital Region of Jakarta	10 Billion	3 Billion
2	Banten	5 Billion	2 Billion
3	West Java	5 Billion	1 Billion
4	Central Java	3 Billion	1 Billion
5	Special Region of Yogyakarta	5 Billion	1 Billion
6	East Java	5 Billion	1,5 Billion
7	Bali	5 Billion	2 Billion
8	NTB	3 Billion	1 Billion
9	North Sumatera	3 Billion	1 Billion
10	East Kalimantan	2 Billion	1 Billion
11	South Sulawesi	2 Billion	1 Billion
12	Other Areas/ Regions	1 Billion	750 Million

Source: The Attachment of Agrarian Minister's Regulations and Layout/ Chief of National Agrarian Bureau No. 29 Year 2016

In regards with the existing limitation of quite high property nominal price and also to purchase a property, consumers may use bank financing; Bank Indonesia does not regulate prohibitions for banks to disburse credits to foreigners. Under Bank Indonesia Regulation no.18/19/PBI/2016 dated September 5, 2016, regarding Foreign Currency Transactions against Rupiah between Banks with Foreign Parties, foreigners may secure Credit or Funding of Consumption in Rupiah and foreign exchange as far as it has spent in Indonesia. In addition to that, Bank Indonesia applies no different regulations of Loan to Value Ratio (LTV)

1. The improvement of property demand so it creates jobs and improvement of local products purchase (affordability) which later on are expected to push economic growth.
2. The estimation of improving demand of foreigners will boost developers to add property supply while developer capacity also limited including concerning land supply. The situation is allegedly a potential cause of action which is speculative by nature.
3. There are possibilities of increasingly unproductive property as they are left abandoned by owners (foreigners).

4. Properties may be used by foreigners to elude tax liabilities and for money laundering from their country of origin.
5. Property ownership may create discrepancy of welfare.

The other points to pay attention is the possibility of property demand by foreigners, which are:

1. Due to the limited number of expatriates in Indonesia (having residence visa such as KITAS and KITAP), the foreigners demand of property is estimated to remain stagnant as the number has not shown any significant rise.
2. The attraction of Indonesia's properties usually lies in the areas where economic or tourism activities concentrate such as Jakarta, Surabaya, Bali, Batam, and Medan.



BANK INDONESIA



Congklak is a traditional game that requires the strategy of congklak seed placement into each house on the congklak board to runout first. In the financial system, similar to the distribution of congklak seed from one house to another, the banking industry performs its intermediary function by distributing funds it collects through considerations of spectrum of risks, not only to achieve profit and efficiency but also to support the financing of the economy.

04

Throughout semester II 2016, the banking industry growth in general was improved compared to the previous semester, as reflected by the improving intermediation function growth with a managed credit risk, supported by capital and liquidity which was also improved continuously. The total banking industry assets were recorded at Rp6,729.8 trillion, with a better growth compared to the previous semester. The banking capital was well-maintained at the high level and was dominated by core capital indicated the strong resilience of the banking industry against all risks. In terms of intermediation, Third Party Funds growth rose significantly, supported by the incoming tax amnesty funds and the improving government account expansion. Meanwhile, the credit growth was not as high as previous periods affected by the limited credit demand from corporations and bank behaviors which tended to be more cautious and prudent in disbursing credits. The banking credit risks were in need to be observed in spite of the increasing gross NPL ratio in the second semester of 2016. Meanwhile, the profitability and efficiency of banking industry slightly decreased as the consequence of credit loss and the growing reserve costs due to the inclining credit risk.

In line with the development of conventional banking industry, the sharia banking performance improved in the second half of 2016, encouraged by the better consolidation. The asset and sharia banking funding growth rose along with the improving market share as the positive impact of Aceh regional bank (BPD) conversion to sharia bank in September 2016. The level of non performing loan of sharia banking was relatively high but the profitability ratio was still hike up. On the other hand, the sharia banking risk resilience was still maintained with the inclining level of capital to commensurate its risk exposure.

The performance of Nonbank Financial Industry (IKNB) throughout the second semester of 2016 was improving both in terms of funding and financing, although Multifinance Companies NPF still in deprived condition. The improved Multifinance Companies profitability, supported by the funding increase, while the foreign currency risk exposure decreased along with the lowering External Debt. The insurance industry performance was also improved, as reflected by the total asset and investment volume escalated confirmed by the lowering business risks of insurance industry.

BANKING AND IKNB

THE PERFORMANCE OF FINANCIAL AND SHARIA INSTITUTIONS SLOWED DOWN YET THE RISKS WERE WELL-MAINTAINED



The Banking Risks Increased Yet Banking Resilience Was Maintained



Capital Remained Strong

▲ CAR reached
22.69%



Liquidity Was Well-Maintained

▲ AL/NCD reached
99.36%



Dropping Efficiency

▲ BOPO reached
82.85%

▼ CIR reached
55.53%



Intermediation Was Still Decelerated

▼ Credit Growth reached
7.86%



Maintained Profitability

▼ ROA reached
2.17%

▲ NIM reached
5.47%

▲ Third Party Funds Growth reached
9.60%

▼ LDR reached
90.50%



SME Credit

▲ SME Credit Disbursement reached
8.4%

▼ SME Credit NPL reached
4.15%



Recovering Credit Risk

▼ Gross NPL at
2.93%



Relatively Maintained Market Risk

Relatively Maintained Interest Rate Risk

Short Forex Banking worthy
Rp5.09 trillion

Change Risk Slightly
Rising State Bonds Price



The Nonbank Financial Industry Performance during the second semester of 2016 recorded an improvement, but Financing Risk Remained High



Financing Companies



▲ Assets reached
Rp 443 trillions



▲ The Financing Volume reached
6.67% (yoy)



Rising Profitability

▲ ROA reached
3.87%

▲ ROE reached
12.01%



A Slightly Lowering Efficiency

▲ BOPO reached
82.71%



▲ The Government Financing Source Growth reached
4.29%



Credit Risk Rose
NPF
▲ 3.26%



Insurance



▲ Assets reached
Rp932 trillions



▲ Investment Volume Growth reached
21.70%



Maintained Liquidity

▼ Current Ratio reached
1.66



A Slightly Lower Profitability

▼ ROA reached
3.29%

▼ ROE reached
12.16%



Lower Risk
▲ Premium Sufficiency Ratio on Claim Payment reached
157.99%



Performance of Sharia Bank Was Remained Sound Yet Financing Risk Was Still Quite High



Rising Liquidity

- ▲ AL/ NCD reached 121.27%
- ▲ AL/ DPK reached 22.04%



ROE Profitability

- ▼ reached 4.59%
- ▼ ROA reached 0.63%



- ▲ CAR reached 15.95%



Intermediation

- ▲ Third Party Funds reached 20.83%
- ▲ Financing reached 16.44%

- ▼ ULNR reached 88.78%



Credit Risk

- ▼ Gross NPF reached 4.68%

4.1. The Assessment of Condition and Risks of Banking Sector

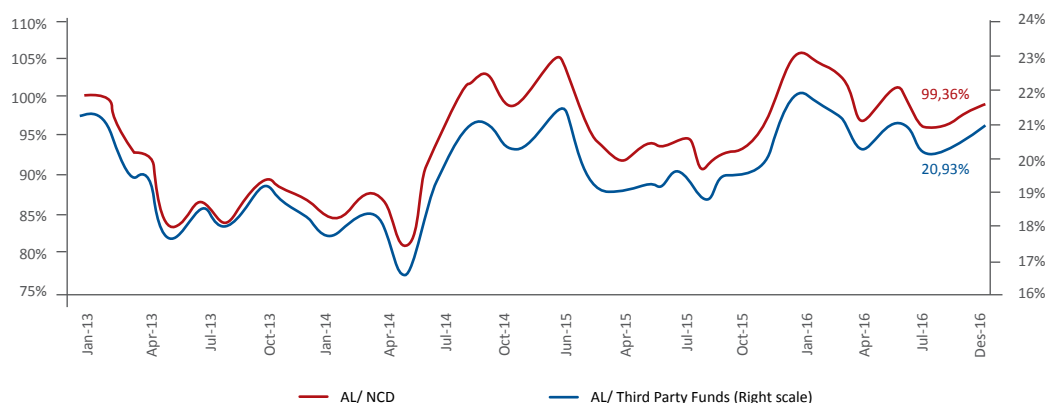
4.1.1. The Assessment of Condition and Liquidity Risks

Banking liquidity industry rose both in terms of resilience and liquid tools if compared to the previous semester, despite a low pressure in quarter III in 2016 due to the tax amnesty and Eid-al-Fitr currency outflow. The well-maintained banking liquidity in the end of 2016 was in line with the inflow of tax amnesty redemption fund in fourth quarter of 2016, the rise of government account expansion in the end of the year, and the slowdown of credit growth. The high banking liquidity was estimated to be able to keep

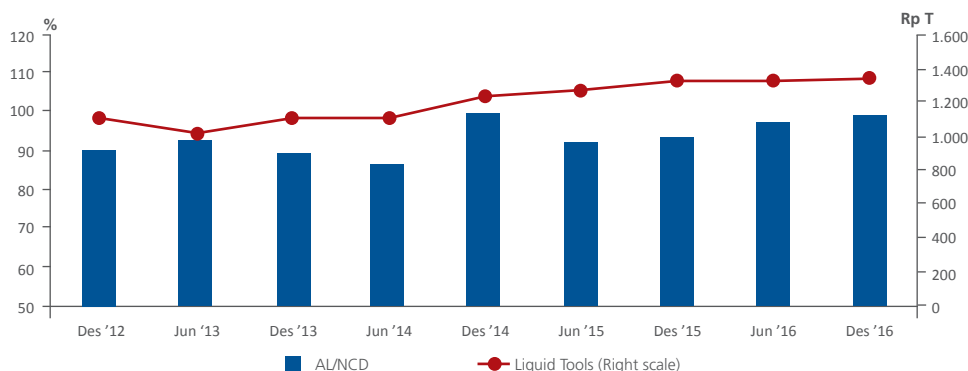
banking industry's liquidity above the threshold as it was supported by a more anticipative bank liquidity management pattern (short position of OM placement especially in the period of pressure).

The resilience of banking liquidity was indicated by the high ratio of liquid tools on Non-Core Deposit (AL/NCD) which reflected the bank capacity to fulfill its liabilities regarding the potential of Third Party Fund withdrawal to support credit expansion. In the second semester of 2016, AL/NCD rose to 99.36% compared to the compared to the similar ratio in previous semester in 2016 at only at 97.40%. The rising ratio of AL/NCD was also in conformity with the AL/Third Party Funds ratio which was still far above its threshold.

Graph 4.1. Ratio of Banking Liquidity



Graph 4.2. The Development of Banking Liquid Tools



AL = Cash + Placement in BI + Excess Reserve - GWM
NCD = 30% Giro + 30% Saving + 1-% Deposit

Source: Bank Indonesia

Table 4.1. AL/NCD each BUKU

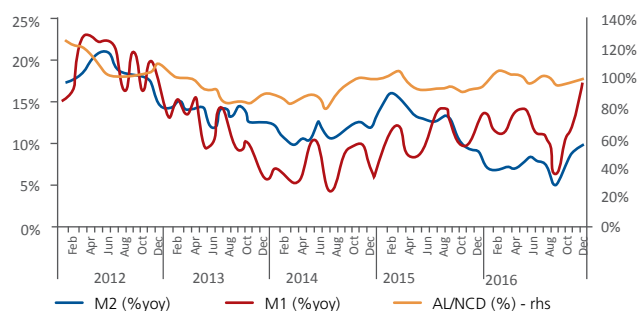
	AL/NCD Ratio (%)				
	2014	2015		2016	
	Dec	Jun	Dec	Jun	Dec
BUKU 1	102.88	87.15	86.38	104.90	100.95
BUKU 2	109.44	101.88	113.07	109.13	110.34
BUKU 3	82.33	91.72	89.15	99.43	105.20
BUKU 4	107.17	90.20	90.69	92.63	93.28
INDUSTRY	99.83	92.50	93.44	97.40	99.36

Source: Bank Indonesia

Table 4.2. The Addition of AL in the Second Quarter

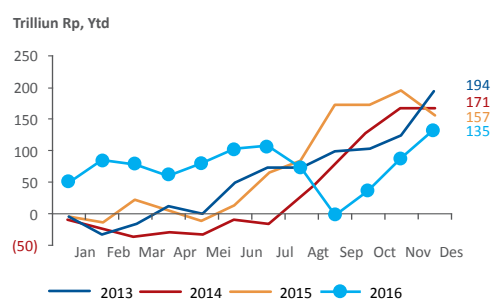
Pattern	Addition of AL (Rp T) Quarter IV	
	Semester	Ytd
2014	150.16	149.22
2015	37.06	13.02
2016	81.56	154.62

Graph 4.3. The Growth of Economic Liquidity and Ratio of Banking Liquidity



Source: Bank Indonesia

Graph 4.4. Government Net Expansion



Based on the group of Commercial Bank Based on Business Activities (BUKU), the ratio of AL/NCD rose compared to the previous semester while the group of BUKU 1 dropped. The rise of AL/NCD in BUKU 2, 3 and 4 was boosted by the increase of liquidity tools especially the placement in Bank Indonesia. The fund source was mostly from switching of third party fund from BUKU 1 to BUKU 3 and 4 then lead to decreasing in AL/NCD of BUKU 1. However AL/NCD ratio remained strong with the ratio was far above the 50% threshold .

From the perspective of economic liquidity, M2 grew higher to 10.02% from 8.39% in the first semester of 2016 along with the banking Third Party Funds rise and affected by the expansion of government financial operation. Simultaneously, M1 growth in the second semester of 2016 reached 17.27% compared to 13.94%

in the first semester of 2016 as it was supported by the increase of currency flow along with the government expansion.

4.1.2. Assessment of Conditions and Risks of Intermediation

The banking intermediation in the second semester of 2016 was marked by the slowdown of credit growth. Yet, there was a slowdown of Third Party Funds growth rise. The rise of Third Party Funds was attributed to the receipt of tax amnesty funds by designated banks. Then it leads to declining the banking Loan-to-Deposit Ratio (LDR).

The credit growth deceleration still occurred compared to the previous year. However, it performed better than the first semester of 2016. The rising demand of

government infrastructure project funding had offset the weakening of new credit demand of corporations. The consolidation of non-performing loan had also reduced as bank NPL growth went down.

The improvement of credit growth was confirmed by the slight declining of lending standard¹ index in the fourth quarter of 2016 although it remained at high level. The disbursement of banking credit in the first quarter of 2017 was predicted to loosen up than in the previous quarter.

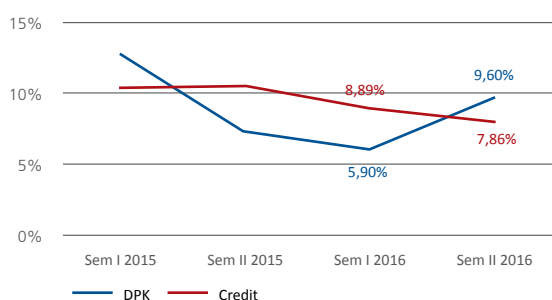
In addition to banking, corporations obtained funding from stock exchange in the form of funding from corporation bond, sukuk market, IPO, as well as from

the capital market and finance companies showed a rising trend, reaching Rp111.0 trillion slightly rose compared to the previous semester amounting Rp106.8 trillion (the more detailed information regarding nonbank funding sources can be found in chapter 2). The total funding rose compared to the previous semester, attributed to the significant increase of bank funding. The bank funding increased to Rp208 trillion in the second semester of 2016, higher than the increase in the second semester of 2016 which amounted Rp110.2 trillion.

The Development of Third Party Funds

In the second semester of 2016, the banking industry Third Party Funds growth increased to 9.60% (yoy) from

Graph 4.5. The Growth of Third Party Funds (yoy) and Credit (yoy)



Graph 4.6. The Development of Lending Standard

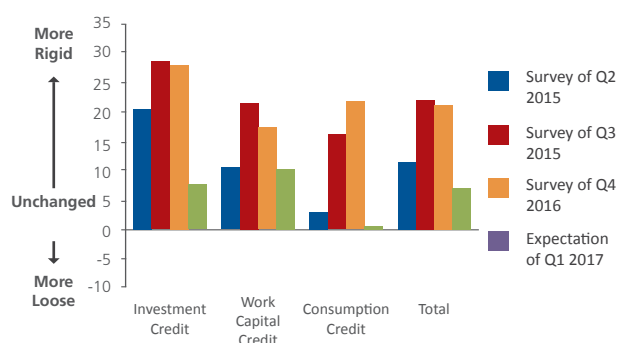


Table 4.3. The Development of LDR per BUKU Groups

Description	Sem I 2015	Sem II 2015	Sem I 2016	Sem II 2016
BUKU 1				
Credit (Rp T)	71.46	74.75	78.24	83.01
DPK (Rp T)	95.71	81.15	95.38	88.02
LDR (%)	74.65	92.12	82.03	94.31
BUKU 2				
Credit (Rp T)	602.08	636.36	658.22	685.36
DPK (Rp T)	700.95	660.67	728.41	710.28
LDR (%)	85.89	96.32	90.36	96.49
BUKU 3				
Credit (Rp T)	1,543.61	1,565.12	1,578.18	1,604.10
DPK (Rp T)	1,589.31	1,590.52	1,609.11	1,684.32
LDR (%)	97.12	98.40	98.08	95.24
BUKU 4				
Credit (Rp T)	1,610.90	1,781.89	1,853.67	2,004.72
DPK (Rp T)	1,933.77	2,080.91	2,141.77	2,354.14
LDR (%)	83.30	85.63	86.55	85.16
Industry				
Credit (Rp T)	3,828.04	4,058.13	4,168.31	4,377.19
DPK (Rp T)	4,319.75	4,413.24	4,574.67	4,836.76
LDR (%)	88.62	91.95	91.12	90.50

Source: Bank Indonesia

¹ Lending Standard is a policy stipulated as the general guidelines of credit disbursement to potential debtors in a financial institution. Lending standard may vary from a financial institution to another and from an area to another. The Lending Standard Index measures loosening or tightening of guidelines in providing loans to debtors in a banking industry.

the previous achievement at 5.90% in the first semester of 2016. The Third Party Funds growth increase occurred in the end of second semester of 2016 among others due to the inflow of redemption of repatriation fund from tax amnesty program. Aside from that, there was also contribution of base effect² due to the quite significant growth slowdown in the end of 2015 which was also caused by the decrease of fund growth of Regional Government in banking. Based on BUKU, the highest growth occurred in BUKU 4.

Rupiah Third Party Funds growth rise occurred, reaching 11.62% from 9.83% in the first semester of 2016. Meanwhile, the foreign exchange Third Party

Funds growth which had begun to record a negative achievement since March 2016, as of October 2016 had passed its lowest point. On the other hand, foreign exchange Third Party Funds grew -0.33% in the second semester of 2016, higher than the achievement in the first semester of 2016 at -12.12%.

Based on type of saving, only current saving showed the lowest growth, i.e. from 16.33% in the first semester of 2016 to 11.16% in the second semester of 2016. On the contrary, current account and time deposit indicated higher growth, i.e. 13.84% and 6.46% respectively in the second semester of 2016, from 1.47% and 1.97% in the first semester of 2016.

Table 4.4. The Growth of Third Party Fund per BUKU (% yoy)

BUKU	Sem I 2015	Sem II 2015	Sem I 2016	Sem II 2016	Market Share in Semester II 2016 (%)
BUKU 1	15.69	4.08	(0.35)	8.47	1.82
BUKU 2	18.36	6.66	3.92	7.51	14.68
BUKU 3	10.03	6.51	1.25	5.90	34.82
BUKU 4	12.75	8.17	10.76	13.13	48.67
Industry	12.65	7.26	5.90	9.60	100.00

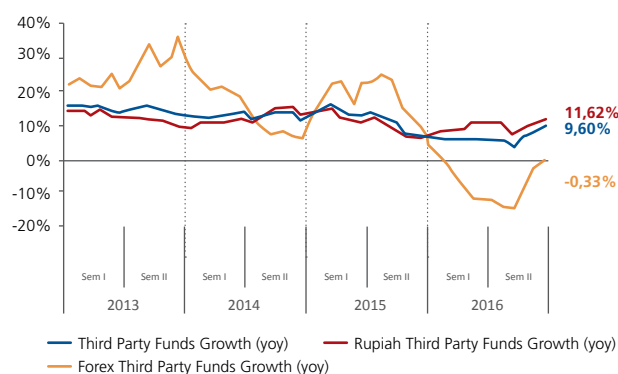
Source: Bank Indonesia

Table 4.5. The Reception of Tax Amnesty Funds by BUKU bank group

BUKU	Tax Amnesty Funds (Rp M)		
	Payment	Repatriation	Total
BUKU 1	-	-	-
BUKU 2	4,521	7,985	12,506
BUKU 3	22,675	40,321	62,996
BUKU 4	68,154	50,181	118,335
Industry	95,350	98,486	193,836

Source: OJK

Graph 4.7. The Growth of Third Party Funds (yoy)



Source: Bank Indonesia

² Base effect impact is condition of relatively higher annual growth (yoy) due to the fact that annual growth (yoy) in the similar period of the previous year was lower than the prevalent condition.

The rapid growth of deposit was particularly precipitated in the deposits with nominal more than Rp2 billion then it grew by 8.53% in the second semester of 2016, higher than the achievement of the first semester of 2016 which reached only 0.35%. At the same time, time deposits with nominal less than or equal to Rp2 billion depicted a weaker growth, i.e. from 5.37% to 2.35% in the first semester of 2016. The deposit growth rise was allegedly attributed to the tax amnesty fund inflow from the banking industry.

Short-term banking Third Party Funds still dominating so that there was mismatch with the banking industry

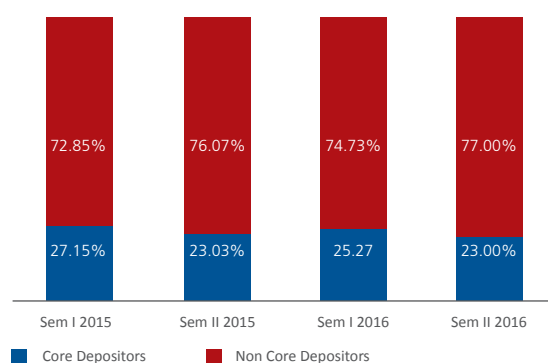
financing which mostly for long-term funding. In addition, despite the declining proportion of prime depositors due to the need of banking business to increase its funding source and alter its funding to CASA, bank funding was still highly depend on its core depositors with more expensive source of fund.

This could become a source of banking vulnerability and risk particularly in small banks that have to compete to obtain funding. However, there is a trade-off between the lengthening of banking funding tenor that could increase banking stability and diminishing funding mismatch yet increasing bank interest costs at the same time.

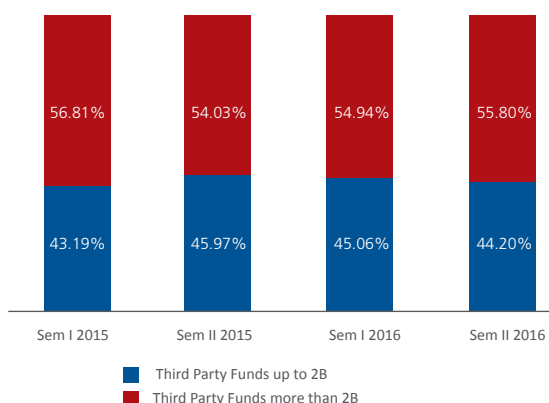
Table 4.6. The Share of Third Party Funds by Tenor

Tenor	Sem I 2015	Sem II 2015	Sem I 2016	Sem II 2016
T <= 1 Months	72.3%	74.1%	72.1%	73.7%
T > 12 Months	2.8%	2.5%	2.4%	2.3%
T 1-3 Months	14.5%	14.5%	15.9%	14.4%
T 3-6 Months	5.9%	5.3%	5.8%	5.4%
T 6-12 Months	4.5%	3.6%	3.8%	4.2%
Grand Total	100%	100%	100%	100%

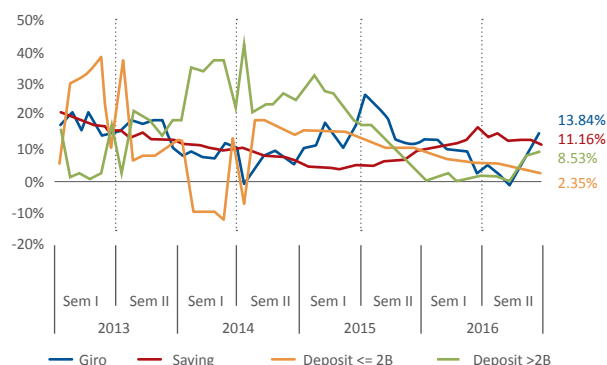
Graph 4.8. The Third Party Funds Share by Core Depositors



Graph 4.9. The Third Party Funds by Type of Deposits



Graph 4.10 Third Party Fund Growth by Types of Deposit



Source: Bank Indonesia

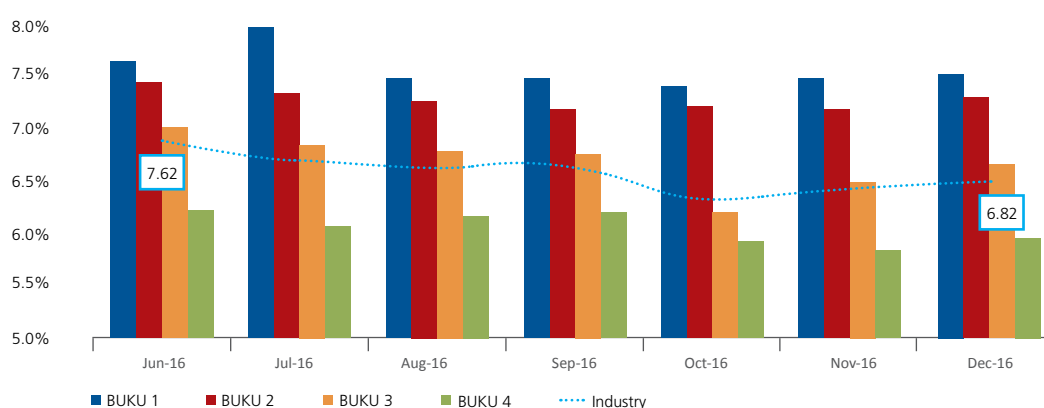
Third Party Funds in the form of saving showed share increase compared to the first semester of 2016, and stood at 32.08% in the second semester of 2016. On the contrary, current account and deposit indicated a share decrease. The deposit share drop occurred both in the group of deposits >Rp2 billion or equal ≤Rp2 billion. The decline of deposit share was the result of bank efforts to lessen the dependency upon high costs to improve efficiency.

Based on fund owner groups, the Third Party Funds upswing was contributed by the increase of Third Party Funds to the individual group as tax amnesty funds

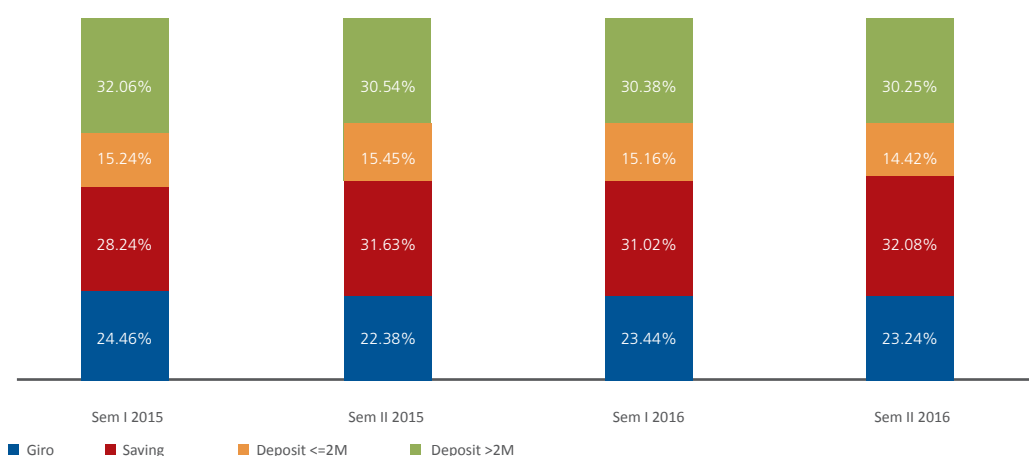
flew into the banking industry. The rise of individual and nonfinancial corporation private-owned Third Party Funds was contributed to the rise of Third Party Fund growth.

In relation with spatial and geographical area, the growth of Third Party Funds in three islands contributed to the largest Third Party Funds shares, that are Java, Sumatera, and Kalimantan. Meanwhile, other islands recorded a slower growth rate compared to the first semester of 2016. Third Party Funds was still concentrated in Java as center of business activities where money circulation mostly occurred in Java

Graph 4.11. The Average of Rupiah Deposit Interest Rate for 1 Month per BUKU



Graph 4.12 The Share of Banking Third Party Funds Composition



Source: Bank Indonesia

especially in Jakarta as the economic center. DKI Jakarta recorded Third Party Funds of 50.62% of the total banking Third Party Funds.

Loan Performance

Loan growth was still in the sluggish trend until the second semester of 2016. Loan disbursement showed a 7.86% growth (yoy), lower than the first semester of 2016, which reached 8.89% (yoy). The combination

between the low demands of new loan with increasing level of prudential banking principle in disbursing credit contributed to the slower growth credit. Corporations strived to increase efficiency in cash flow and stock management to cut down the needs of new credits as well as to withstand new investments. Meanwhile, the banking industry focused on the consolidation of nonperforming loans and took a more prudent approach in disbursing new loans.

Graph 4.13
The Development of Third Party Funds by Owner Groups



Table 4.7 The Share of Third Party Funds per Island

Island	Third Party Funds yoy Growth (%)				Third Party Fund Share (%) Sem II 2016
	Sem I 2015	Sem II 2015	Sem I 2016	Sem II 2016	
Java	13.40	7.48	6.27	10.70	78.09
Sumatera	10.68	4.79	3.05	7.81	10.99
Kalimantan	6.46	0.81	0.58	4.06	3.98
Sulawesi	12.08	17.87	14.07	3.32	2.96
Bali & Nusa Tenggara	12.23	10.09	7.87	5.02	2.54
Papua & Maluku Islands	13.22	8.38	6.13	3.32	1.44

Source: Bank Indonesia

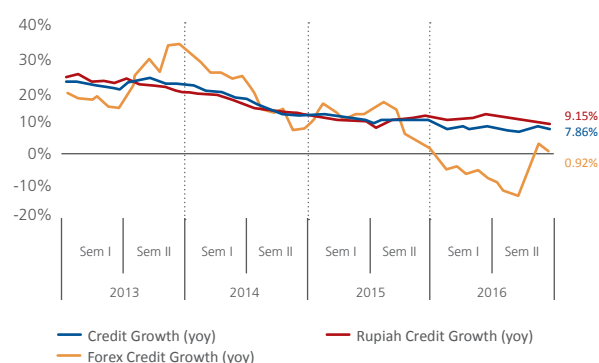
Based on currency, there was a rupiah credit slowdown, from 12.25% (yoy) in the first semester of 2016 to 9.15% (yoy) in the second semester of 2016. On the contrary, foreign exchange credit showed a rise from -7.76% to 0.92%. The foreign exchange credit disbursement was attributed to the increasing foreign exchange credit in the leasing companies and for the import financing. These leasing companies were indicated to allocate the credits in foreign currencies to finance business expansion, to fund the car leasing increase and to pay out their External Debt which soon reached the maturity dates.

By types of credit allocation, the credit growth deceleration occurred in all types of allocation both in Work Capital Credit (KMK), Investment Credit (KI) and Consumption Credit (KK). The deceleration was mostly due to the drop of Investment Credit, especially in the manufacturing industry and trade sector. The slowdown occurred as the credit risk rose in both sectors so that corporations had to suppress their investments. The sluggish growth of Work Capital Credit was mostly in agricultural and trade sector. Meanwhile, the slower growth of Consumption Credit was due to the multipurpose credit growth drop. By shares, the disbursement of banking credits was still dominated by productive credits, namely Work Capital Credit (KMK).

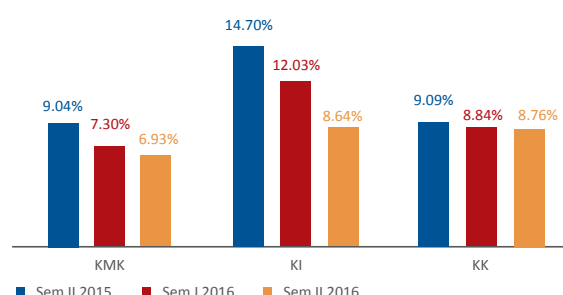
From the economic perspective, the main contributor of credit growth slowdown in the second semester of 2016 was the agricultural and farming industry. The credit disbursement slowdown in the manufacturing industry sector especially occurred in the industry of fertilizer, base metals and cigarette. In the meantime, credit slowdown occurred in the agricultural sector was attributed to the palm oil plantation subsector

despite a quite significant rise of agricultural sector Gross Domestic Products in the second semester of 2016. Credit slowdown in manufacturing industry was due to the semesterly decline of GDP growth in both

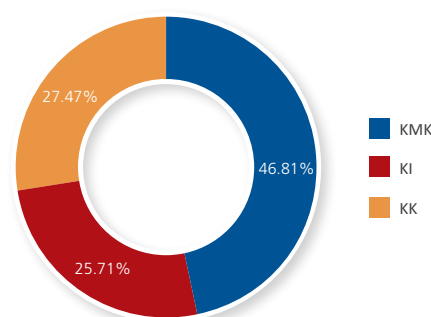
Graph 4.14
The Growth of Banking Credit



Graph 4.15
The Growth of Credit per Type of Allocation



Graph 4.16
The Credit Share per Type of Allocation



Source: Bank Indonesia

sectors. Meanwhile, the credit growth slowdown in agricultural sector was especially attributed to the slowdown of credit demand on palm oil plantation subsector, triggered by the wait-and-see approach toward the stability or increasing trend of palm oil and palm plantation prior to land expansion. This is due to the rise of palm oil price in the second semester of 2016 after remaining in the quite low level for a few previous semesters. The agricultural sector GDP showed a quite significant growth in the second semester of 2016 largely induced by palm oil price hikes and base effect as the price was very low in the first semester

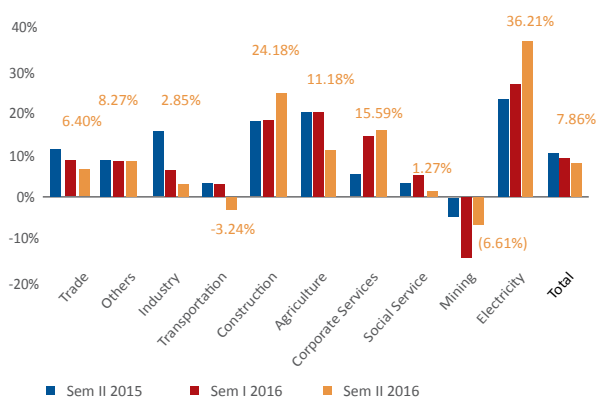
of 2016. From the spatial aspect, the worst credit growth decline occurred in Sulawesi and Sumatera. The banking credit disbursement in the second semester of 2016 still concentrated in Java, followed by Sumatera, and Kalimantan. Despite Java has the biggest share of credit disbursement, it also indicated trend of credit slowdown. The small slowdown of credit extension in Java island gave quite significant impact to overall loan growth sluggish trend.

Based on the BUKU banking groups, BUKU 4 and BUKU 2 recorded a growth stagnancy compared to the

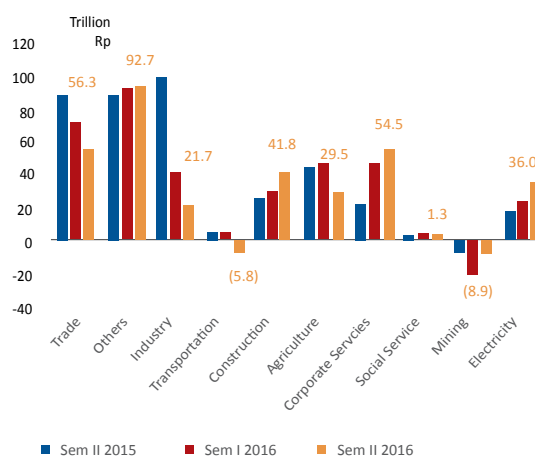
Table 4.8 The Growth of Sectoral GDP based on Economic Sector

Sector	2014		2015		2016	
	Jun	Dec	Jun	Dec	Jun	Dec
AGRICULTURE	5.02	3.48	5.20	2.34	2.50	4.03
MINING	(0.25)	1.10	(1.53)	(5.23)	1.18	0.95
MANUFACTURING INDUSTRY	4.66	4.63	4.14	4.52	4.65	3.94
POWER GENERATION	4.89	6.89	1.24	0.58	6.86	3.99
WATER PROCUREMENT	4.81	5.66	6.20	7.92	4.75	2.51
CONSTRUCTION	6.83	7.11	5.68	6.98	5.93	4.57
TRADE	5.57	4.81	2.64	2.53	4.12	3.75
TRANSPORTATION AND WAREHOUSE	7.28	7.45	5.85	7.47	7.40	8.06
HOTEL AND RESTAURANT	6.40	5.17	3.51	5.09	5.32	4.57
INFORMATION AND COMMUNICATIONS	10.31	9.94	9.45	9.92	8.47	9.26
FINANCIAL SERVICE	4.54	4.83	5.54	11.58	11.44	6.56
REAL ESTATE	4.80	5.19	4.43	3.80	4.81	3.81
CORPORATE SERVICE	10.13	9.50	7.50	7.88	7.85	6.89
GOVERNMENT ADMINISTRATION	0.03	4.62	5.50	3.84	4.53	1.95
EDUCATIONAL SERVICE	4.46	6.39	8.26	6.50	5.24	2.56
HEALTH SERVICE	8.20	7.75	8.43	5.09	5.76	4.29
OTHER SERVICES	8.92	8.93	8.02	8.13	7.89	7.70

Graph 4.17 The Credit Growth by Economic Sector (% yoy)



Graph 4.18 The Credit Growth by Economic Sector (Rp T)



Source: Bank Indonesia

Table 4.9 Credit Shares by Project Locations

Island	Credit yoy Growth (%)				Credit Share (%)
	Sem I 2015	Sem II 2015	Sem I 2016	Sem II 2016	
Java	10.54	10.76	8.66	8.16	69.90
Sumatera	8.54	9.72	8.13	6.32	14.66
Kalimantan	7.44	3.16	5.19	4.48	5.91
Sulawesi	12.54	14.55	15.05	8.95	4.98
Bali & Nusa Tenggara	14.96	10.72	10.88	10.96	3.26
Papua & Maluku Island	13.02	11.77	12.74	14.99	1.29

Source: Bank Indonesia

previous semester. The credit disbursement of BUKU 4 grew 12.5% (yoy) in the second semester of 2016, slower than 15.07% in the first semester. Meanwhile, BUKU 2 credit grew 7.70%, slower than 9.32% in the first semester of 2016. The slowdown was caused by the weakening demands of new credits and the prudent approach of the banking industry in disbursing new credits following consolidation efforts conducted to deal with the credit risk increase.

The banking credit growth slowdown was followed by the decline of credit interest rate in all BUKUs except in BUKU 1 banking group. Aside from the waning credit demands, interest rate decrease was also triggered by the decrease of Third Party Funds interest rate.

The MSMEs Credit Development

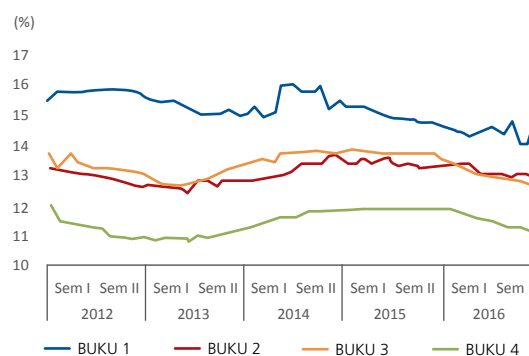
The disbursement of Micro, Small and Medium Enterprises (MSMEs) in the second semester of 2016 reached Rp857 trillion or 19.4% of the total banking credit disbursement. The MSMEs credit disbursement grew 8.4% (yoy) compared to 8.3% (yoy) in the previous semester, and 8% (yoy) in the previous year (the second semester of 2015). The increase of MSMEs served as one of the indicators of the recovering domestic economy after an economic inactive condition in the previous years. In addition, the banking liquidity and the ongoing declining credit interest rate also contributed to the rise of MSME credit until the end of 2016. Based on types of loan allocation, Work Capital Credit grew 9.2% (yoy) in the second semester of 2016 compared

Table 4.10 The Credit Growth per BUKU (% yoy)

BUKU	Sem I 2015	Sem II 2015	Sem I 2016	Sem II 2016	Share in Sem II 2016 (%)
BUKU 1	6.91	7.19	9.50	11.05	1.90
BUKU 2	14.12	12.54	9.32	7.70	15.66
BUKU 3	8.08	5.32	2.24	2.49	36.65
BUKU 4	11.42	14.73	15.07	12.51	45.80
Industry	10.37	10.45	8.89	7.86	100.00

Source: Bank Indonesia

Graph 4.19 The Rupiah Credit Interest Rate per BUKU



to the first semester of 2016, which reached 7.8% (yoy). Meanwhile, Investment Credit diminished to 6.4% (yoy) compared to the first semester of 2016 (9.6%, yoy).

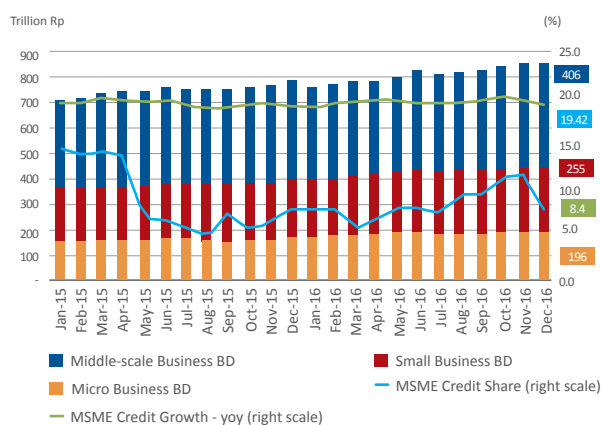
By economic sector, the MSMEs credit growth rise occurred also in several economic sectors with quite large credit shares, namely Manufacturing and Construction industry, which respectively grew 10.7% (yoy) and 11.8% (yoy) in the second semester of 2016 compared to the previous semester which reached 5.3% and 8%. Aside from that, the loan augmentation also occurred in the accommodation and transportation & telecommunication sector which grew at 18.6% (yoy) and 2.2% (yoy) respectively in the second semester of 2016 compared to the previous semester, which reached 17.4% and -1.7%.

On the other hand, several economic sectors with quite large credit shares have also been impacted by the economic slowdown as depicted in declining MSMEs credit in the second semester of 2016 including resale & retail sector and forestry & agricultural sector which respectively dropped to 9.5% (yoy) and 9.6% (yoy) compared to the previous semester's percentage, 12.5% and 9.8%. The growth slowdown also occurred

in several other sectors, such as Real Estate, Fishery, Health Service, and Educational Service which respectively dropped to 5.7% (yoy), 7.4% (yoy), 9.2% (yoy), and 10.2% (yoy) in the second semester of 2016 compared to the previous semester's achievement, 11.7%, 10.6%, 20.1% and 13.3%. The declining MSMEs credit growth in the trade sector was stemmed from the limited domestic economic growth so it affected the trade business progress. Moreover, the imperishable consumer expectation for December 2016 lacking in optimism have influence in the consumer demands of goods. Likewise, in the agricultural and forestry sector, following global economic slowdown thus the credit disbursement to tradable sectors (agriculture, industry, and mining) still grew slowly.

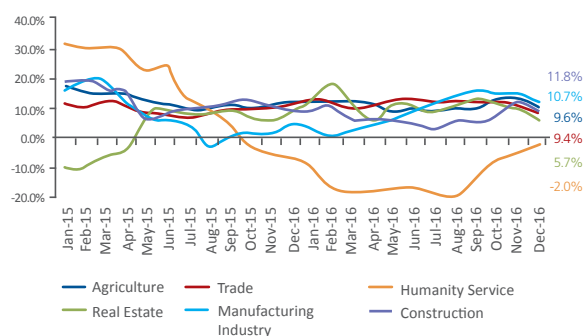
Spatially, the distribution of MSMEs credit disbursement was not even and focused more on the areas where economic activities concentrated such as Java and Sumatera with 58.0% and 19.7% share respectively. Meanwhile, as for the eastern Indonesia, consisting of Sulawesi, Kalimantan, Bali and Nusa Tenggara, the shares were still low, as of 7.2%, 7.0%, 5.7% and 2.3% respectively. This was due to the banking infrastructure that mostly located in the urban

Graph 4.20. The Development of MSME Credit



Source: Bank Indonesia, 2016

Graph 4.21. The MSME Credit Growth in the 6 Economic Sector



Source: Bank Indonesia, Commercial Bank Monthly Report 2016m, processed.

areas. Meanwhile, sectorally the majority of MSMEs credit was absorbed by the resale and retail sector (52.7% share) aimed at the middle-scale businesses. The domination affected the banking human resource competence in disbursing credits to trade sector, and risk potential which was relatively calculated. Meanwhile, the MSMEs credit disbursement to other sectors which also contributed quite considerably to the economic growth such as manufacturing industry and agriculture sector, labor, and forestry were still low with the share of 10.3% and 8.2%.

Based on the BUKU groups, the MSMEs credit disbursement in the second semester of 2016 was still dominated by BUKU 4 (56.4% share), followed by BUKU 3 (26.8%), BUKU 2 (14.2%), and BUKU 1 (2.6%). The BUKU 4 domination in the MSMEs credit disbursement was caused by the fact that banks under BUKU 4 group have already possessed the required competitive advantage in disbursing MSMEs credits in a wider scale with the maintained quality, among other things are a wide office network to the village level and the adequate number of human resources. From the perspective of growth, compared to the second semester of 2015, the MSMEs credit growth of BUKU 1 group dropped significantly to -44.4%. The low credit growth as of 2.7% was experienced also by BUKU 3 banks in the second semester of 2016. The slump trend in MSMEs credit growth in BUKU 1 and BUKU 3 among other things were caused by the bank strategy to focus on non performing loan quality improvement efforts then withstand the new credit disbursement. Lowering credit demand as the result of economic slowdown and the tightening competition following the disbursement of Credit for Business Program has precipitated banks to withheld credit growth. On the other hand, BUKU 2 and BUKU 4 banks still capable to record a relatively high growth during the second semester of 2016.

The Credit Risk Development

Despite the ongoing credit risk rising trend in the second semester of 2016, the non performing loan growth was decelerated. The gross NPL ratio rose to 2.93% compared to 2.49% in the second semester of 2015. However the gross NPL level in the reported semester was actually lower than in the first semester of 2016 at 3.05%. The credit risk rising trend was caused by the corporation performance decrease and the credit growth slowdown.

By allocation types, the credit risks of Working Capital, Investment Credit, and Consumer Credit rose compared to the second semester of 2015. The largest gross NPL rise occurred in Work Capital Credit and Investment Credit that rose from 2.99% and 2.61% in the second semester of 2015 to 3.59% and 3.21% respectively in the second semester of 2016. At the same time, Consumption Credit gross NPL rose slightly from 1.50% to 1.53%.

Compared to the second semester of 2015, the rise of Working Capital Credit NPL was especially contributed by manufacturing and trade sector. Meanwhile, the Investment Credit NPL increase was attributed to the sector of commerce and mining, while the main contributor of NPL to Credit Consumer was Mortgage Facilities for Houses above type 70.

Based on economic sectors, the largest contributor of banking industry gross NPL deterioration was from the trade sector, manufacturing and mining industry. In the meantime, a sector that recorded the highest gross NPL was the mining sector, with gross NPL in the second semester of 2016 reaching 7.16%. The NPL rise of trade sector was particularly due to the construction material and food, beverage and tobacco trade.

Meanwhile, the manufacturing industry sector also recorded the significantly rising credit risk. The NPL of the sector was recorded to reach 3.44% in the second semester of 2016, rising compared to the second semester of 2016 in which the NPL was recorded to reach 2.50%. The NPL rise in the manufacturing industry sector particularly in the textile finishing manufacturing and beverage industry.

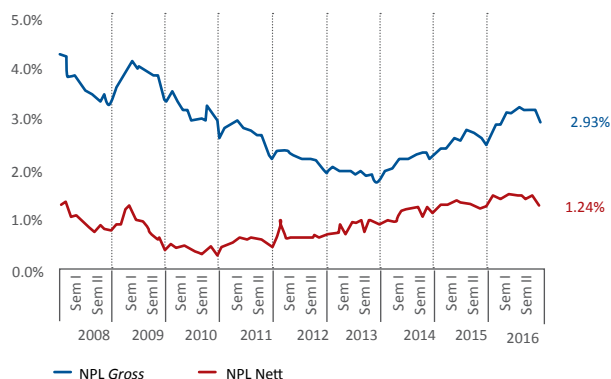
Even though the banking industry has already limited its credit exposure to the coal subsector in line with the declining worsening commodities marketability, the coal subsector again contributed as the sector with highest NPL rise in the second semester of 2016. In addition to that, NPL was also contributed by the oil and gas mining service subsector. Gross NPL of gas and oil mining service mining subsector rose from 6.46% and

Table 4.11 The Growth and Share of MSME Credit by BUKU

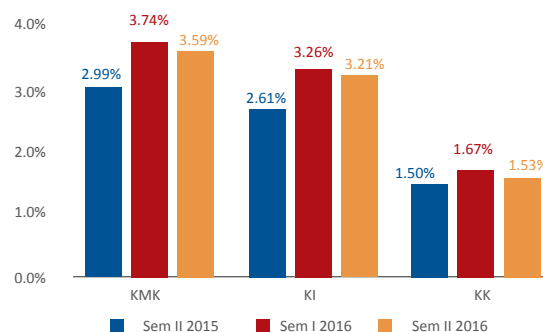
BUKU	MSME Credit Growth (yoy)						MSME Credit Share					
	Sem I 2014	Sem II 2014	Sem I 2015	Sem II 2015	Sem I 2016	Sem II 2016	Sem I 2014	Sem II 2014	Sem I 2015	Sem II 2015	Sem I 2016	Sem II 2016
Buku 1	5.7%	5.1%	5.1%	-0.6%	-1.9%	-44.4%	5.7%	5.1%	5.1%	5.1%	5.1%	2.6%
Buku 2	15.9%	13.7%	13.1%	-11.1%	-10.4%	12.3%	15.9%	13.7%	13.1%	13.7%	13.1%	14.2%
Buku 3	27.6%	28.3%	26.4%	6.4%	3.7%	2.7%	27.6%	28.3%	26.4%	28.3%	26.4%	26.8%
Buku 4	50.9%	52.9%	55.3%	16.4%	17.7%	15.6%	50.9%	52.9%	55.3%	52.9%	55.3%	56.4%

Source: Bank Indonesia, Commercial Bank Monthly Report 2016, processed.

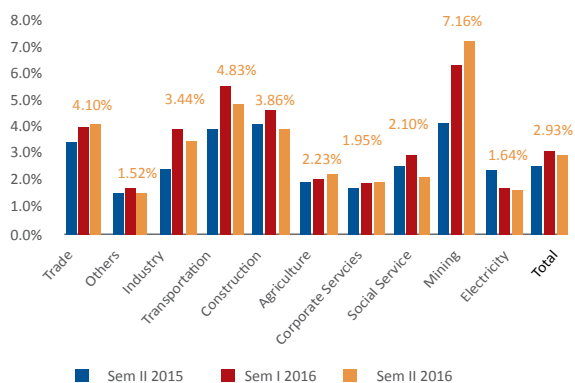
Graph 4.22 The Development of NPL Ratio



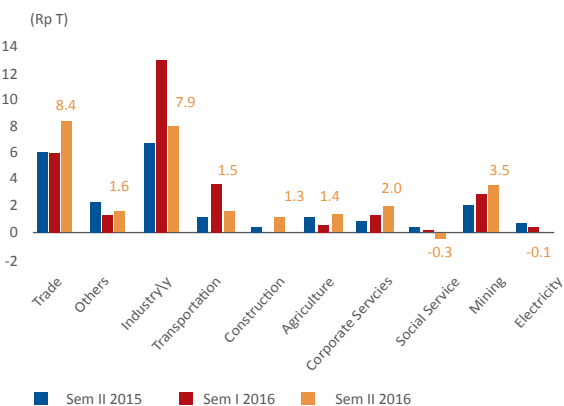
Graph 4.23 The Ratio of Gross NPL per Type of Allocation



Graph 4.24 The Ratio of Gross NPL by Economic Sector (% yoy)



Graph 4.25 The Ratio of Gross NPL by Economic Sector (Rp T)



Source: Bank Indonesia

7.17% respectively in the second semester of 2015 to 11.09% and 14.78% in the second semester of 2016.

Spatially, the rise of banking industry gross NPL ratio mostly originated in Java, Kalimantan, Bali and Nusa Tenggara. Java which recorded the largest rise from 2.27% in the second semester of 2015 to 2.92% in the second semester of 2016. On the other hand, Kalimantan as a region that experienced quite significant impact of the commodity prices' decline then recorded the highest NPL rise, from 3.86% in the second semester of 2015 to 4.40% in the second semester of 2016. Nonetheless credit share of Kalimantan was not quite large so that the NPL rise did not give significant impact to the national NPL profile.

Based on BUKU, compared to the second semester of 2015 the gross NPL ratio rise occurred in all BUKUs.

The highest increase of gross NPL occurred in BUKU 1 and BUKU 4. However, the NPL level was still far under the 5% threshold.

The deteriorating banking credit quality was coincide with the downgrading of corporate bond rating quality. Based on Pefindo rating, the downgraded bond number in 2016³ amounted to 24 bonds or increased from 2015 which only recorded 13 Bonds.

The Development of MSMEs Credit Risk

During the period of reporting, the MSMEs credit risk was experiencing a declining trend during the beginning of 2016 and it was even lower than the period of second semester of 2015. The improving NPL throughout 2016 indicated that there were signs of recovery in the domestic economic condition which showed sluggish trend since 2014. The recovery was indicated by the

Table 4.12 Gross NPL per Area (%)

Island	Sem I 2015	Sem II 2015	Sem I 2016	Sem II 2016	Pangsa Kredit sem II 2016 (%)
Java	2.27	2.27	2.91	2.92	69.90
Sumatera	3.34	2.82	3.14	2.68	14.66
Kalimantan	3.42	3.86	4.76	4.40	5.91
Sulawesi	3.40	2.98	2.99	2.58	4.98
Bali & Nusa Tenggara	1.84	2.15	2.69	2.47	3.26
Papua & Maluku Island	4.09	3.72	3.79	3.12	1.29

Source: Bank Indonesia

Table 4.13 The Gross NPL Ratio per BUKU (%)

BUKU	Sem I 2015	Sem II 2015	Sem I 2016	Sem II 2016
BUKU 1	2.83	2.47	3.27	2.97
BUKU 2	3.19	2.97	3.71	3.31
BUKU 3	2.95	2.96	3.28	3.23
BUKU 4	1.94	1.90	2.61	2.55
Industry	2.56	2.49	3.05	2.93

Source: Bank Indonesia

Table 4.14 The Number of Downgraded Bonds (Pefindo Rating)

Period	2016	2015	2014	2013	2012	2011	2010
Q1	6	2	4	0	5	0	1
Q2	12	7	2	1	3	0	3
Q3	6	1	5	1	1	1	0
Q4	0	3	4	0	1	1	1
Total	24	13	15	2	10	2	5

Source: Bloomberg, processed.

³ Rating decline to the final position in September

declining NPL in the second semester of 2016 to 4.15% from 4.20% in the second semester of 2015.

The improving gross NPL among other things was influenced by the enforcement of prudence principle by banking industry in loan disbursement in order to recover MSMEs debtors loan quality. This could minimize the diminishing profits due to the rising loan impairment loss provision.

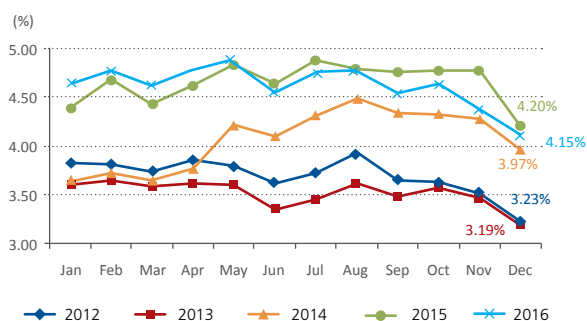
Based on allocation types, in the second semester of 2016 the MSMEs Investment Credit reached 4.26% of gross NPL ratio that was higher than 4.11% of MSMEs Working Capital Credit. In line with the improving MSMEs credit gross NPL, the credit risk of both MSMEs credit types declined compared to the first semester of 2016, at 4.54% for Investment Credit and 4.60% for Working Capital Credit.

Based on the business classification, the highest gross NPL ratio was in Middle Enterprises (5.06%), followed by Small Enterprises (4.30%), and Micro Businesses

(2.10%). The high level of NPL in the middle enterprises category was attributed to the resale and retail sector with the NPL portion at 42.30% of the total nominal of Middle Enterprises Credit NPL. Meanwhile, based on the group of BUKU, the highest gross NPL of MSME credit was in BUKU 1 (7.17%), followed by BUKU 2 (7.02%), BUKU 3 (4.98%), and BUKU 4 (2.90%).

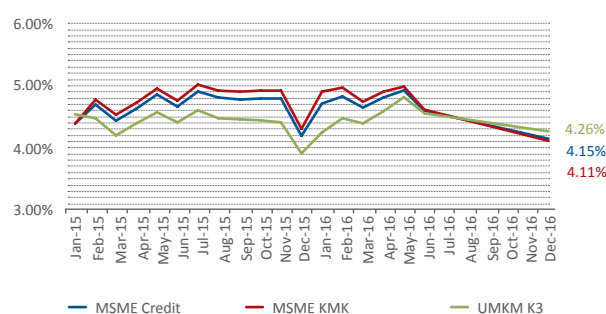
The MSMEs credit quality in the majority of economic sectors showed improvement in the second semester of 2015 occurred, among other things was in resale and retail sector (3.94%), manufacturing industry sector (3.8%), forestry and agricultural sector (4.21%), and social service sector (3.58%). On the other hand, there were several other sectors which also showed NPL improvement yet still fell into the nonperforming category such as the construction sector (6.70%) from the low income housing construction subsector as well as mining & excavation sector (8.27%). In the meantime, the NPL in the real estate sector and electricity, gas & water sector were worsening and become 5.315 and 2.43% respectively.

Graph 4.26. The Ratio of MSME Credit NPL per Year



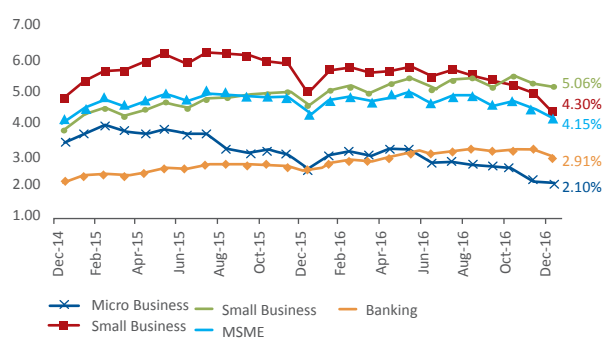
Source: Bank Indonesia, Commercial Bank Monthly Report 2016, processed.

Graph 4.27. The MSMEs Credit Gross NPL by Type of Allocation



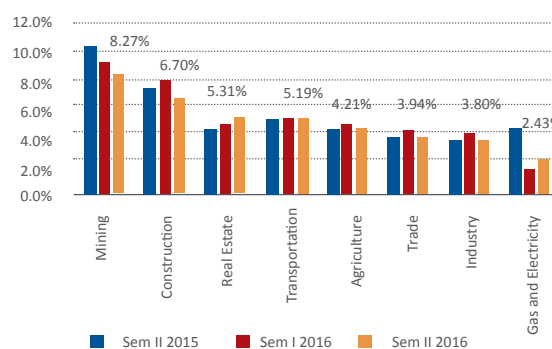
Source: Bank Indonesia, Commercial Bank Monthly Report 2016, processed.

Graph 4.28. The MSME Credit Gross NPL by Business Classification



Source: Bank Indonesia, Commercial Bank Monthly Report 2016, processed.

Graph 4.29. The Development of MSME Credit Gross NPL by Economic Sectors



Source: Bank Indonesia, Commercial Bank Monthly Report 2016, processed.

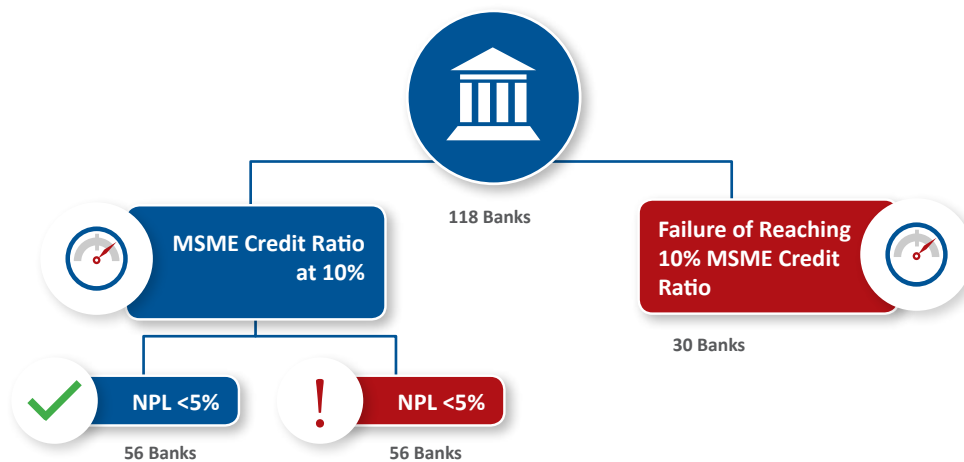
The MSMEs Credit Disbursement Liabilities

Accomplishment

In encouraging the MSMEs development, by enactment of PBI no.14/22/PBI dated December 21, 2012, as amended by PBI no.17/12/PBI dated June 25, 2015 regarding the Credit/Financing Disbursement and Technical Assistance by Commercial Banks in the efforts of Developing Micro, Small, Medium Enterprises, commercial banks are required to disburse credits to MSMEs at least as much as 20% (gradually) of the total credit disbursed by banks. In the end of 2016, commercial banks are required to achieve MSMEs credit ratio to total credit reaching at least 10%, with the maintained credit quality. As for the group of Joint Venture Banks and Foreign Branch Bank, there are consideration that these banks were lacking in capacity and are not as proficient as other banks in disbursing MSMEs credits. Nevertheless they are still expected to meet the provision then and to contribute positively to the national economy, then those bank groups are allowed to include non-oil-and-gas export credits to the non-MSMEs in the calculation of abovementioned ratio.

In the policy implementation, Bank Indonesia provides incentives and disincentives to Commercial Banks which can or cannot meet the target of MSME credit ratio at every stage and still maintaining the loan quality. The incentives provided were in leniency of the upper limit in Loan to Funding Ratio provision to banks that could meet MSME credit ratio earlier than stipulated in the regulation with maintained credit quality. In addition, Bank Indonesia also can provide incentives in the form of trainings to banks to improve the bank's human resource competence in disbursing MSMEs credit, trainings to bank debtors candidate, credit rating assistance/facility, and publication and award presenting. Meanwhile, disincentives given are in the form of reduction of interest on bank current account in central bank in the form of reserve requirement for banks which fail to reach the MSMEs credit ratio as required by the regulation and/or MSMEs credit quality and subpar total credit.

Figure 4.1. The Achievement of Commercial Bank MSME Credit Ratio in 2016



Source: Commercial Bank Monthly Report 2016, processed.

By the end of 2016, of 118 commercial banks, 56 commercial banks (47.5%) had met the MSMEs credit ratio requirement with the maintained quality. The remaining were commercial banks which failed to meet the requirement. Of 30 commercial banks which failed to meet the MSMEs credit ratio, the majority were from the BUKU 2 (15 banks), followed by BUKU 1 (9 banks) and BUKU 3 (6 banks). The failure to meet the requirement of MSMEs credit ratio primarily due to the lack of bank skills in disbursing MSME credit and the decline of credit demand and MSME performance as the impact of staggered domestic economy which triggered the high credit risk (NPL) of MSME in 2016.

Based on Focus Group Discussion (FGD) result with the banking industry, the following were the downsides that banks deal with in meeting MSME credit ratio regulation:

- a. The lack of expertise and capacity of banks in disbursing MSMEs credits, among other things encompasses these following aspects:
 - 1) The restriction of office networks

- 2) The limitation of Human Resource (HR) both in terms of quantity and quality
- 3) The minimum infrastructure and information technology (IT)
- 4) Bank was more accustomed to providing and distributing consumer credit rather than productive credit

- b. The high credit cost lead to uncompetitiveness of bank interest rates
- c. The decline of credit demand and MSME performance as an impact of domestic economic slowdown.
- d. The relatively difficult time of obtaining new potential debtors (as the impact of competition with Credit for Business Program).
- e. Particularly for some foreign banks and joint venture banks, they are also challenged by the bank internal policies, that is the business strategy of head office which does not include the segment of MSME and that the debtor rating

does not qualify with the bank rating standard.

Despite all these challenges, the banking industry still strive to improve the credit disbursement to MSMEs, by formulating of these following strategies:

- The development of products with a supply-chain-financing approach.
- The restructuring and execution for defaulted debtors.
- Mobile collection to micro business debtors.
- The more selective credit disbursement and internal consolidation to maintain credit performance.
- Geographical mapping based on the economic growth projection and credit absorption per area.
- The establishment of new bureaus to handle MSMEs credit disbursement, simplification of credit proposal processing, the optimization of Account Officer (AO), and ease of credit procedures.

The Progress of Credit for Business Program (Kredit Usaha Rakyat) Disbursement

The Credit for Business Program (KUR) is a working capital credit/financing and/or investment for Micro, Small, Medium Enterprises and Cooperatives (MSMEC) in the productive and feasible, however still yet unbankable business fields. This scheme is guaranteed by Insurance Companies. The credit aims to enhance the funding access of MSME to banks, divided into a scheme of micro KUR, Retail KUR, and Indonesian Migrant Worker Placement KUR. The scheme of KUR undergoes a constant enhancement. Under the new KUR scheme (2015 and 2016s' schemes), the credit targets and prioritizes to spur up economic growth that currently is at sluggish state.

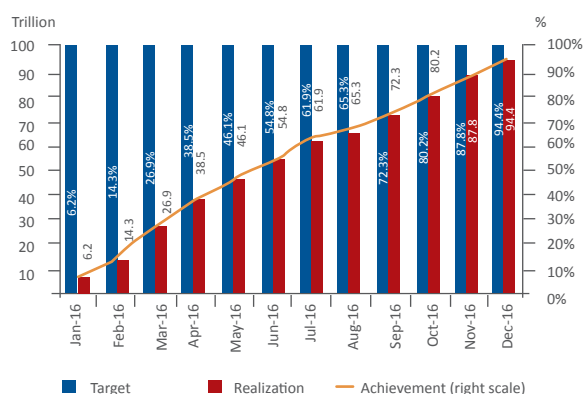
The KUR disbursement during 2016 (until December 2016) had reached Rp94.4 trillion or 94.4% of the 2016 target (Rp100 trillion) disbursed to 4,362,599 debtors. The bank which disburse KUR and has achieved the largest realization was BRI (Rp69.5 trillion), 73.6% of the national KUR disbursement, followed by Bank Mandiri (Rp13.3 trillion, 14.1%) and BNI (Rp10.3 trillion, 10.9%). Meanwhile, the other banks realization was in accordance with the quite low target. Based on the scheme, the biggest KUR disbursement was allocated to the scheme of micro KUR scheme (69.5%).

Likewise the previous period, the KUR disbursement in 2016 concentrated on the wholesale and retail sector (66.3%), followed by the agricultural sector (17.4%), service sector (11%), manufacturing industry sector (4.1%) and fishery sector (1.2%). In spite of the high concentration on the wholesale and retail sector, the KUR disbursement portion to the production sector (agriculture, fishery, and industry) was tended to rise every year. By region, the highest PBC disbursement took place in Central Java Province reaching Rp16.9 trillion or 17.9% of the national KUR realization, followed by East Java and West Java. The distribution was coherent with the distribution mapping of MSMEs in Indonesia. On the other hand, there was a lowering share of loan disbursement East Indonesia region, especially Maluku and Papua (2.3%) from December 2015 (3.0%).

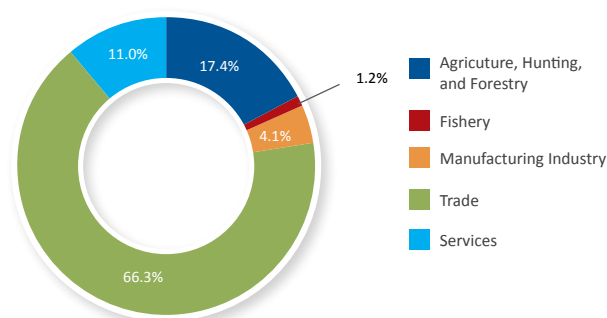
The NPL of KUR was considered to be at the very low level (0.37%) with the highest NPL is in KUR scheme for Indonesian Migrant Workers Placement i.e. 4.3%, followed by NPL of Retail scheme (0.54%) and NPL of micro scheme (0.35%). In the KUR scheme prior to 2016, Non Performing Guarantee⁵ (NPG) of KUR was

⁵ NPG describes the payment claim by Loan Guarantee Institution compared to KUR guaranteed by the Loan Guarantee Institution.
NPG = paid claim/guaranteed loan value) x 100%

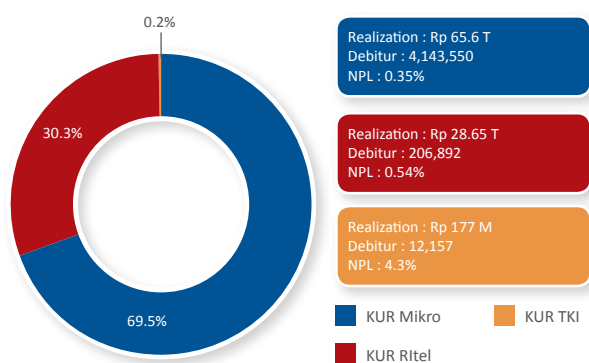
Graph 4.30. The Realization of KUR in 2016



Graph 4.32 Outstanding Amount of KUR by Sector in 2016

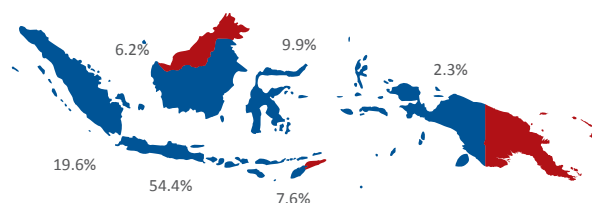


Graph 4.31. The KUR by Scheme in 2016



Source: The Coordinating Ministry of Economic Affairs, processed.

Graph 4.33. Outstanding Amount of KUR by Sector in 2016



Source: The Coordinating Ministry of Economic Affairs, processed.

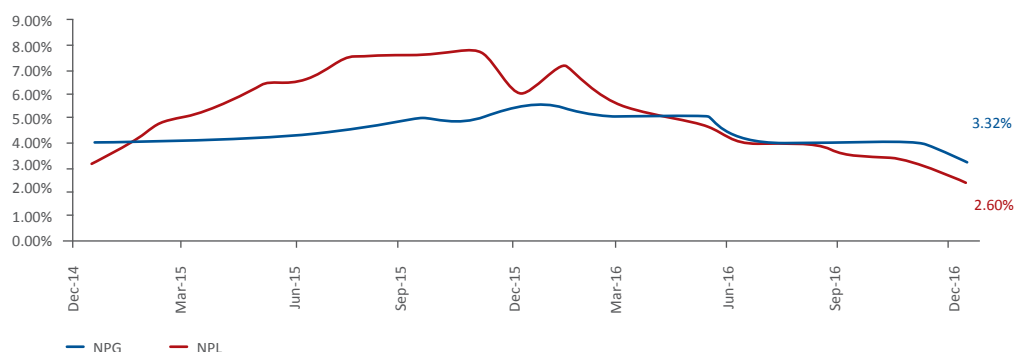
relatively high. Meanwhile, in the period of January to December 2016, the NPG of KUR declined along with the 2016 KUR scheme which performed well. Nonetheless, cautionary of increasing trend in NPG as previous experience is required.

In principle, Bank Indonesia supports the new scheme of KUR disbursement program which was launched by the Government in conformity with the efforts of Bank Indonesia to encourage the banking intermediation to MSMEs by stipulating MSMEs credit ratio gradually. The KUR disbursement also supports economic competitiveness, the decline of credit interest rate, and expansion sectors considered as high risk sector. However, challenges and impact to banking sector

need to be observed closely after the scheme was launched, among other things were the potential of MSMEs credit shifting to KUR. This was indicated by the majority of MSMEs credit disbursement throughout 2016 was of KUR. From 110 banks which disbursed KUR in 2016, there were only 54 banks which achieved better MSMEs credit outstanding amount (17 banks disburse KUR 82.1% share of the additional outstanding). Meanwhile, the MSMEs Outstanding credit from other 56 banks was falling down.

Another notable point was the KUR disbursement concentration on the trade sector. A synergy with other programs such as in the agricultural sector, warehouse receipt program was pertinent to optimize KUR scheme

Graph 4.34. NPG and NPL of PBC



Sources: NPL (Bank Indonesia, LBU), NPG (Jamkrindo and Askrindo)

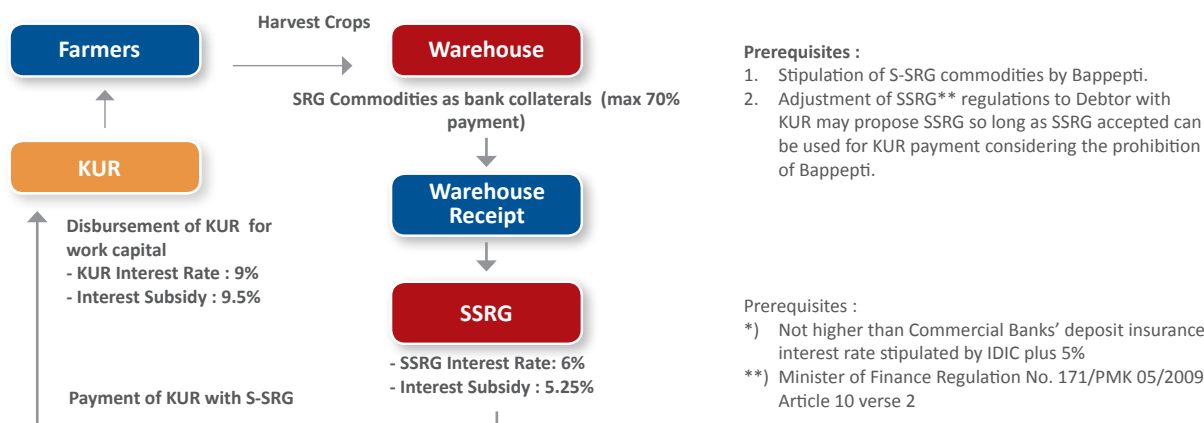
Table 4.15. The Comparison of KUR and MSMEs Credit Disbursement

Bank Description	MSME Credit Debt Tray (Rp T)		MSME Credit Debt Tray (Rp T)	Outstanding KUR*) (Rp T) Dec-16
	Dec-2015	Dec-2016		
17 banks of KUR disbursement with positive Δ BD	500.17	580.14	79.97	70.34
37 non-KUR-disbursing banks with positive Δ BD	49.18	66.58	17.39	-
56 banks with negative Δ BD negatif (8 banks disbursing KUR)	241.11	210.24	(30.87)	0.33
8 bank s with Δ BD = 0	-	-	-	-
Total	790.47	856.96	66.49	70.67
Bali & Nusa Tenggara	14.96	10.72	10.88	10.96
Papua & Kepulauan Maluku	13.02	11.77	12.74	14.99

Source: LBU, processed

*) Coordinating Ministry of Economic Affairs Processed.

Figure 4.2. The Subsidy Scheme of Warehouse Receipt



on production sector. The synergy could ensure continuity of farmers' production post-harvest and to mitigate the default risk of farmers because the warehouse receipt could be pledged as a KUR payment guarantee.

In order to improve the KUR program, Permenko no. 9/2016 dated November 10, 2016 was issued,

by adding the involvement of Cooperative as the executor of KUR. In 2017, the KUR disbursement target is Rp110 trillion, while the total of limit amount set for 38 channelling institutions amounts up to Rp106.6 trillion. The portion of KUR disbursement in the production sector was targeted to reach 40% of the total disbursement, i.e. for the agriculture, fishery, and

Table 4.16 The Interest Rate Subsidy

KUR Scheme	Interest Rate	Interest Subsidy		Maximum Allocation	
		2017	2016	2017	2016
Micro	9%	9.5%	10%	8.1%	70%
Retail	9%	4.5%	6%	18%	28%
KUR-TKI	9%	12%	15%	1%	2%

Source: Bank Indonesia, Departement of Statistics

maritime sector as well as manufacturing industry.

By considering the declining interest rate, the interest rate subsidy for micro PBC which was initially 10% was lowered to 9.5% so that the interest rate and subsidy for each type of KUR and allocation of disbursement are as follows. (Table 4.16)

4.1.3. Market Risk

Market risk exposure of Indonesian banks is resulted from market interest rate changes on: (i) credit and deposit interest rate, (ii) impact on portfolio prices of government securities owned by banks, and (iii) exchange rate risk.

Interest Rate Risk

Throughout the second semester of 2016, interest rate risk faced by banking industry from the fund collection and credit disbursement, were well mitigated. The maintained risk was due to the declining banking Third Party Funds interest rate which plummet deeper than the lowering of credit interest rate. The widening intermediation spread enables bank profitability to remain stable.

The trend of Bank Indonesia Repo Rate 7-Day (Reverse) which serves as the replacement of BI Rate policy rate since August 2016 declined during the

second semester of 2016, and reach at 4.75% level (October 2016 to January 2017) from the previous 5% in September 2016 and 5.25% in June 2016 to August 2016. Along with the declining trend of policy rate and deposit rate capping of Financial Service Authority, in general the interest rate of Third Party Funds of the banking industry during the second semester of 2016 declined. In the end of the reporting semester, the rupiah deposit interest rate in a month reduced to 6.46% compared to the previous semester (6.82%), the rupiah saving interest rate declined from 1.67% to 1.59% while the Rupiah's current account interest rate slightly ascended from 2.17% to 2.18%.

Based on BUKU groups, the decline of Third Party Funds interest rate occurred in all BUKU groups, with Rupiah's current account interest rate in BUKU 3 and BUKU 4 as the exceptions.

Throughout the second semester of 2016, the banking credit interest rate also declined as Third Party Funds interest rate also decreased. However, the downturn of credit interest rate was not as much as the decline of Third Party Funds interest rate. The interest rate of rupiah Working Capital Credit dwindled from 11.84% to 11.38%, the Rupiah Investment Credit interest rate dropped from 11.49% to 11.21% and the Rupiah Consumption Credit interest rate slumped from 13.83% to 13.59%. In

general, the decline of credit interest rate was due to the decline of Third Party Funds interest rate causing lower intermediation costs amid the policy rate down trend. Aside from that, the decline of Working Capital Credit and Investment Credit interest rate was due to the bank efforts to improve the credit disbursement amid the slow

credit growth due to the weakening credit demand of Working Capital and Investment Credit.

The Exchange Rate Risk

The exchange risk position in the second semester of 2016 remain stable eventhough experienced deep

Graph 4.35 The Development of Credit Interest Rate and Third Party Fund

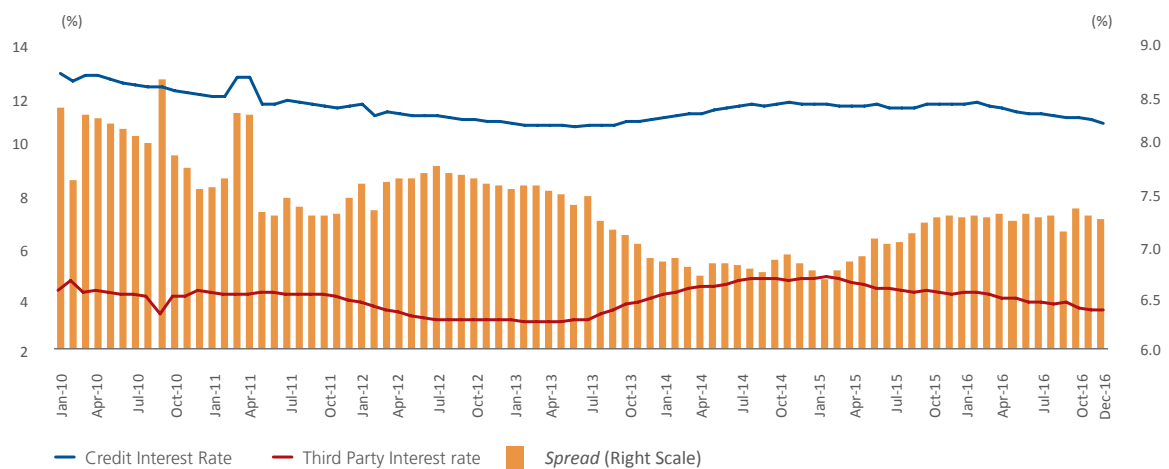


Table 4.17 The Third Party Funds Interest Rate per BUKU

Monthly Deposit Interest Rate in Rp (%)	Smt I 2013	Smt II 2013	Smt I 2014	Smt II 2014	Smt I 2015	Smt II 2015	Smt I 2016	Smt II 2016
BUKU 1	6.55	8.71	8.82	9.03	8.63	8.44	7.63	7.48
BUKU 2	5.77	8.60	8.64	8.94	8.36	8.26	7.40	7.23
BUKU 3	5.75	8.39	8.51	8.99	8.13	8.02	6.99	6.60
BUKU 4	5.06	7.02	7.77	7.95	7.00	6.76	6.22	5.94
Industry	5.55	7.92	8.27	8.58	7.78	7.60	6.82	6.46

Giro Interest Rate Rp (%)	Smt I 2013	Smt II 2013	Smt I 2014	Smt II 2014	Smt I 2015	Smt II 2015	Smt I 2016	Smt II 2016
BUKU 1	2.73	2.36	2.68	2.30	2.75	3.03	3.14	2.48
BUKU 2	2.56	2.36	2.78	2.57	2.73	2.57	2.73	2.46
BUKU 3	2.27	2.42	2.52	2.51	2.54	2.42	2.39	2.42
BUKU 4	1.85	1.80	1.92	1.90	1.74	1.75	1.72	1.96
Industry	2.17	2.12	2.32	2.22	2.25	2.10	2.17	2.18

Saving Interest Rate Rp (%)	Smt I 2013	Smt II 2013	Smt I 2014	Smt II 2014	Smt I 2015	Smt II 2015	Smt I 2016	Smt II 2016
BUKU 1	3.22	3.23	3.15	3.08	3.21	3.05	2.87	2.69
BUKU 2	4.43	4.60	3.23	3.15	3.05	2.82	2.59	2.15
BUKU 3	2.62	2.51	2.56	2.66	2.97	3.01	2.70	2.58
BUKU 4	1.42	1.43	1.42	1.35	1.27	1.31	1.17	1.16
Industry	1.99	2.01	1.88	1.87	1.85	1.86	1.67	1.59

*) Bank Classification based on OJK Book as of December 2016
Source: Bank Indonesia, LBU, processed

depreciation following Donald Trump's election and inauguration as President of the United States. The banking sector market risk especially exchange rate risk was considered quite low. The exchange rate risk can be viewed from the low level of banking Net Open Position (PDN) below threshold as stipulated by regulation.

In the end of second semester of 2016, the banking industry recorded the foreign currency short position at amount of Rp5.09 trillion, compared to the last long position at the end of the first semester of 2016 amounting Rp2.22 trillion. The foreign currency short position reached Rp0.08 trillion in the end of November 2016, while in the end of July until the end of October 2016 the banking industry posted foreign currency long position. This indicated that there was an influence of the elected Donald Trump as US

President in November 2016. The twist into opposite position is in line with the rising Rupiah exchange rate from Rp13,180 per USD in June 2016 to Rp13.436 per USD in December 2016.

The Government Securities Price Decline Risk

The banking market risk stemmed from the Government Securities Price change was slightly increased in the financial market after Donald Trump officially elected as the President of the United States. The Government Securities price reflected in the index of IDMA dropping from 102.7 in the end of first semester of 2016 to 99.0 in the end of second semester of 2016.

In the second semester of 2016, the banking industry increased the Government Securities ownership in line with the incoming flow of tax amnesty funds and the

Table 4.18 The Credit Interest Rate per BUKU

KMK Interest Rate in Rp (%)	Smt I 2013	Smt II 2013	Smt I 2014	Smt II 2014	Smt I 2015	Smt II 2015	Smt I 2016	Smt II 2016
BUKU 1	15.84	15.91	17.82	17.80	16.79	16.31	15.39	16.52
BUKU 2	11.99	12.71	13.17	14.09	13.73	13.52	13.13	13.19
BUKU 3	11.19	12.31	12.95	12.85	12.63	12.48	11.79	11.29
BUKU 4	11.31	11.72	12.08	12.22	12.31	12.02	11.34	10.71
Industry	11.42	12.14	12.64	12.81	12.71	12.48	11.84	11.38

KI Interest Rate in Rp (%)	Smt I 2013	Smt II 2013	Smt I 2014	Smt II 2014	Smt I 2015	Smt II 2015	Smt I 2016	Smt II 2016
BUKU 1	17.55	17.63	19.64	18.00	17.12	16.60	14.95	14.93
BUKU 2	12.09	12.60	13.04	13.48	13.38	13.00	12.73	12.61
BUKU 3	12.08	12.89	13.26	13.29	13.19	13.04	12.17	12.05
BUKU 4	9.93	10.60	11.05	11.25	11.25	11.19	10.72	10.31
Industry	11.14	11.83	12.25	12.36	12.30	12.12	11.49	11.21

KK Interest Rate in Rp (%)	Smt I 2013	Smt II 2013	Smt I 2014	Smt II 2014	Smt I 2015	Smt II 2015	Smt I 2016	Smt II 2016
BUKU 1	13.69	13.58	13.41	13.31	13.36	13.34	13.86	14.07
BUKU 2	13.05	12.95	12.97	13.30	13.34	13.37	13.01	12.91
BUKU 3	14.92	14.94	15.01	15.18	15.45	15.28	15.02	14.50
BUKU 4	11.06	11.13	11.46	11.90	12.22	12.60	12.91	12.86
Industry	13.14	13.13	13.30	13.58	13.82	13.88	13.83	13.59

*) Bank Classification based on OJK Book as of December 2016
Source: Bank Indonesia, LBU, processed

sluggish bank credit disbursement so that Government Securities became one of the favorable alternatives for bank fund placement. The banking Government Securities placement rise is mainly allocated to the Available for Sale (AFS) and Hold to Maturity (HTM) portfolios which indicate the bank tendency to employ Government Securities as a tool of liquidity and long-term investment, instead of a trade objective.

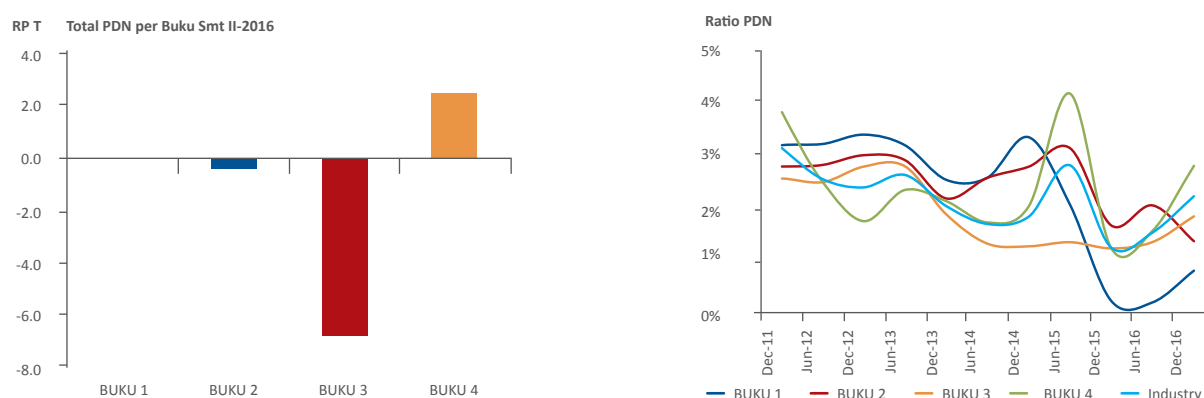
The banking Government Securities portfolio was recorded to rise 10.18%, from Rp409.6 trillion in the end of first semester of 2016 to Rp451.27 trillion in the end of second semester of 2016. Based on BUKU groups, the majority of Government Securities ownership was dominated by the group of BUKU 4 (2.75%) followed by groups of BUKU 3 (1.82%), BUKU 2 (1.37%) and BUKU 1 (0.81%).

Bank's PDN ratio compared to the banking capital by the end of second semester of 2016 reached 2.18%, rising if compared to the position at the end of first semester of 2016 (1.52%). The PDN ratio is far below the 20% threshold of capital in the regulation. Based

on BUKU groups, the highest PDN ratio was found in BUKU 4 (2.75%), followed by BUKU 3 (1.82%), BUKU 2 (1.37%) and BUKU 1 (0.81%).

The increase of Government Securities ownership occurred in the bank groups of BUKU 2, BUKU 3, and BUKU 4, while in BUKU 1 there was a slight decrease. The bank group of BUKU 3 and 4 were prone to place Government Securities in AFS portfolio; whereas, BUKU 1 and 2 tended to place Government Securities in the HTM portfolio. This showed that there was a difference behavior and investment intention among all bank groups. BUKU 3 and 4 banking group tend to hold Government Securities for liquidity purpose and there is high possibility to liquidify Government Securities anytime; while the purchase of Government Securities in group of BUKU 1 and 2 were intended for long-term investment. Afterwards, if required, it is easier for the BUKU 3 and 4 groups to sell Government Securities and distribute the cash for credit without facing any sanctions in relation to accounting tainting rule compared to the group of BUKU 1 and 2. Nevertheless, the trade portfolio in all bank group was relatively similar.

Graph 4.36 The Total and Ratio of PDN per BUKU



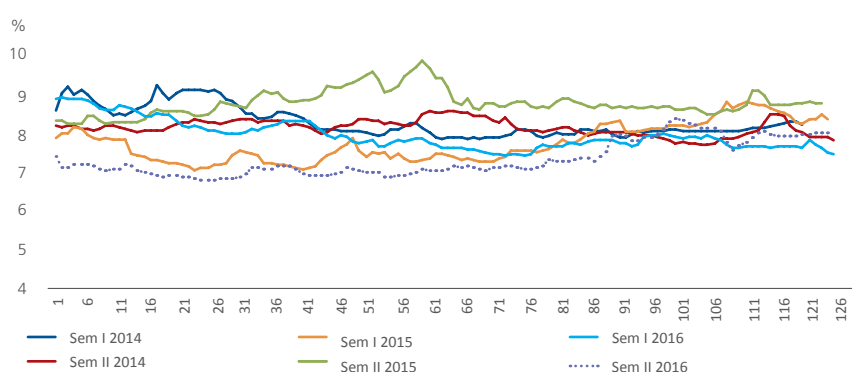
Source: Bank Indonesia

4.1.4. External Debt (ULN) of Banking Industry

External debt (ULN) is one of financing sources alternatives for banks. In addition, bank's ULN also can be utilized to improve funding maturity structure, and liquidity management. Currently, the tendency to utilize bank's ULN as a financing source alternative showed a rising trend as the cost of ULN funds is relatively lower than Third Party Funds and offers more

flexible tenors. Based on tenor, bank's ULN consists of short-term ULN (up to 1 year) and long-term ULN (more than 1 year). The source of bank's ULN might come from bank-related parties (such as holdings or business groups), and unrelated parties. Bank's ULN from related parties usually offers competitive interest rate and requirements compared to ULN offered by unrelated parties. In accordance with the regulations, banks are

Graph 4.37 The Government Securities Yield Volatility



Source: Bank Indonesia

Table 4.19 Table of Government Securities Ownership by the Banking Industry per BUKU

SBN Trading (Rp T)	Smt I 2013	Smt II 2013	Smt I 2014	Smt II 2014	Smt I 2015	Smt II 2015	Smt I 2016	Smt II 2016
BUKU 1	0.11	0.04	0.10	0.03	0.23	0.26	0.02	0.04
BUKU 2	10.86	5.47	9.68	12.16	7.84	13.51	12.01	4.66
BUKU 3	13.68	9.57	17.18	11.32	15.93	17.31	21.74	24.05
BUKU 4	1.88	0.80	1.97	2.39	3.61	2.62	2.47	2.57
Industry	26.52	15.88	28.93	25.90	27.62	33.70	36.23	31.33

SBN AFS (Rp T)	Smt I 2013	Smt II 2013	Smt I 2014	Smt II 2014	Smt I 2015	Smt II 2015	Smt I 2016	Smt II 2016
BUKU 1	1.63	1.27	1.01	1.13	1.17	1.21	0.88	0.57
BUKU 2	11.86	15.10	18.60	19.09	25.44	27.92	27.51	17.44
BUKU 3	36.64	51.77	51.11	56.35	67.67	79.62	84.36	115.61
BUKU 4	114.48	108.10	123.26	123.14	96.44	110.74	126.21	138.78
Industry	164.61	176.23	193.98	199.71	190.73	219.50	238.96	272.40

SBN HTM (Rp T)	Smt I 2013	Smt II 2013	Smt I 2014	Smt II 2014	Smt I 2015	Smt II 2015	Smt I 2016	Smt II 2016
BUKU 1	1.22	1.57	1.99	2.35	2.58	2.67	2.64	1.07
BUKU 2	13.39	16.12	14.06	15.49	18.79	23.61	29.29	18.54
BUKU 3	7.04	11.51	14.24	18.25	21.47	30.97	28.55	44.96
BUKU 4	53.41	39.95	55.00	59.56	54.32	66.79	73.88	82.97
Industry	75.07	69.16	85.28	95.65	97.16	124.05	134.37	147.54

Source: Bank Indonesia

Table 4.20 The Government Securities Ownership Shares by Banking Industry per BUKU

BUKU 4	Smt I 2013	Smt II 2013	Smt I 2014	Smt II 2014	Smt I 2015	Smt II 2015	Smt I 2016	Smt II 2016
Trading	1.10	0.54	1.09	1.29	2.34	1.46	1.22	1.15
AFS	67.43	72.62	68.39	66.53	62.47	61.47	62.31	61.87
HTM	31.46	26.84	30.51	32.18	35.19	37.07	36.47	36.99
BUKU 3	Smt I 2013	Smt II 2013	Smt I 2014	Smt II 2014	Smt I 2015	Smt II 2015	Smt I 2016	Smt II 2016
Trading	23.84	13.14	20.82	13.17	15.16	13.53	16.14	13.03
AFS	63.89	71.06	61.93	65.59	64.40	62.25	62.65	62.62
HTM	12.27	15.80	17.25	21.24	20.44	24.22	21.21	24.35
BUKU 2	Smt I 2013	Smt II 2013	Smt I 2014	Smt II 2014	Smt I 2015	Smt II 2015	Smt I 2016	Smt II 2016
Trading	30.06	14.90	22.87	26.02	15.06	20.77	17.45	11.48
AFS	32.85	41.16	43.93	40.84	48.86	42.93	39.98	42.91
HTM	37.09	43.95	33.20	33.14	36.08	36.30	42.57	45.61
BUKU 1	Smt I 2013	Smt II 2013	Smt I 2014	Smt II 2014	Smt I 2015	Smt II 2015	Smt I 2016	Smt II 2016
Trading	3.65	1.38	3.09	0.83	5.87	6.34	0.58	2.48
AFS	55.04	43.98	32.56	32.16	29.44	29.28	24.95	33.85
HTM	41.31	54.64	64.35	67.01	64.69	64.38	74.46	63.66
Industry	Smt I 2013	Smt II 2013	Smt I 2014	Smt II 2014	Smt I 2015	Smt II 2015	Smt I 2016	Smt II 2016
Trading	9.96	6.08	9.39	8.06	8.75	8.93	8.85	6.94
AFS	61.84	67.45	62.94	62.16	60.45	58.18	58.35	60.36
HTM	28.20	26.47	27.67	29.77	30.80	32.88	32.81	32.69

Source: Bank Indonesia

only allowed to have short-term ULN not more than 30% of capital. Bank Indonesia on daily basis conducts monitoring on the short-term ULN regulations meeting through the daily report of commercial banks.

The ULN of Indonesia grew 1.98% (yoy) as of December 2016, lower than the growth in the first semester of 2016 (6.66%). As of the end of December 2016, the amount of Indonesia's ULN amounted to USD316.97 billion, comprise of the Government and Central Bank ULN at amount of USD158.28 billion (49.94% of the total ULN) and private sector ULN reached USD158.68 billion (50.06% of the total ULN).

In the meantime, the total outstanding of banking industry ULN was recorded as of USD29.51 billion, grew by -7.56% (yoy), declining compared to the growth in

the first semester of 2016 at -5.19% (yoy). The banking ULN share reached 18.59% from ULN of private sector or as of 9.31% of the total outstanding of Indonesia's ULN. Based on ownership types, banks with the highest outstanding ULN is the national private bank group (USD14.93 billion, 50.58% share). This was followed by joint venture banks amounting USD7.58 billion (25.70%), State-Owned Enterprise banks amounting USD4.48 billion (15.20% share), and the foreign branch banks amounting to USD2.51 billion (8.52%).

The bank's ULN was mostly are short-term debts with outstanding amount of USD17.28 billion (58.57%), which was commonly in the form of cash and deposits. The majority of banks' long-term ULN will mature in the year of 2025, amounting up to USD3.35 billion (29.11% share). Meanwhile, the long-term banks' ULN which will

mature in the year of 2017 is USD2.45 billion (21.31%). In accordance with the Bank Business Plan submitted to Bank Indonesia, the Indonesian banking industry plans to get long-term bank ULN up to USD10.75 billion in 2017. To mitigate risks related to banks' ULN, there were several strategies, i.e. naturally hedge (making use of ULN for credit/financing in foreign currencies which generate foreign exchange as source of income).

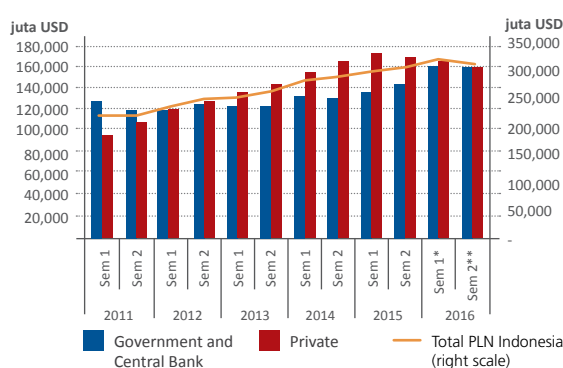
In the future, Bank Indonesia will continue to improve monitoring on the development of ULN, especially on the private sector ULN in order to mitigate risks of ULN which may impact macroeconomic risks, and encourage so that ULN may optimally function in supporting the development financing.

4.1.5. The Assessment of Profitability, Efficiency and Capital

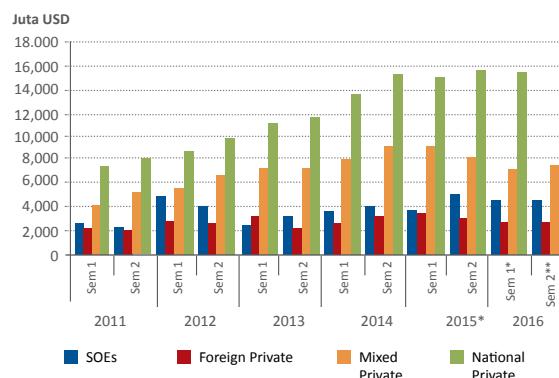
4.1.5.1. Profitability

The banking profitability performance in general showed a modest decline as indicated by the diminishing ratio of Return On Asset (ROA) of the banking industry from 2.26% in the first semester 2016 to 2.17% in the second semester of 2016. The ROA decline, due to credit growth drop as the main source of income of banks and the rising of loan loss provision due to the rising NPL, was inhibited by the widening bank interest rate. The expansion of interest rate spread was caused by the declining Third Party Funds interest rate (as an impact of capping policy issued by OJK on deposit rate and policy rate decline) which was

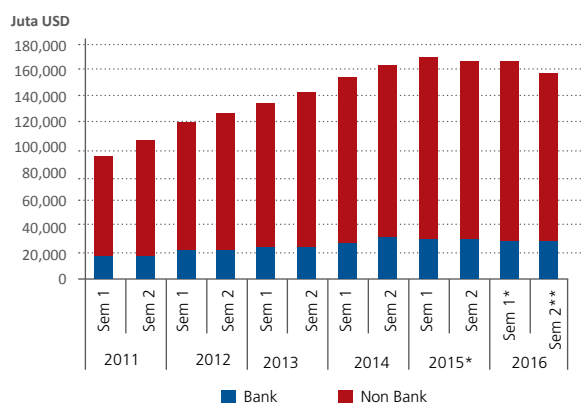
Graph 4.38 The Development of Indonesia's External Debt



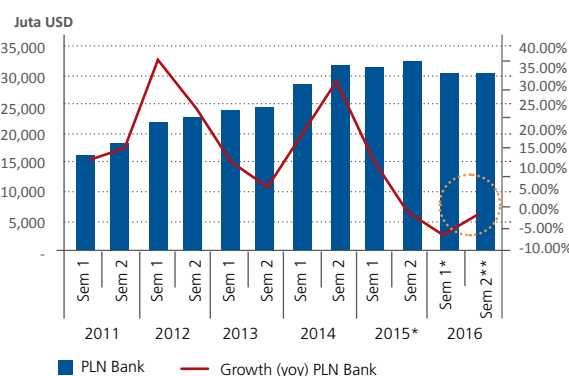
Graph 4.39 External Debt per Bank Groups



Graph 4.40 External Debt of Private Enterprises

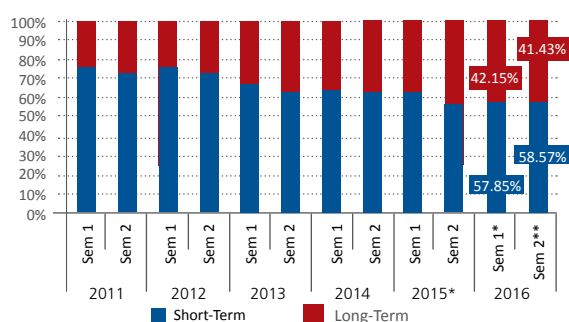


Graph 4.41 The Growth of Bank External Debt



Source: Bank Indonesia, Processed.

Graph 4.42 Bank Foreign Debts Tenor



Source: Bank Indonesia

more drastic than the decrease of credit interest rate. The banking industry was tend to withhold the rise of operating cost (particularly the loan loss provision rise). This is in line with the ratio of Net Interest Margin of the banking industry which still rose to 5.47% from the previous semester (5.44%).

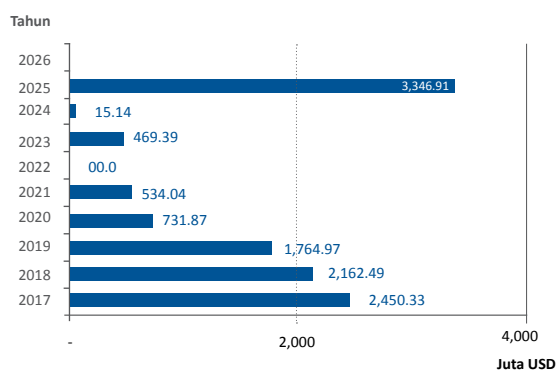
By BUKU groups, the decline of ROA ratio was attributed to BUKU 1, 2, and 3 groups; while, the ROA ratio of BUKU 4 group rose compared to the previous semester. Banking net profits after taxes in the second semester of 2016 was stood at Rp51.92 trillion, a little lower than the first semester of 2016 (Rp54.62 trillion). The profit rise

occurred in BUKU 4; whereas, profit dwindling occurred in BUKU 1, 2 and 3, compared to the previous semester. The slump of profits was attributed to the increasing loan loss provision due to deteriorating NPL level.

Banking interest operating income grew by 0.99% from the previous semester. The increase was contributed by the interest income from the placement of securities and credit disbursement, with 77.6% share of the total operating income of banking interest. The interest income of the placement in Bank Indonesia, securities and credit rose 1.98%, 4.86% and 1.24% respectively in the first semester of 2016. Meanwhile, the operating income other than interest decreased 7.25% from the previous semester. Source of increase in operating income other than interest income in the second semester of 2016 was mostly originated from fee-based income which rose by 5.44% compared to the previous semester, and contributed up to 27% of the total operating income other than interests.

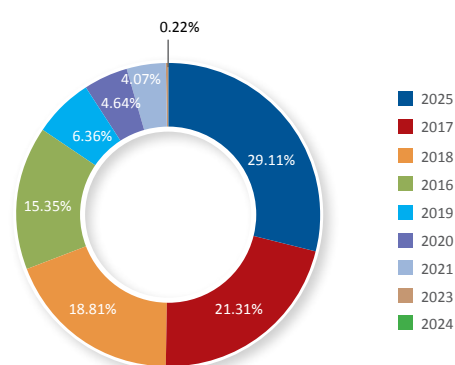
The banking industry had managed to lower the interest operating cost as much as 3.65% from the first semester of 2016, with Third Party Funds interest cost as the

Graph 4.43 The Bank Long-Term ULN Maturity Profile (December 2016)



Source : Bank Indonesia, SIUL-DSta, Processed

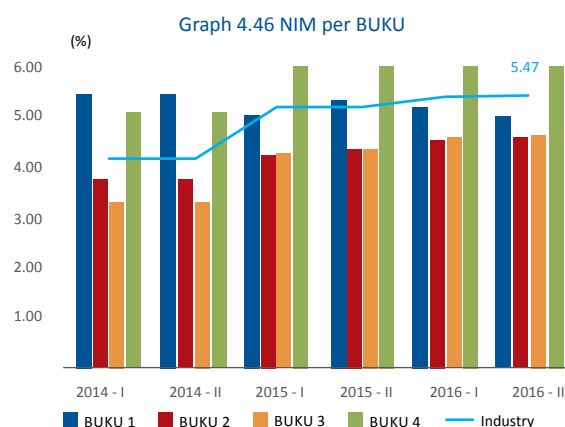
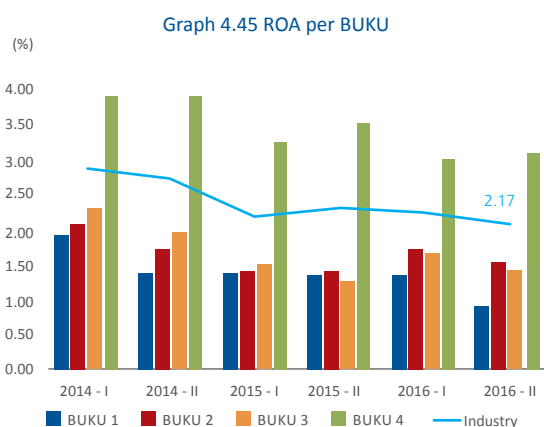
Graph 4.44 The Long-Term ULN Maturity Composition (December 2016)



biggest share (51.6%). The rise of interest operating cost mostly precipitated from securities interest rate which increased 14.60% compared to the previous semester. Meanwhile, the operating cost other than interest in the second semester of 2016 remained high, increasing 1% compared to the previous semester. The increase of operating cost aside from interest hike up by 14.43% from the first semester of 2016. The operating cost share aside from interests was dominated by the impaired loan loss provision (CKPN) cost by 31.5%, followed by labor cost (21%), and spot transaction losses and derivatives cost (19.3%).

4.1.5.2. Efficiency

The banking industry efficiency still remained in the declining trend as indicated by the rise of Efficiency Ratio of Operating Costs to Operating Revenue (BOPO). The BOPO ratio rose from 82.23% in semester I of 2016 to 82.85% in semester II of 2016. The BOPO ratio increase experienced by BUKU 1, 2, and 3 was mostly attributed to the rise of overhead cost originated by CKPN due to the rise of NPL in semester II of 2016 and labor cost. Meanwhile, in BUKU 4, the increase of overhead cost in form of CKPN and labor, and spot transaction losses and derivatives was anticipated by the rise of interest income (the expansion of interest rate spread).



Source: Financial Service Authority, processed
) Bank Classification by OJK Book per Desember 2016

Table 4.21. The Development of Profit/Loss of the Banking Industry (Trillion Rp)

Kelompok	Laba sebelum Pajak								Laba setelah Pajak							
	2013		2014		2015		2016		2013		2014		2015		2016	
	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II
BUKU 1	0.89	0.93	0.88	0.47	0.78	0.72	0.70	0.24	0.74	0.49	0.69	0.08	0.63	0.45	0.45	(0.10)
BUKU 2	7.84	6.55	7.59	6.34	6.20	7.20	8.42	6.78	6.44	4.40	6.16	4.26	4.86	5.43	6.56	4.91
BUKU 3	20.74	23.05	23.49	17.36	17.25	11.83	19.72	13.78	15.59	17.48	18.52	13.15	12.98	8.76	15.15	10.12
BUKU 4	34.89	42.23	41.52	45.94	40.16	49.28	41.05	46.78	28.34	33.22	33.07	36.23	32.38	39.20	32.47	36.99
Industry	64.36	72.76	73.47	70.11	64.39	69.04	69.89	67.58	51.12	55.59	58.43	53.72	50.84	53.83	54.62	51.92

*) Bank Classification based on OJK Book as of December 2016
Source: Bank Indonesia, LBU, processed

Table 4.22. The Details of Income Post (Trillion Rp)

Income Posts	2014		2015		2016		Share
	I	II	I	II	I	II	
Interest Operating Income	268.96	299.03	316.32	329.82	339.06	342.40	100%
Placement in BI	3.27	4.55	3.99	3.63	2.97	3.02	0.9%
SSB	17.32	19.89	22.06	20.68	25.58	26.82	7.8%
Credit	193.30	210.60	219.53	231.10	235.89	238.81	69.7%
Operating Income other than Interest	80.22	68.21	93.94	116.90	129.11	119.74	100%
Bond Sale	3.24	3.07	3.40	2.19	4.75	4.13	3.4%
Trading (spot and derivative)	30.94	19.81	39.72	67.96	63.15	38.17	31.9%
Deviden. of Commission/Provision/Fee	26.67	27.54	28.77	29.09	30.66	32.32	27.0%
CKPN Correction	13.38	9.61	15.79	8.13	23.05	22.45	18.7%
Non-Operating Costs	12.82	12.41	12.15	11.93	7.86	12.86	100%

Table 4.23 The Details of Cost Post (Trillion Rp)

Cost Posts	2014		2015		2016		Pangsa
	I	II	I	II	I	II	
Interest Operating Cost	136.06	157.78	168.99	169.02	172.46	166.16	100%
To Other Banks	2.24	2.37	2.96	3.52	3.57	3.36	2.0%
To Third Parties (non Bank)	79.56	93.37	94.76	92.31	89.31	85.67	51.6%
Bond	3.51	3.49	3.92	4.04	3.83	4.39	2.6%
Accepted Loans	1.76	1.75	1.91	2.43	3.44	2.89	1.7%
Operating Costs Other Than Interest	138.92	139.92	177.46	208.41	226.98	229.24	100%
Bond Loss	1.66	0.92	1.39	1.46	0.75	1.73	0.8%
Spot and Derivative	27.18	16.70	35.92	62.19	57.46	44.33	19.3%
Insurance Premise	4.76	5.13	5.82	6.11	6.50	6.19	2.7%
CKPN	27.38	27.70	44.44	42.22	63.08	72.18	31.5%
Workforce	39.62	41.13	45.20	44.08	50.05	48.19	21.0%
Non-Operating Costs	13.56	11.83	11.57	12.18	6.70	12.86	100%

Source: Bank Indonesia, LBU, processed

Efficiency remained in the downswing trend despite the fact that other efficiency indicators, namely Cost to Income Ratio or CIR which is calculated as cost ratio other than interest on income showed a decline from 56.20% in semester I of 2016. The CIR decrease was affected by the net interest income and operating income other than interest which rose was relatively higher than the operating cost other than interest. The movement of CIR and BOPO towards different directions indicated that the decreasing bank efficiency affected more by bank interest bearing business or activities.

4.1.5.3. Capital

The capital adequacy level of banking industry was relatively maintained, indicated by the relatively high

CAR, above the minimum level. The banking industry CAR rose from 22.56% in semester I of 2016 to 22.69% in the reporting semester. The banking CAR increase was attributed to the slowdown of credit growth which was in line with bank complying and applying prudential principle in disbursing credits amid the economic growth slowdown curbing risk weighted asset (ATMR) growth. The banking industry's high CAR enabled the banks in Indonesia to meet the requirements of Basel III regarding capital, especially capital conservation buffer, countercyclical buffer and capital surcharge for systemic banks, which took into effect in the onset of 2016. In terms of composition, bank capital was still dominated by core capital (Tier 1) with 92.16% share.

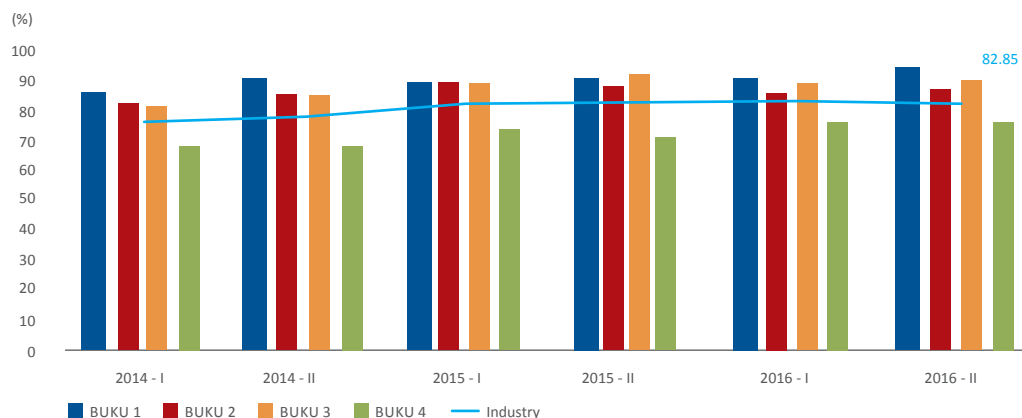
4.1.6. The Banking Stress Test

The stress test was carried out to measure bank soundness level in terms of capital as measured by CAR. The calculation was conducted both in industrial level and based on per group of BUKU by providing pressure as stated in the macroeconomic scenario with the stress condition transmitted through the credit and market risk (interest rate, exchange rate, and Government Securities price) on the data of banking balance sheet and performance in December 2016.

Macroeconomic Scenario

The banking stress test calculation begins by determining a stress scenario. In formulating a stress scenario contains of domestic risk factor (such as fossil fuel price hike and weakening of corporation performance) and external risk sources (such as the declining commodity prices and China economic growth slowdown) which may threaten the banking system. These risk sources will impact the macroeconomic stability and financial system which eventually is transmitted to the banking system

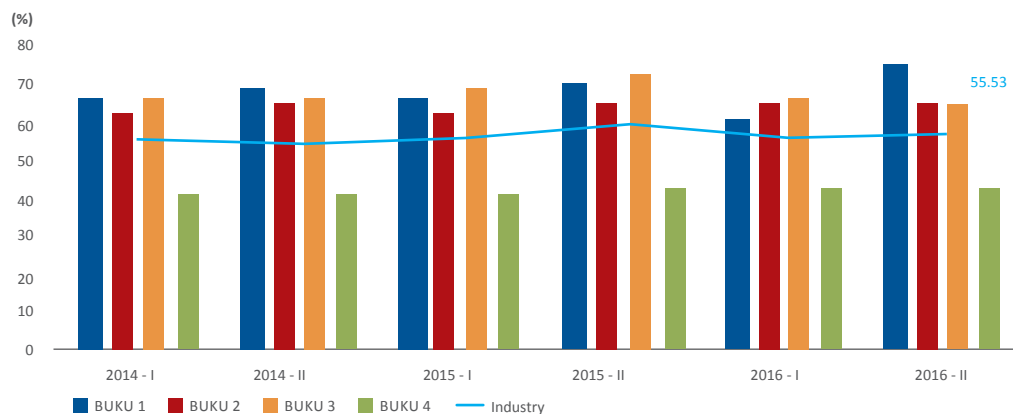
Graph 4.47 The Ratio of BOPO per BUKU (%)



Source: OJK, processed

*) Bank Classification based on OJK Book as of December 2016

Graph 4.48 The Ratio of CIR per BUKU (%)



Source: Bank Indonesia, LBU, processed

*) Bank Classification based on OJK Book as of December 2016

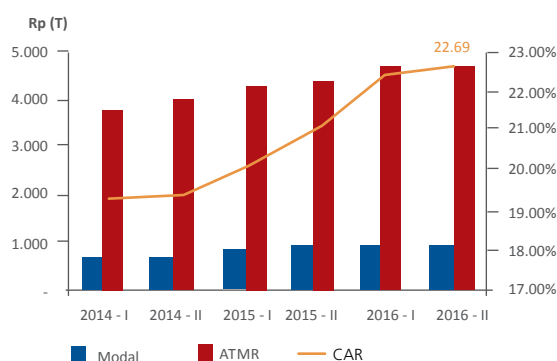
through the banking balance sheet in the form of credit risk, interest rates, exchange rates, and Government Securities prices. After considering all risks which may threaten the banking system both externally and domestically, there are three types of stress test scenario: 1) baseline (BL); 2) severe (S1); and 3) severe II (S2).

BL scenario is an initial projection with an assumption that there is no distress in the economy and financial system. Therefore, the scenario assumes that the economic growth, price and exchange rate remain stable. The scenario is required as a benchmark of banking condition in calculating a stress test.

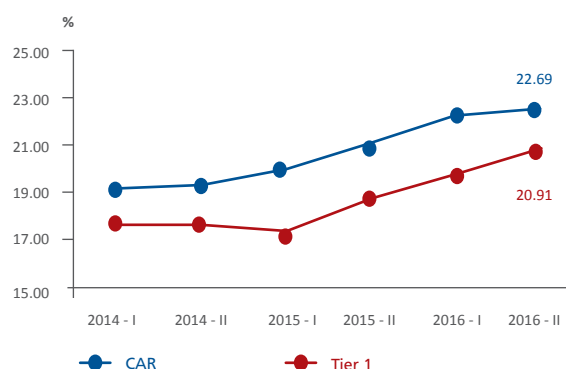
In the Severe I scenario, it is assumed that there is a relatively moderate distress on the global economy. Such distress is caused by the economic growth slowdown of trade partners which is not in line with the initial expectation and the higher-than-expected Fed Fund Rate increase risk. Such distress will slow down the domestic economic growth and cause shock in the securities and stock market as capital outflows occur.

In the last Severe II scenario, it is assumed that the deeper global economic contraction took place. This includes a financial crisis in one of the main trade partner countries of Indonesia, the discontinued

Graph 4.49 The Development of Banking CAR



Graph 4.50 The Ratio of Tier 1 Banking (%)



Source: Bank Indonesia, SIP, Processed

Table 4.24 The Development of CAR by BUKU

%	Highest CAR				Lowest CAR				Average CAR				CAR			
	2015		2016		2015		2016		2015		2016		2015		2016	
	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II
BUKU 1	145.53	142.94	116.85	123.45	10.02	8.98	11.29	13.05	25.28	29.42	24.70	27.58	19.86	23.24	20.87	21.86
BUKU 2	61.48	121.23	138.42	119.80	12.11	14.67	11.65	11.76	22.53	26.23	28.22	26.97	19.96	22.40	22.35	22.83
BUKU 3	77.04	80.56	84.09	85.16	13.56	14.20	11.98	12.54	21.56	22.76	23.79	24.66	22.35	23.50	24.58	24.49
BUKU 4	20.16	20.16	21.79	22.64	17.23	18.61	19.26	18.12	18.66	19.29	20.89	21.02	18.78	19.26	21.06	21.24
Industry													20.28	21.39	22.56	22.69

Source: Bank Indonesia, SIP, Processed

commodity price recovery and the quite significant rise of Fed Fund Rate which in turn caused considerable capital outflows. This pressure will impact the Indonesia's GDP growth significantly. On the other hand, the rise of interest rate in the United States also caused a large shock in the global market, as shown by the Rupiah and securities weakening.

Every scenario is calculated by means of a structural model which is designed to capture all interactions of domestic and external stress sources. This structural model, afterwards, will generate a projection of macroeconomic variables (banking industry such as GDP growth, inflation and exchange rate) until the next two years, which serves as the main element of stress transmission to the banking system.

Credit Risk Transmission

The calculation of credit risk, represented by NPL, aims to measure the resilience of banking CAR amid the economic slowdown and its impacts on the increasing gross NPL. The rising NPL gross will increase the bank loan loss allowance to commensurate its credit risk which eventually weakens bank profitability. Inadequate bank profitability may affect capital growth so that it decreases CAR.

Based on the scenario calculation result, BI scenario formulated banking NPL which tended to be stable and far below 5% until the end of 2018 in conformity with the stable economy. In the scenario of severe I, the industry NPL rises to 5.1% in the end of 2018. Later in the scenario of severe II, the significant rise of NPL occurs in the end of 2018, reaching 13.7% caused by the quite heavy pressure the economy.

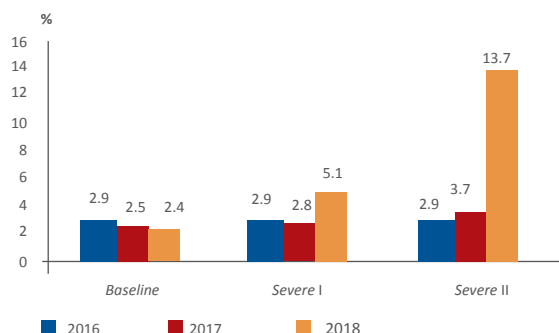
Risk Transmission of Government Securities Price

Risk transmission of Government Securities price occurs through the Government Securities portfolio channel on the banking asset side. Government Securities in the AFS and trading category. Both portfolios are measured based on market prices (mark-to-market). The decline of Government Securities price in the two categories are measured based on the movements of interest rate yields. The yields of interest rate receive stress or intensity according to the existing scenario. Afterwards, the Government Securities price which is already stressed is calculated by using the discounted cash flows (DCF) approach. The bigger the stress pressure is given according to the macroeconomic scenario, the higher the Government Securities yield rise and the larger the Government Securities price decline. The difference of Government Securities decline caused correction cost of asset price in the income statement which eventually may hinder the capital growth and lowering CAR level.

Exchange Rate Risk Transmission

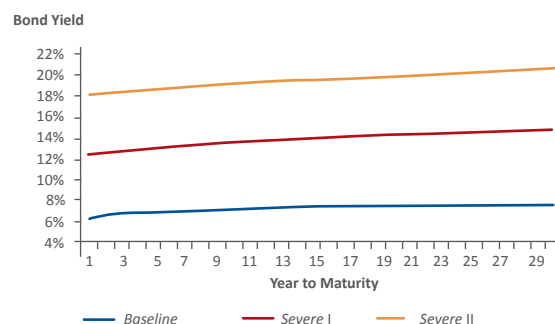
The bank vulnerability on the rupiah exchange rate may occur through the exposure of banking net open position both in the side of on-balance sheet and off-balance sheet. In the BL scenario, the exchange rate remained stable as the macroeconomic fundamentals strengthens. In the scenario of Severe I, exchange rate experiences the worst depreciation level in the end of 2018 (30%). In the scenario of Severe II, exchange rate slumps quite drastically since the first year (2017) and reaches the lowest in the end of 2018 with the depreciation level at 68%. If rupiah is depreciated quite a lot, banks with foreign currency net-long position will gain profits from the difference of currency prices. On the other hand, banks with a net-short position will record losses and eroding its CAR growth.

Graph 4.51 The Scenario of Credit Risk (NPL)



Source: Bank Indonesia, Processed

Graph 4.52 The Scenario of Government Securities



Interest Rate Risk Transmission

The vulnerability of banks against the interest rate rise risk is measured through net of short-term rupiah claims and liabilities (under 1 year) which are sensitive to changes of interest rate based on bank profile maturity data. In the BS scenario, interest rate is assumed to move stable and not expose a risk to banking balance. In the scenario of severe I, the interest rate would rise 425 bps in 2017 and 175 bps in 2018 with the total rise of 600 bps in two years. Meanwhile, in Severe II scenario, interest rate will increase to 825 bps in 2017 and 350 bps in 2018 with total increase reaching 1,175 bps. Banks with positive gaps (claims are larger than liabilities) in their balance sheets will gain profits due to interest rate increase. On the other hand, banks with negative gaps (claims are less than liabilities) will suffer from losses so that it would hit and undermine CAR growth.

The Result of Banking Stress Test – Aggregate

Every distress from each type of risk is aggregated to an integrated stress test result. Based on the dynamic stress test scenario, the impact of shock from each scenario on the banking system can be calculated periodically until the end of 2018. Overall stress test result indicated that the banking industry still has a quite strong and solid capital condition. This was

depicted by the banking industry's CAR which is far above 8% by the end of the projected year (fourth quarter of 2018) in every scenario.

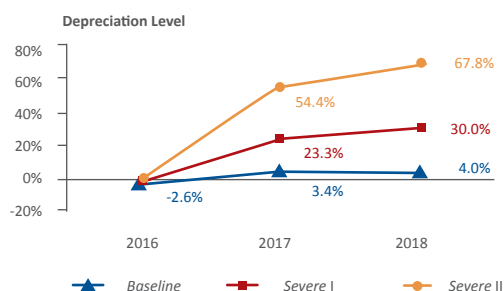
Based on risk source, credit risk dominating risk source in every scenario. This is shown by the contribution of credit risk average which reaches 75% of the total losses in the severe I scenario and 87% of the total losses in the severe II scenario. In the end of the worst scenario (severe II of 2008), the capital shortfall or capital necessity reaches Rp44 trillion or around 1.6% of Indonesia's nominal GDP.

The Banking Stress Test – BUKU

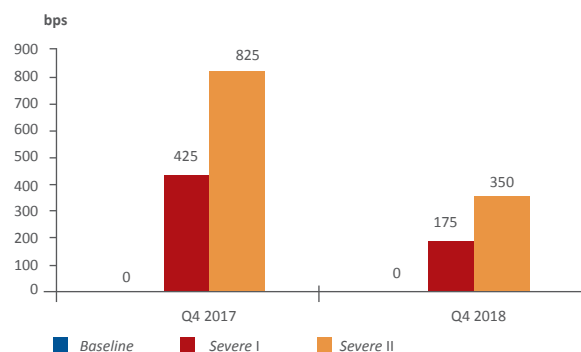
Based on BUKU, in the scenario of severe I, all BUKU still have CAR far above 8%. In this scenario, banks with the most CAR decline in the end of 2018 are BUKU 2 (1.33 point decline to 21.5%) and BUKU 3 (0.85 point decline to 23.6%). BUKU 2 is also the BUKU category with the lowest CAR after distress is applied. However bank capital remains strong and at resilience level in this scenario. However, it is estimated that there are small banks that required capital injection, in particular in the case of prolonged economic slowdown.

In the Severe II scenario, the stress test result showed that all BUKU had quite strong capitals in dealing with

Graph 4.53 The Scenario of Exchange Rate Risk



Graph 4.54 The Scenario of Interest Rate Risk



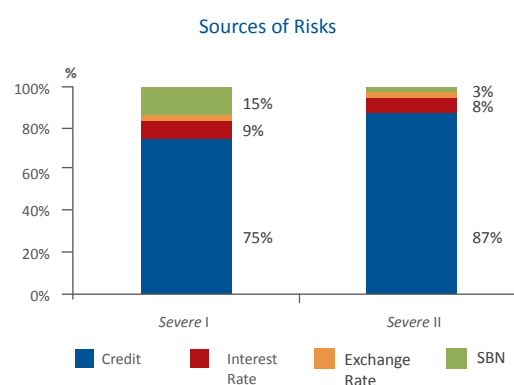
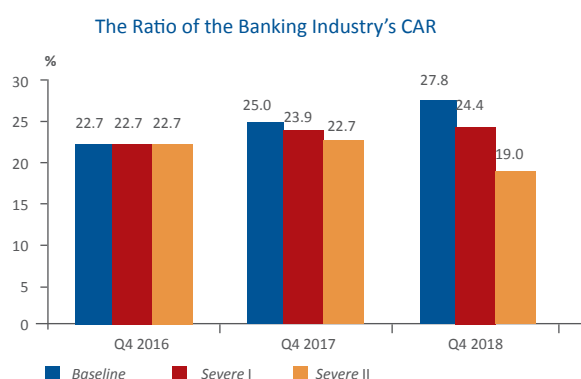
Source: Bank Indonesia, Processed

significant stress scenario. This was reflected by CAR level which was still far above 8% in every BUKU. In the peak of stress (the end of 2018), BUKU which experiences the deepest slump of CAR cumulation is BUKU 3 (a 7.66 point downturn to 16.8%) and BUKU 2 (a 7.58 point decline to 15.3%). BUKU 2 also suffered for diminishing CAR level after stress test. However, the Severe II scenario stress test result indicated that all BUKU were still showing a strong capital amid the

quite intense economic pressure even though several banks began to have capital issues.

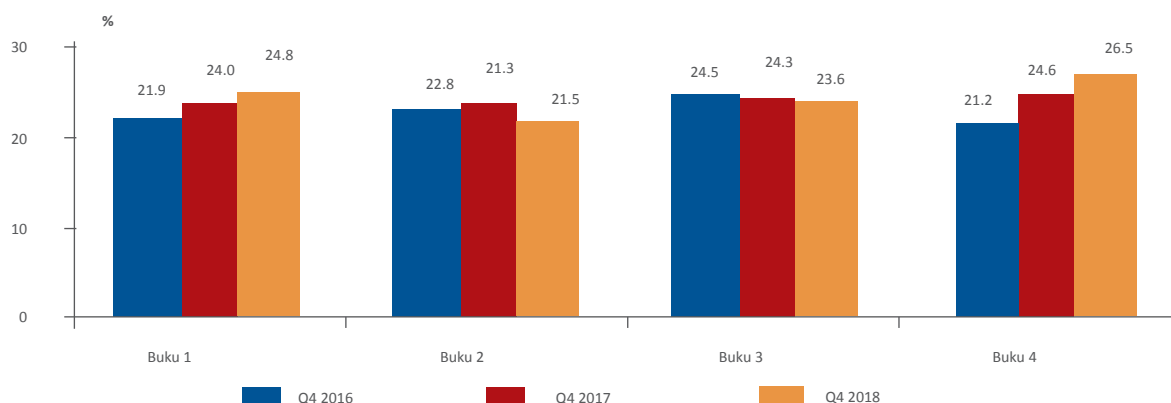
Based on risk type, credit risk I dominated almost all BUKU, both in the scenario of Severe I and Severe II. indicating that credit risk remains the primary source of potential risk in the banking system and a good credit risk mitigation would be very pertinent to improve banking resilience under stress.

Graph 4.55 The Aggregate Result of Stress Test



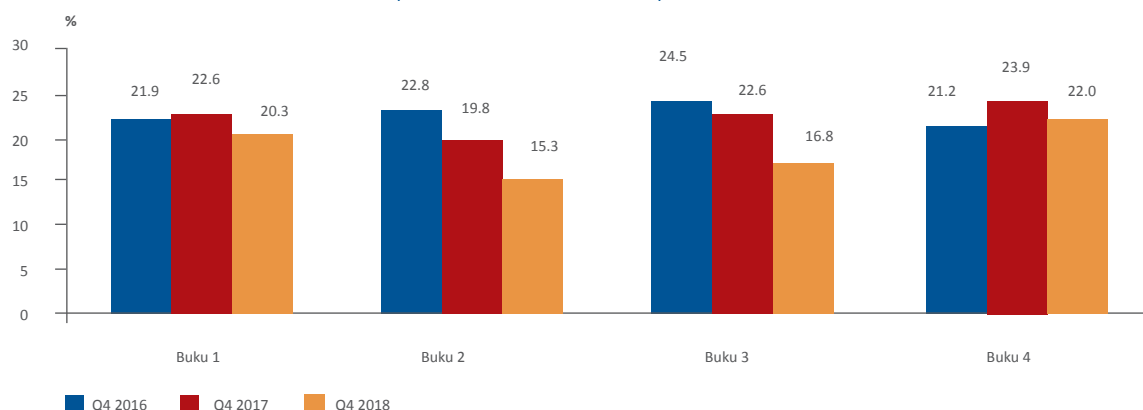
Source: Bank Indonesia, Processed

Graph 4.56 The Stress Result Result per BUKU (Scenario of Severe I)



Source: Bank Indonesia, Processed

Graph 4.57 The Stress Test Result per BUKU



Source: Bank Indonesia, Processed

4.2. The Assessment of Condition and Risk of Non-Bank Financial Industry

During the second semester of 2016, the non-bank financial industry (NBFI)⁷, particularly Finance Companies (PP) remains sound and showed positive performance compared to the first semester of 2016. After a declining growth since semester II of 2013,

the performance of PP during the semester II of 2016 indicated an improvement both in terms of financing and funding despite there is an existing problem of NPF increase compared to the first semester of 2016. The insurance industry also gained momentum, with assets and investment accelerating from the previous period. Stronger performance was supported by less business risk, indicated by an increase in the ratio of premiums to claims.

⁷ Non Bank Financial Institutions (IKNB) in discussion include Financing and Insurance Companies

Nonetheless, the development of Life Insurance industry requires further vigilance considering that there was a quite considerable profit drop in the semester II of 2016.

From the aspect of interconnectedness, there was an intensifying relations between banks and PP especially ones related to the rise of banking credit to PP. On the contrary, the interconnectedness of banks and insurance industry declined owing to the lack of insurance fund placement in banks.

4.2.1. Finance Companies (PP)

Throughout the second semester of 2016, the financing of PP increased by 6.67% (yoy). Based on types⁸, the financing by PP is dominated by the multipurpose financing accounting for 59.39% proportion of the total financing followed by the investment payment (27.09%), financing based on sharia principles (8.09%) and work capital financing (5.41%). By sector, the other Business Fields sector (especially automotive loan/ financing) still dominating and reached 26.43% share of total loan. The financing to this sector tends to rise as the automotive sales rose (especially cars which grew at 6.06% (yoy)) at year end of semester II of 2016⁹. In addition to the automotive sector, household consumption financing grew at 5.01% (yoy)¹⁰ also contributed to the rise of FC financing volume.

Based on foreign currency types, the FC financing in foreign currency indicated a decreasing trend. Throughout second semester of 2016, the financing

in foreign currency only reached Rp44 trillion with negative growth by -15.30% (yoy). The negative growth was much lower than the first semester of 2016 (-12.42%) and the similar period of the previous year (-5.31%). On the contrary, the financing in rupiah rose by 9.69% (yoy) to Rp341 trillion, higher than the first semester of 2016 (3.15%) or the same period in the previous year (0%). The rising financing in rupiah contributed to the increase of financing proportion on the total financing. In the first semester of 2016 and second semester of 2015 the proportion of financing in rupiah respectively reached 86.97% and 85.57%, in the second semester of 2016 the portion of Rupiah financing reached 88.48%.

In line with the financing which began to increase, PP credit risk also tended to increase as shown by the relatively high ratio of Non Performing Financing (NPF) at 3.26%, higher than the previous period (2.20%). The biggest NPF was the transportation sector as the performance of mining sector was weakened with the majority of financing objects included ships and trucks to transport mining commodities. The rise of NPF was also caused by the collectability reclassification process in accordance with the implementation of Indonesian OJK Regulation (POJK) no.29/POJK.05/2014 regarding the Organization of Financing Company Business which previously was divided into 3 financing collectibilities (Pass, Doubtful, Loss) into 5 collectibilities (Pass, Special Mention, Substandard, Doubtful, Loss). In spite of the simulation results¹¹ showed that the profits of PP could sustain the rising NPF to 4.79% but fundamentally the

⁸ Based on the Regulation of Financial Service Authority (PJK) No.29/POJK.05/2014 regarding Management of Financing Company Businesses, types of FC are divided into investment financing, work capital financing, multifunction financing, financing based on sharia principle and other financings based in OJK approval (prior to this, types of financing were renting, factoring, credit card and consumptive financing).

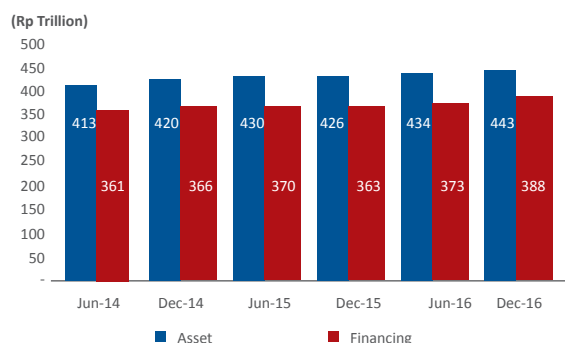
⁹ Source: www.gaikindo.or.id

¹⁰ Source: The GDP Report according to usage (data per Fourth Quarter of 2016)

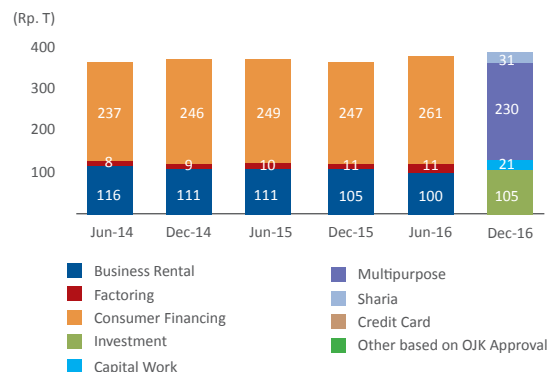
¹¹ Simulation uses profit data of PP as of December 2016 with the following assumptions:

- all loans with collectability (Under Scrutiny) lowered to Collectability 3 (Less than Well Performing); and
- in case profits are not nil, collectability 3 is lowered to (Doubtful) and Collectability 4 is lowered to 5 (Non Performing).

Graph 4.58 Asset & Financing of PP (Rp Trillion)



Graph 4.59 The PP Financing per Type of Business



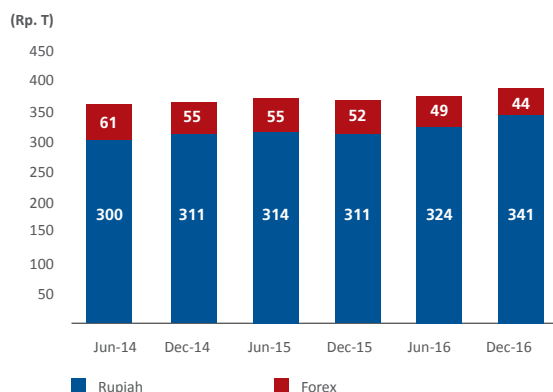
Source: Financial Service Authority

potential of non-performing financing rise required more vigilant observation especially as anticipatory of a prolonged economic slowdown.

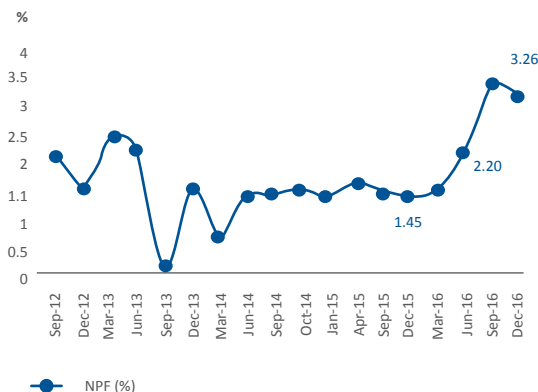
The total volume of PP financing grew by 4.29% (yoy), higher than the semester I of 2016 (1.17%) and the semester II of 2015 (0.07%). The financing sources rise was attributed to the domestic loans (15.86% (yoy)) among other things were affected by the decreasing interest rate of bank loans. In the end of semester II of 2016, 27.38% of the total loans of banks were charged with lower interest rate (<10%) whilst the higher interest rate (>10%) was charged to Even so, the loan

percentage was much higher than the semester I of 2016 (25%) and the semester II of 2015 (22.73%). On the other hand, PP tends to curtail its financing sources from External Debt (ULN). In the second semester of 2016, the decrease of ULN was recorded to reach 22.82% (yoy), that was bigger bthan the previous semester and the second semester of 2015 respectively 21.36% (yoy) and 6.24% (yoy). Despite the decline, the ULN portion as the PP financing source is relatively large (22.95%) which among other things is caused by the relatively high rupiah loan interest rate compared to the foreign currency loan interest rate.

Graph 4.60 Financing by Types of Forex

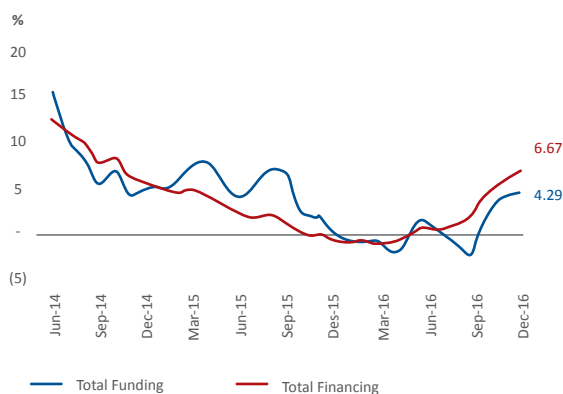


Graph 4.61 Ratio of NPF PP (%)

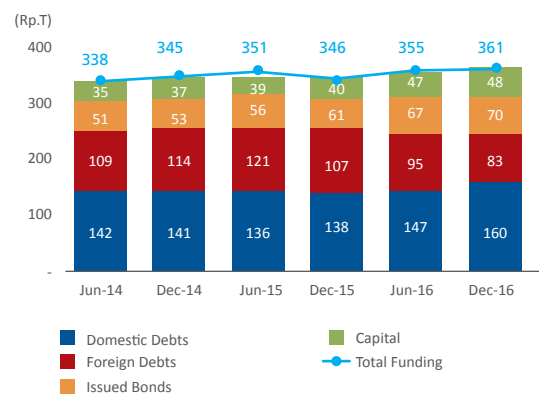


Source : Financial Service Authority

Graph 4.62 The Growth of Financing & Funding

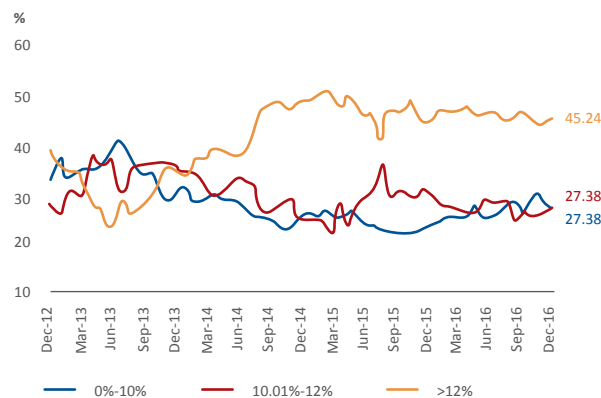


Graph 4.63 The Fund Sources



Source : Financial Service Authority

Graph 4.64 The Interest Rate of Bank Loans to PP



Source: Bank Indonesia

To mitigate the exchange rate risk, some of PP with ULN which financing was mostly in rupiah have applied hedging. The step was taken as a strategy of lessening the potential of foreign currency loans default and to prevent the contagious effect on holding banks. In December 2016, it was recorded that there were 11 PPs with ULN outstanding reaching Rp82.28 trillion. Eight from 11 PPs were owned by banks with the ownership portion less than or equal to 25%. The total outstanding of ULN belonging to these 8 PPs disbursed in the form of financing in rupiah amounted Rp89.50 trillion and foreign currency financing amounted to

Rp2.46 trillion. The condition impacted on the rising potential risk of exchange rate faced by the 8 PPs.

The FC efficiency was relatively stable as shown by the OPO ratio in the second semester of 2016 was recorded to reach 82.77%, slightly rising compared to the first semester of 2016 (82.71%) yet lower than the same period in the previous year (85.35%). The profitability also recovered as shown by ROA ratio in the second semester of 2016 (3.87% (yoy)), slightly higher than the first semester of 2016 (3.59%) and the same period in the previous year (3.36%). Meanwhile,

ROE rose at 12.01% in the second semester of 2016, recovering from the first semester of 2016 (11.04%) and the same period in the previous year (11.11%).

Financing companies capital remained resilience and maintained as depicted in the stress test result of exchange rate weakening on the capital of 39 MCs with Net Foreign Liabilities (NFL)¹². In the stress test the rupiah exchange rate was depreciated up to Rp20,000 per US Dollar. However the simulation showed that there were 12 PPs expected to record negative equity which one of PP was already in a negative equity condition.

During the second semester of 2016, interconnectedness level between PPs and the banking industry intensify compared to the previous semester. This was seen from

the rise of banking credit to PP (20.31% (yoy)), higher than in the first semester of 2016 (7.92%). Meanwhile, interconnectedness on the source of funding side increased by 9.93% in the form of placement of funds to banks (Current Account, Saving and Deposit), even though recorded lower figure than the first semester of 2016 which grew at 37.62%.

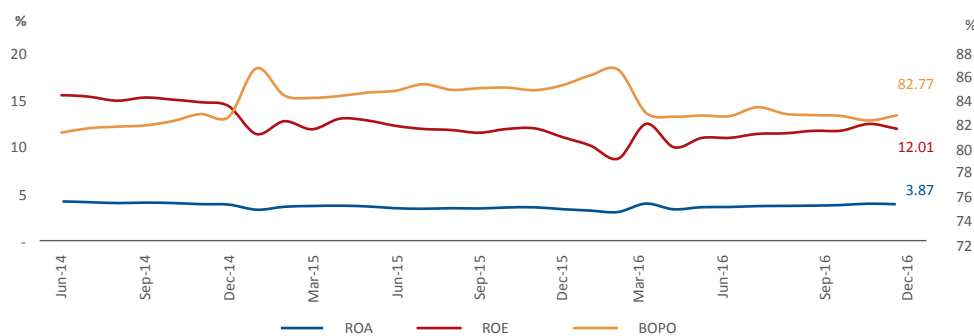
4.2.2. Insurance Companies

Until the end of reporting period, the number of insurance companies registered in Indonesia that is consisting of life insurance, general insurance & reinsurance. Social insurance and mandatory insurance were recorded at 146 institutions. Total asset reached Rp944.58 trillion with the majority of shares owned by national private businesses. The total insurance

Graph 4.65 The Development of PP External Debt



Graph 4.66 The Development of ROA, ROE, and BOPO of MC



Source: Financial Service Authority

¹² Net Foreign Liabilities (NFL)= Foreign Currency Liabilities are larger than the foreign currency asset

Table 4.25 The Interconnectedness of the Banking Industry and Finance Companies

Component	Jun-15	Dec-15	Jun-16	Dec-16	Δ yoy	% yoy
Investment (in Billion Rp)	23,749	25,827	25,411	22,518	(3,309)	(12.81)
Deposit, Giro, Saving	14,196	15,785	19,537	17,352	1,567	9.93
Spot and Derivative Bills	6,871	7,405	3,409	2,327	(5,079)	(68.58)
Acceptance Bills	-	-	-	-	-	0.00
SSB of PP	453	447	156	-	(447)	(100.00)
Disbursed Loans	2,125	2,136	2,279	2,758	621	29.08
Loan Capital	99	41	20	70	29	70.84
Repo Liabilities	-	-	-	-	-	0.00
Collaterals	5	13	11	12	(1)	(9.12)
Liabilities (in Billion Rp)	125,000	125,089	136,536	154,488	29,399	23.50
Bank Debts	101,720	100,070	109,778	120,399	20,328	20.31
Spot and Derivative Liabilities	2,059	1,896	1,420	1,161	(735)	(38.77)
SB issued by PP	12,633	14,370	16,391	19,781	5,410	37.65
Acceptance Liabilities	35	2	-	-	(2)	(100.00)
Placement of Banks	8,552	8,750	8,948	13,148	4,398	50.26
Repo	-	-	-	-	-	0.00
Reversed Repo	-	-	-	-	-	0.00
Miscellaneous Assets	0	0	-	-	(0)	(100.00)

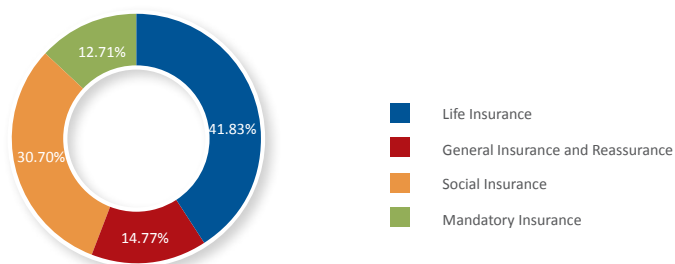
Source: Commercial Bank Monthly Report

industry asset was dominated by 55 life insurance companies with market shares of 41.83%, followed by 2 social insurance companies (30.70%), 86 general insurance and reinsurance companies (14.77%), and 3 compulsory insurance companies (12.71%).

During the second semester of 2016, the insurance industry recorded a performance improvement in every type of insurance with the highest increase

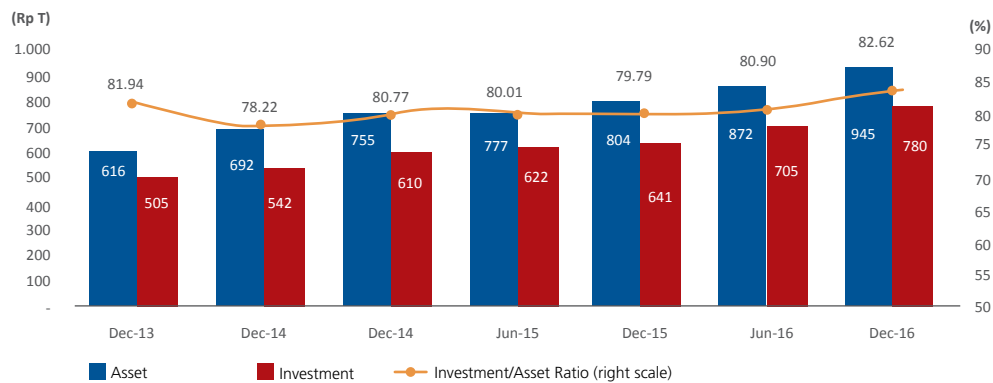
of investment ratio in the life insurance sector. The insurance industry showed a positive growth as indicated by the total assets which grew 17.53% (yoy), higher than the first semester of 2016 (12.19%) and semester II of 2015 (6.39%). The investment volume also grew 21.70% (yoy), higher than the first semester of 2016 (13.42%) lead to insurance investment ratio increased to 82.62%.

Graph 4.67. The Asset Share of Insurance by Types



Source : Financial Service Authority

Graph 4.68. The Assets and Investment of Insurance



Source : Otoritas Jasa Keuangan

Table 4.26 The Investment Ratio by Types of Insurance

Life Insurance (Rp Trillion)	Dec-15	Jun-16	Dec-16
Asset	329.68	363.16	395.11
Investment	283.20	313.02	343.27
Investment/ Asset Ratio (rhs)	85.90	86.19	86.88

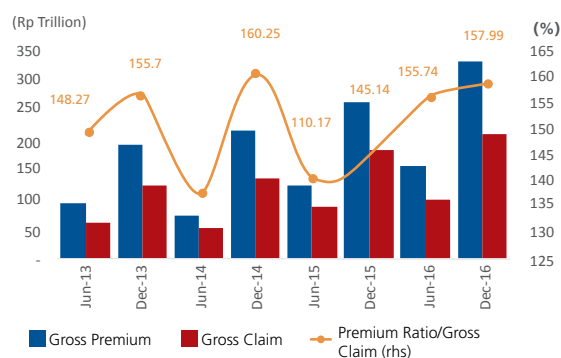
General Insurance & Reassurance	Dec-15	Jun-16	Dec-16
Asset	132.56	139.41	139.47
Investment	66.15	68.16	69.71
Investment/ Asset Ratio (rhs)	49.90	48.89	49.98

Social Insurance (Rp.T)	Dec-15	Jun-16	Dec-16
Asset	233.61	253.52	289.98
Investment	215.33	235.83	273.16
Investment/ Asset Ratio (rhs)	92.18	93.02	94.20

Mandatory Insurance (Rp.T)	Dec-15	Jun-16	Dec-16
Asset	107.86	115.93	120.01
Investment	76.62	88.36	94.28
Investment/ Asset Ratio (rhs)	71.03	76.22	78.56

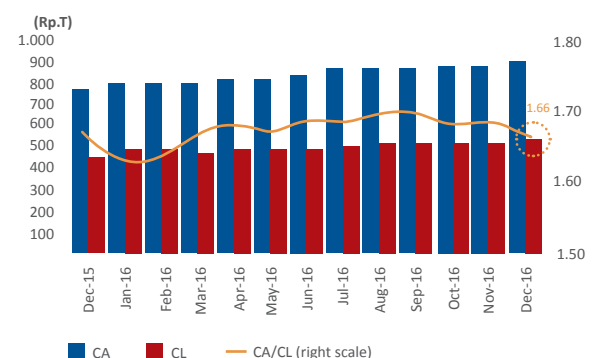
Source : OJK, Bank Indonesia (processed)

Graph 4.69 The Premium Ratio. Gross Claim



Source : OJK, Bank Indonesia (processed)

Graph 4.70 The Ratio of Current Asset/ Current Liabilities



Source : OJK, Bank Indonesia (processed)

The insurance business risk was dropped as shown by the rising Premium Adequacy Ratio on Claim Payment from 155.74% in the first semester of 2016 to 157.99%

in the second semester of 2016, higher than the same period in the previous year (145.14%). The declining insurance risk occurred in all types of insurance, except

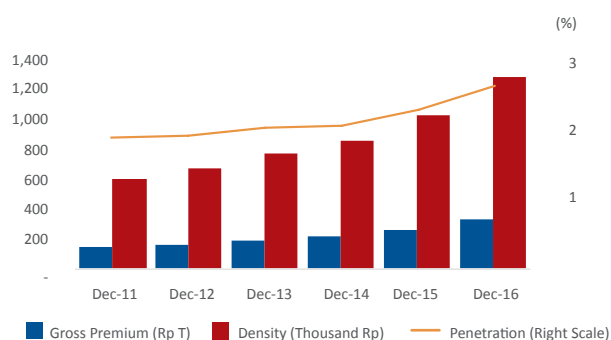
Compulsory Insurance as the claim rise is larger than the rise of premium income. Likewise, the liquidity risk was also relatively maintained as indicated by the current asset ratio¹³ on current liabilities¹⁴ which value is more than 1 that was 1.66.

The positive growth was also shown by the indicators of insurance product density and penetration. Throughout the second semester of 2016, these indicators were recorded to reach Rp1,272,493 and 2.65% respectively, higher than the first semester of 2016, each of which Rp1,195,065 and 2.56%. Despite the increase, the relatively low number of both indicators showed that insurance industry still has large opportunities to continue to grow as the increasing population and the betterment of welfare and people's awareness. Currently, the extensification program in acquiring more customers has been carried out well in the form of government programs through Social Security Agent (BPJS) or with the provision of insurance for low-income segments, among other things through the development of micro insurance.

The dependency of insurance industry on ULN was still relatively low. The share of ULN insurance was only 0.10% (145 million US Dollars) of the total ULN. Nevertheless, the increasing trend should be observed with caveat. The insurance industry ULN was in the form of premium debts, claim debts, reinsurance debts, retrocession debts (reinsurance companies), and commission debts.

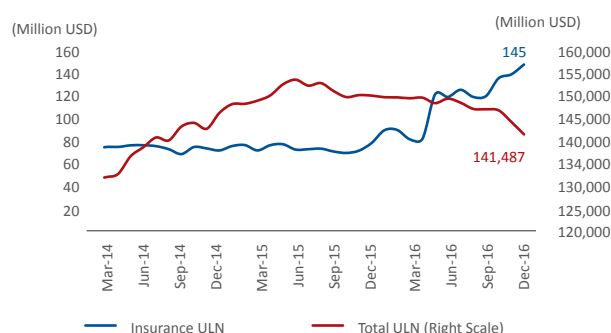
In general, the interconnectedness between the banking industry and insurance industry was still in the decreasing trend. In the end of second semester of 2016, the insurance fund placement in banks dropped by 28.30% (yoy), lower than the decline in the first semester of 2016 (17.76%). The decline was caused by the diminishing insurance fund placement amounting Rp49.84 trillion in the reporting semester, which was affected partly by the OJK regulation regarding the liability to meet Government Securities investment. Meanwhile, in the same period, the bank placement in the insurance industry increased by 51.69% (yoy) or Rp2.53 trillion. The figure was slightly lower than the previous semester (69.68%).

Grafik 4.71 Insurance Indicator Development



Source : OJK, Bank Indonesia (processed)

Graph 4.72 Insurance Industry ULN Development



Source : OJK, Bank Indonesia (processed)

¹³ The Component of Current Asset = The Asset Sum – Buildings with State Title on Land and Building for Personal Usage

¹⁴ The Component of Current Liabilities = Total Liabilities

Based on BUKU, the bank group with the highest interconnectedness with the insurance industry was BUKU 1. The proportion of insurance funds placed on the total Third Party Funds of BUKU 1 amounted 6.03% or 38.91% compared to the total Third Party Funds of Non-Bank Financial Industry in BUKU 1. In spite of its quite large size, the dependency of BUKU 1 on the funds of insurance was in downturn trend. This was partly attributed to the interest rate average charged on insurance companies was below average interest rate of Third Party Funds of BUKU 1 (Graph 4.73) in the end of 2016.

Insurance industry performance was improved in the reporting period. Generally, the majority of insurance asset was placed in several instruments with the biggest portion placed in Government Securities

accounting for Rp220.67 trillion (28.28%), followed by shares stood at Rp177.29 trillion (22.72%) and mutual funds amounting to Rp132,87 triliun (17,03%). The asset placement proportion which was quite high in Government Securities was intended partly to accelerate the ownership of Government Securities to meet OJK¹⁵ requirements.

Meanwhile, the insurance industry profitability¹⁶ in the second semester of 2016 slightly dropped as shown by the ROA and ROE compared to first semester of 2016 and second semester of 2015 figures along with the rising claim payment and benefit costs.

Meanwhile, based on the capital aspect, all public insurance companies have met the minimum capital requirement amounting Rp100 billion. In addition, the

Table 4.27 Interconnectedness of Banking and Insurance Industry

Component	Dec-15	Jun-16	Dec-16	Δ yoy	% yoy
Investment (in Million Rp)	164,205	121,088	117,736	(46,469)	(28.30)
Deposit, Giro, Saving	152,452	108,729	102,612	(49,840)	(32.69)
Spot and Derivative Bills	-	-	-	-	-
Acceptance Bills	-	-	-	-	0.00
SSB of Insurance	6,955	6,467	10,912	3,956	56.88
Disbursed Loans	513	512	578	65	12.72
Loan Capital	4,268	5,362	3,596	(672)	(15.75)
Repo Liabilities	-	-	-	-	0.00
Collaterals	17	17	38	21	125.99
Liabilities (in Billion Rp)	4,897	5,534	7,429	2,532	51.69
Bank Loans	537	1,176	1,333	796	148.06
Derivative Spot Liabilities	-	-	-	-	0.00
SB issued by Insurance	-	-	-	-	0.00
Acceptance Liabilities	-	-	-	-	0.00
Placement of Banks	4,123	4,125	6,078	1,955	47.40
Repo	-	-	-	-	0.00
Reversed Repo	-	-	-	-	0.00
Miscellaneous Repo	237	233	18	(219)	(92.39)

Source : Bank Indonesia, LBU (processed)
Data of LBU (full Rupiah)

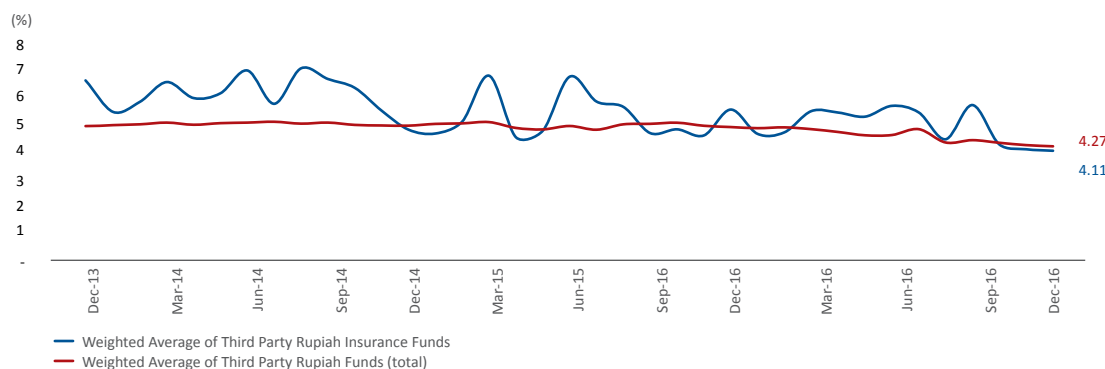
¹⁵ OJK Regulation No. 1/POJK.05/2016 dated January 11, 2016 regarding Government Securities Investment

¹⁶ Available data is on life insurance companies, general insurance and reinsurance

majority of public insurance companies have also met the Risk-Based Capital (RBC) minimum target (120%). The sum of insurance industry capital was expected

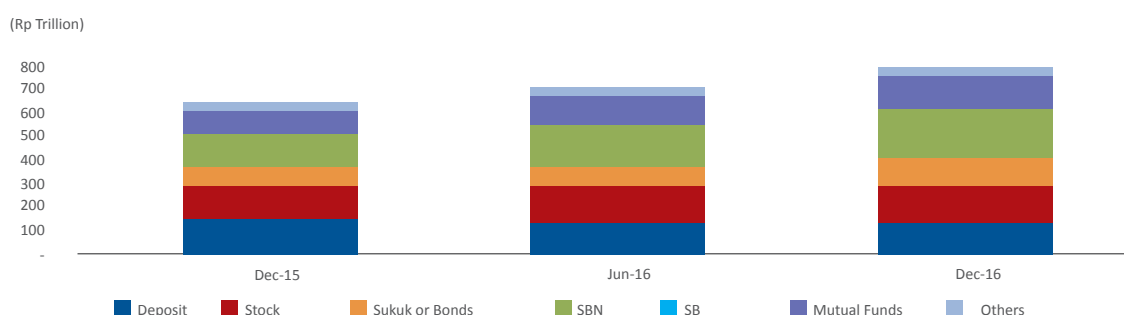
to increase in order to commensurate and improve its risk absorbent capacity resulted from the economic activities.

Graph 4.73 The Development of BUKU 1 Rupiah Third Party Funds Interest Rate Weighted Average



Source: Bank Indonesia

Graph 4.74 The Insurance Companies' Investment Asset Composition



Source: OJK (processed)

Table 4.28 The Development of Asset and Insurance Financial Performance

Indicators (Rp.T)	Dec-15	Jun-16	Dec-16	Growth yoy
Total Assets	803.71	872.02	944.58	17.53%
Total Investments	641.29	705.36	780.42	21.70%
Deposit	147.44	121.87	120.07	-18.56%
Stock	140.21	152.45	177.29	26.45%
Sukuk or Bonds	71.98	89.04	98.61	36.99%
SBN	151.19	188.95	220.67	45.96%
SB	1.28	1.00	0.83	-35.43%
Mutual Funds	101.94	122.49	132.87	30.34%
Others	27.25	29.57	30.08	10.38%
Non Investment Amount	46.48	50.14	51.84	11.52%
Total Equity	342.57	369.86	401.44	17.18%
Amount of Costs	96.43	67.64	150.60	56.18%
Profitability*	Dec-15	Jun-16	Dec-16	Δ yoy
ROA	4.26	3.69	3.29	(0.98)
ROE	13.74	12.22	12.16	(1.58)
Repo	-	-	-	-
Reverse Repo	-	-	-	-
Miscellaneous Assets	237	233	18	(219)

Source: OJK (processed)

Table 4.29 The Go-Public Insurance Minimum Capital Adequacy

Period	ABDA	AHAP	AMAG	ASBI	ASDM	ASJT	ASRM	LPGI	MREI	PNIN	ASMI	VINS
2016 Tw III	325.69	208.48	647.67	131.04	235.41	164.89	142.34	171.50	260.66	-	273.43	842.41
2016 Tw II	306.34	251.26	586.96	135.75	202.78	144.16	144.29	161.69	265.31	-	216.17	855.89
2016 Tw I	305.64	241.68	530.57	149.37	212.58	160.24	139.25	182.28	252.67	212.30	209.02	878.32

Source: Go Public Insurance Financial Report (processed)

4.3. The Assessment of Sharia Banking Condition and Risk

Amid the economic growth condition which tended to slow down throughout 2016, the sharia banking performance was also affected. However, approaching the fourth quarter, the strengthened consolidation had boosted the sharia banking performance. Sharia banks showed optimal intermediation performance FDR value (BUS and UUS) at 88.78% and Capital Adequacy Ratio (CAR) of BUS at 15.95% in the end of 2016. Meanwhile, the sharia banking non-performing financing level in

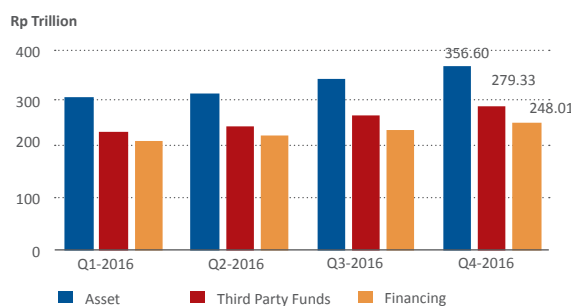
2016 was relatively high and above 5%. By reinforcement of internal strength of sharia banking industry and the improving economic condition in 2017, the sharia banking financing growth was estimated to reach 14% and fund growth of 15%, with the level of more maintained financing risk and liquidity. The financing and fund growth was expected to further boost up the sharia banking asset increase by 18%.

4.3.1. The Development of Sharia Banking Performance

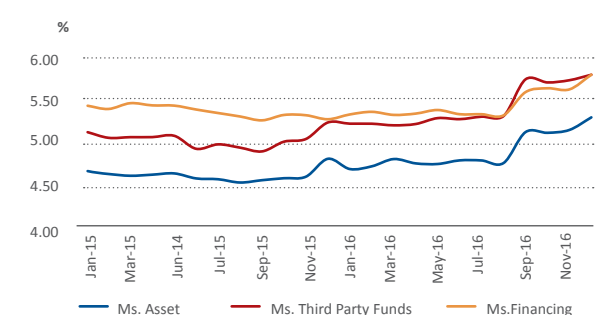
Throughout 2016, the national sharia banking industry performance was relatively good, as shown by the

Grafik 4.75 Sharia Banking Industry Development

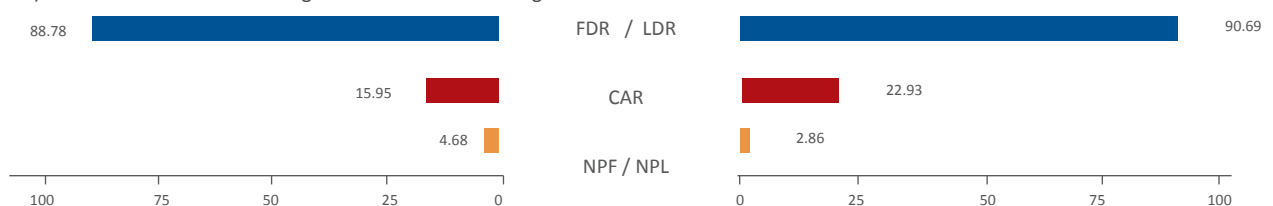
a) Total Assets, Third Party Funds and Financing as of December 2016



b) Market Share



c) Performance of Sharia Banking and Conventional Banking as of December 2016



Source : Bank Indonesia, LBU, processed

intermediation function at the quite high level with ULNR value (BUS and UUS) at 88.78% and Capital Adequacy Ratio (CAR) of BUS at 15.95% (in December 2016). Meanwhile, the average non-performing financing level of sharia banking in 2016 showed an improvement after the third quarter. Until December 2016, the NPF ratio of BUS and UUS reached 4.68%, lower than 5.68% in June 2016.

In the third quarter of 2016, the sharia banking industry growth increased by 20.33%. The conversion of regional bank (BPD) Aceh into a sharia bank on September 19, 2016, was one of the main factors which play a vital role in sharia banking total asset increase. The Third Party Funds growth (20.83% (yoy)) and financing growth (16.44% (yoy)) increased from

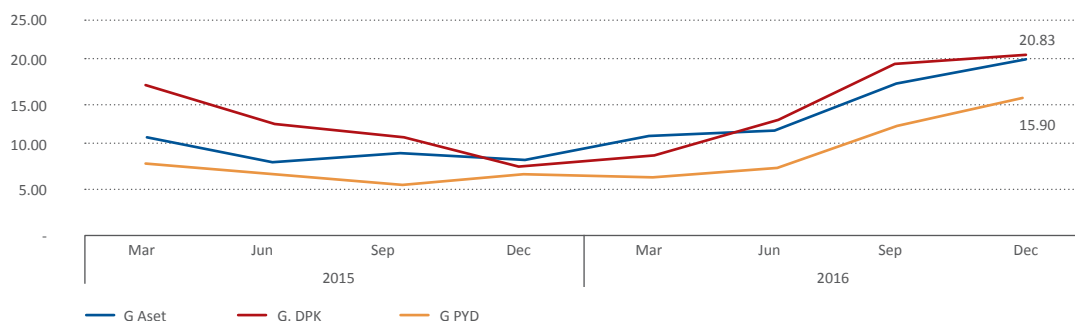
the position in June 2016, respectively 13.05% and 7.82%. With more sharia banks in 2016, the number of Sharia Commercial Banks (Bank Umum Syariah/BUS) has accounted for 13 banks and Sharia Business Unit (Unit Usaha Syariah/ UUS) reached 21 units.

4.3.1.1. The Development of Assets

Sharia banking assets showed a positive trend throughout 2016, in which the sharia banking assets by December 2016 were recorded to reach Rp356.5 trillion with the annual growth of 20.33%, higher than the first semester of 2016 which only reached 11.97%.

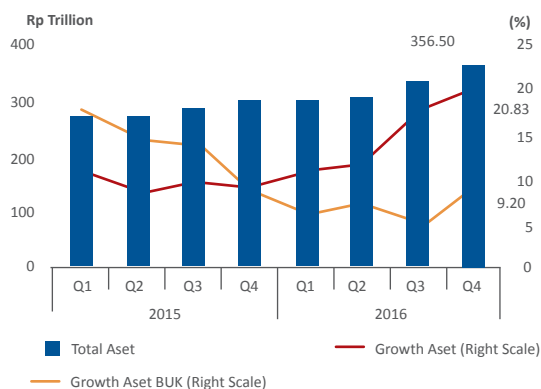
Based on its growth level, the sharia banking asset trend always reached above the conventional banking growth throughout 2016. The sharia banking market

Graph 4.76 The Growth of Asset, Third Party Funds, and Financing



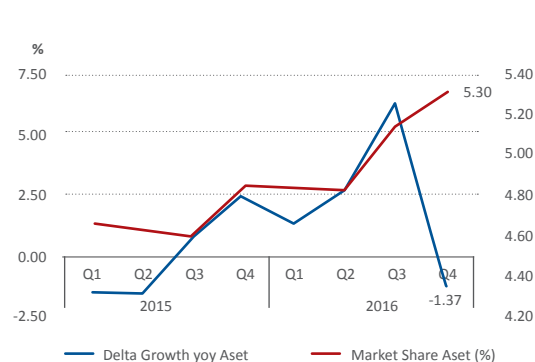
Source : Bank Indonesia, LBU, processed

Graph 4.77 The Asset Development



Source : Bank Indonesia, LBU, processed

Graph 4.78 The Asset Market Share



share continued to show improvement despite the declining growth in December 2016. As of December 2016, the sharia banking market share was 5.35, higher than June 2016 (4.81%).

4.3.1.2. The Third Party Funds Development

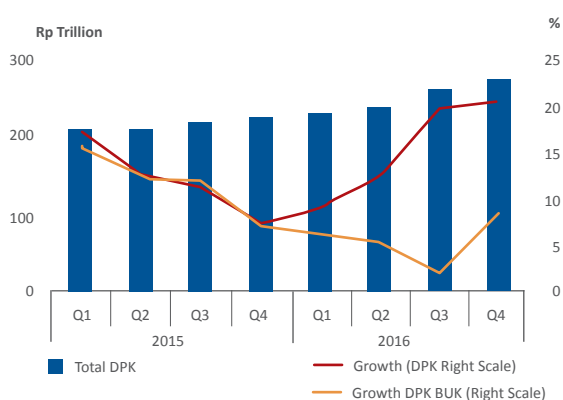
The Third Party Funds volume of sharia banks as of December 2016 was recorded to reach Rp279 trillion with the 20.83% (yoy) growth rate in which the annual growth of June 2016 only reached 13.05%. In general, the sharia banking Third Party Funds growth rate from January 2016 showed a higher level than conventional banking so that the Third Party Funds market share will increase. By December 2016, the Third Party Funds market share reached 5.78%, or slightly improved

from the Third Party Funds market share in June 2016 (5.28%).

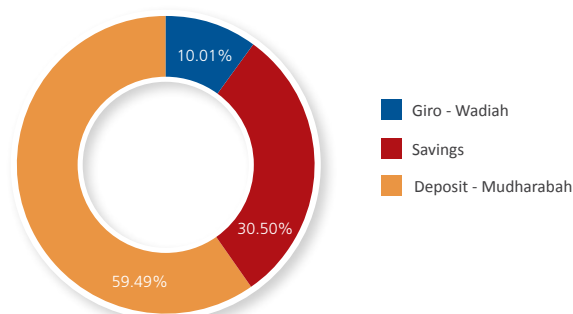
Sharia banking Third Party Funds in December 2016 was still dominated by deposits (59.49%), followed by savings (30.50%), and current account (10.01%). However, throughout 2016, the deposit proportion continued to decline while the saving and giro proportion showed a rise. Therefore, it is concluded that sharia bank customers slowly shifted their long-term savings to shorter-term savings.

In terms of total accounts, throughout 2016 the Third Party Funds of and UUS accounts number rose significantly than the previous year and reached

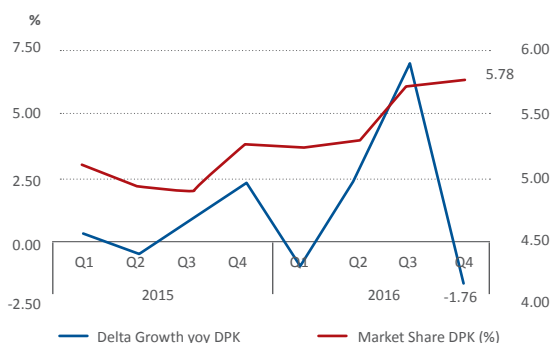
Graph 4.79. The Third Party Funds Development



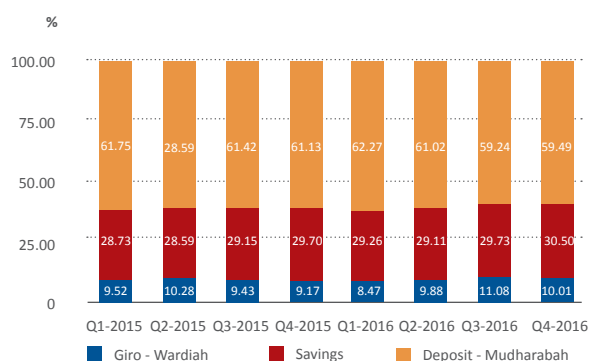
Graph 4.81 The Composition of Third Party Funds as of December 2016



Graph 4.80 The Third Party Fund Market Share



Graph 4.82. The Development of Third Party Funds Composition



Source : Bank Indonesia, LBU, processed

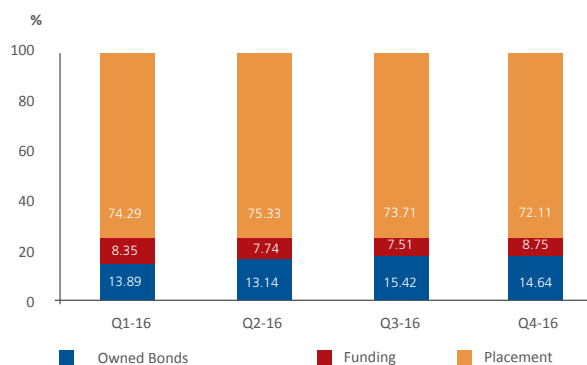
22.28 million accounts or around 10.91% of the total saving accounts managed by national commercial banks. The number of account in BUS and UUS as of December 2016 grew by 19.94% (yoy).

4.3.1.3. The Development of Financing

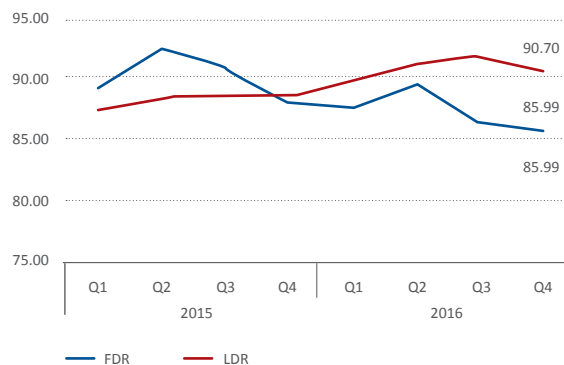
Financing is still the main option for sharia banking fund placement compared to other fund placement alternatives, as seen in Graph 4.83. According to the graph, financing of sharia banks has decreased; whereas, the placement in Bank Indonesia and securities showed a rise. In the meantime, throughout 2016 sharia banking ULNR tended to slump, until December 2016 the BUS and UUS ULNR reached 88.78%.

According to the development, the sharia banking financing nominally showed the increasing trend throughout 2016. The financing disbursement position in December 2016 was recorded to reach Rp248 trillion or rose by 16.44% (yoy) in the second semester of 2016. The sharia banking financing growth in general was lower than the conventional banking, in September 2016 the growth of sharia banking financing (PYD) growth increased and surpassed the conventional banking credit growth. The rise was attributed to the conversion of Regional Bank (BPD) Aceh into a commercial sharia bank, which also caused the 5.78% rise of financing market share.

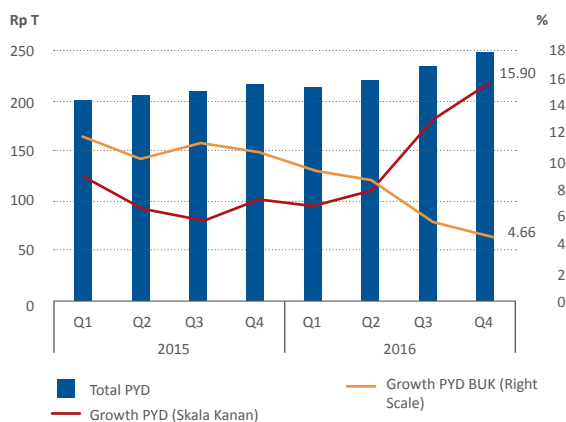
Graph 4.83 The Sharia Banking Funds Disbursement Composition



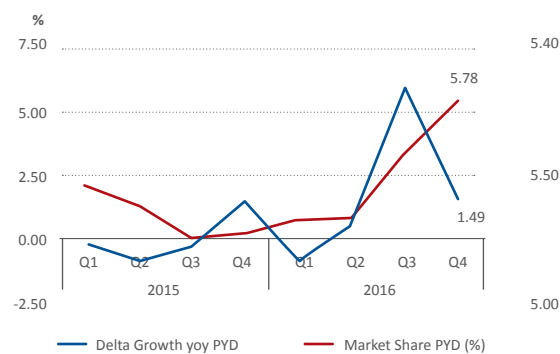
Graph 4.84 The Sharia Banking ULNR



Graph 4.85 The Financing Development



Graph 4.86 The Financing Development



Source : Bank Indonesia, LBU, processed

The financing portion was dominated by consumption financing followed by working capital and investment (see Graph 4.87) with total financing amounting Rp100.6 trillion, Rp87.36 trillion, and Rp60.04 trillion respectively. Meanwhile, based on contract types of, in general the disbursement of sharia banking financing with murabahah contract still dominated until December 2016 with 56.26% share. By business sectors, the trade, restaurant, and hotel as well as business service sector still the primary financing target, with share reaching 13.45% and 12.80% respectively after other sectors (40.87%).

Until December 2016 the BUS and UUS financing account number reached 4.52 million accounts with

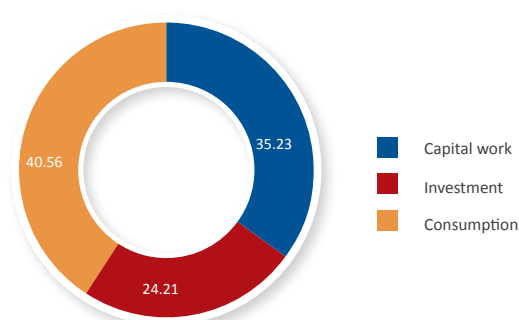
10.79% of the banking account number nationwide. The BUS and UUS financing account number growth in December 2016 was recorded to reach 20.52% (yoy).

4.3.1.4. Return

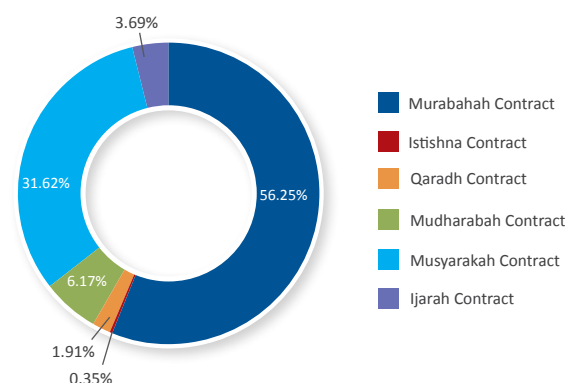
The sharia banking return has dropped compared to the level in June 2016 due to declining deposit and saving reward level. Despite that, the return of current account product proved to be stable and slightly increased.

In December 2016, the 6-month deposit offered average highest return reached 5.90% while the 12-month deposit return was only 5.67% and the 12-month deposit has the lowest return average as of 5.41%. within comparison with conventional banks, in November

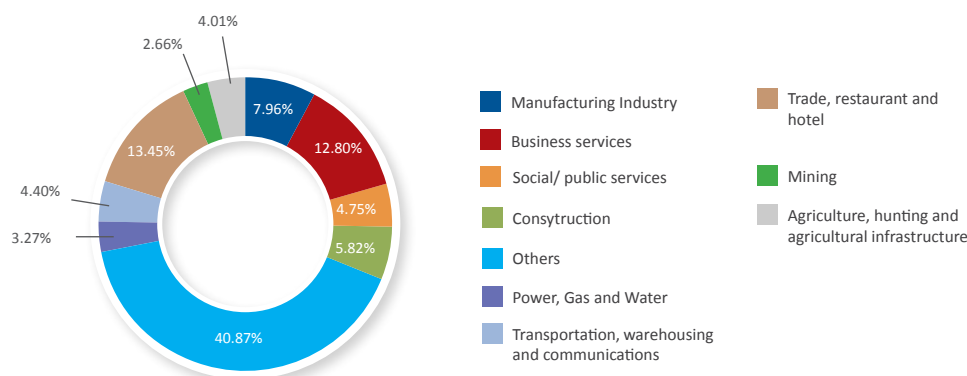
Graph 4.87 The Financing by Type of Allocation



Graph 4.89 The Financing by 'Akad'



Graph 4.90 The Financing by Economic Sector as of December 2016



Source : Bank Indonesia, LBU, processed

2016, conventional banks' current account and deposit return was higher than the similar products in sharia banks. With this condition, the return may encourage fund shifting from sharia banking to conventional banking to gain higher return (displacement risk).

4.3.2. Risk Assessment

4.3.2.1. Liquidity Risk

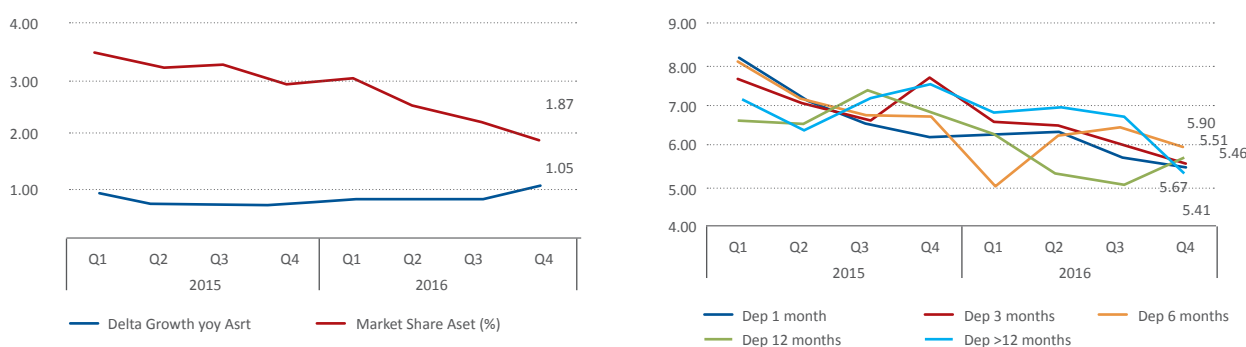
The Sharia Commercial Banks liquidity tools in the end of 2016 was recorded to reach Rp45.50 trillion, or increased 26.73 (yoy) in the second semester of 2016, slightly rose from the growth of liquidity tools in the first semester of 2016 (24.62%). In December 2016, the liquidity tool ratio on total assets reached 17.90%. Meanwhile, other indicators showing banking

liquidity, i.e. AL/Third Party Funds ratio, fluctuated and indicated a rising trend since the first semester of 2016. In December 2016, the sharia banking AL/Third Party Funds was recorded at 22.04%.

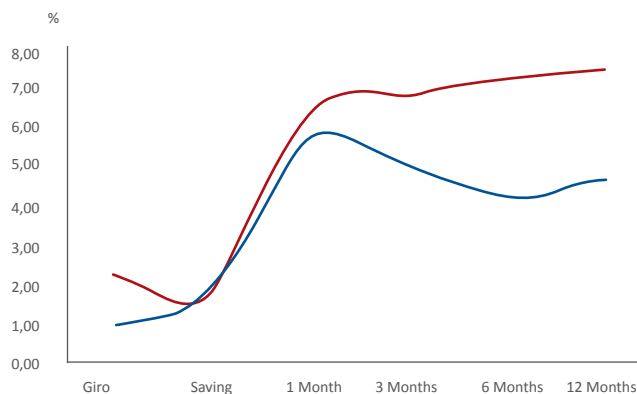
4.3.2.2. Financing Risk

In Graph 4.93, it shows that in the second semester of 2016, sharia banking NPF amounted to 4.15%, improved from NPF in the first semester of 2016 (5.05%) and in the second semester of 2015 (4.34%). NPF for ijarah and mudharabah contract were increased whereas other contracts were decreased. The financing for ijarah contract had the highest NPF and surpassed 5% threshold or reached 7.23%, which meant it calls for more attention. Meanwhile,

Graph 4.91 The Return Level of Current Account Return, Saving and Sharia Deposit



Graph 4.92
The Structure of Sharia Third Party Funds Return as of November 2016



Source : Bank Indonesia, LBU, processed

murabahah contract as the biggest financing had NPF level below 5%. Based on business sectors, the sector which contributed the largest NPF was the sector of trade, restaurant, and hotel, others sector, as well as business services sector.

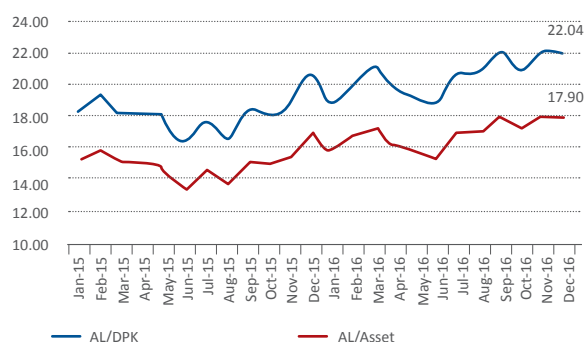
4.3.2.3. Profitability and Capital

The Sharia Commercial Bank (BUS) operating income showed a quite significant increase. The operating income as of December 2016 was recorded to reach Rp35.48 trillion or increased by 11.24% (yoy). In the meantime,

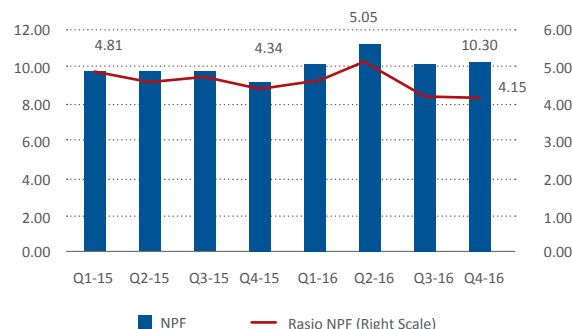
the sharia banking operational cost posted a 10.35% (yoy) growth. The ratio of operating cost to operating income was recorded to decline from 97.01% in December 2015 to 96.23% in December 2016. Meanwhile sharia banking net operational margin in December 2016 rose by 0.68% on the same position in 2015.

From the aspect of return on asset (ROA), the 0.63% sharia banking profitability level was lower than those of conventional banking (2.23%). Sharia banking ROA in December 2016 decreased 0.10% compared to June

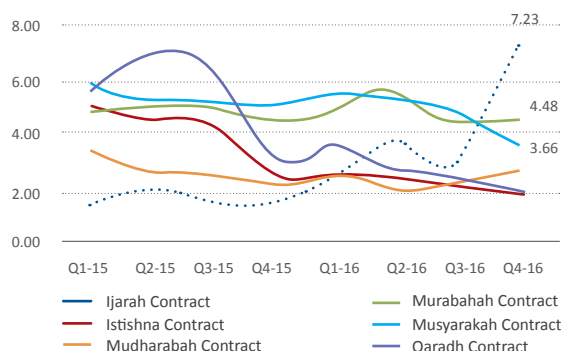
Graph 4.93 The Sharia Banking Liquidity Position



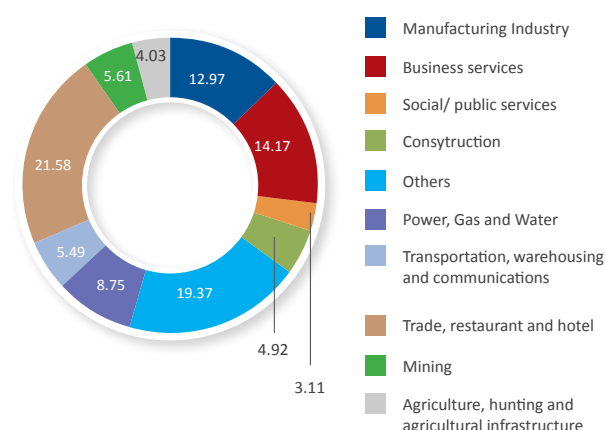
Graph 4.94. The Development of NPF



Graph 4.95. The NPF Ratio Based on 'Akad'

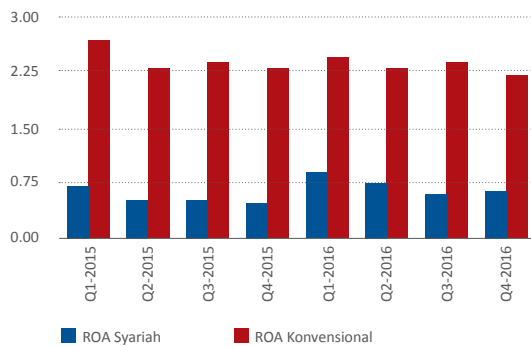


Graph 4.96. The NPF Composition by Economic Sector

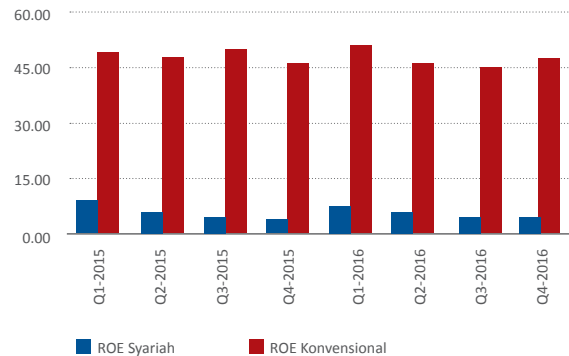


Source : Bank Indonesia, LBU, processed

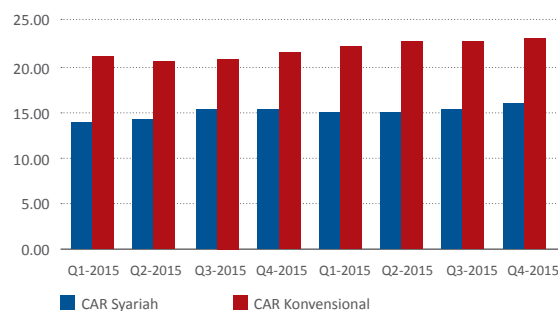
Graph 4.97. Return on Asset



Graph 4.98. Return on Equity



Graph 4.99. Capital Adequacy Ratio



Source : Bank Indonesia, LBU, processed

2016 position, to 0.63%. Meanwhile, sharia banking ROE in December 2016 fell 8.70% compared to the June position (5.67%). The sharia and conventional banking ROE position in December 2016 were 5.17% and 47.46% respectively.

In 2016, the overall sharia banking capital tended to increase. Total BUS core capital as of December 2016

was recorded at Rp22.62 trillion or grew by 19.74% (yoy). On the other hand, CAR rose from 14.72% in June 2016 to 15.95% in December 2016. The CAR indicated the adequacy of risk resilience level considering that it still surpassed the 8% threshold. The sharia banking capital was relatively below the conventional banking, in which conventional banking's CAR in December 2016 was 22.93%.

Box 4.1

The Scope, Risk Mapping and Financial Technology (Fintech) Impact on the Financial System Stability: Deposits, Lending and Capital Raising

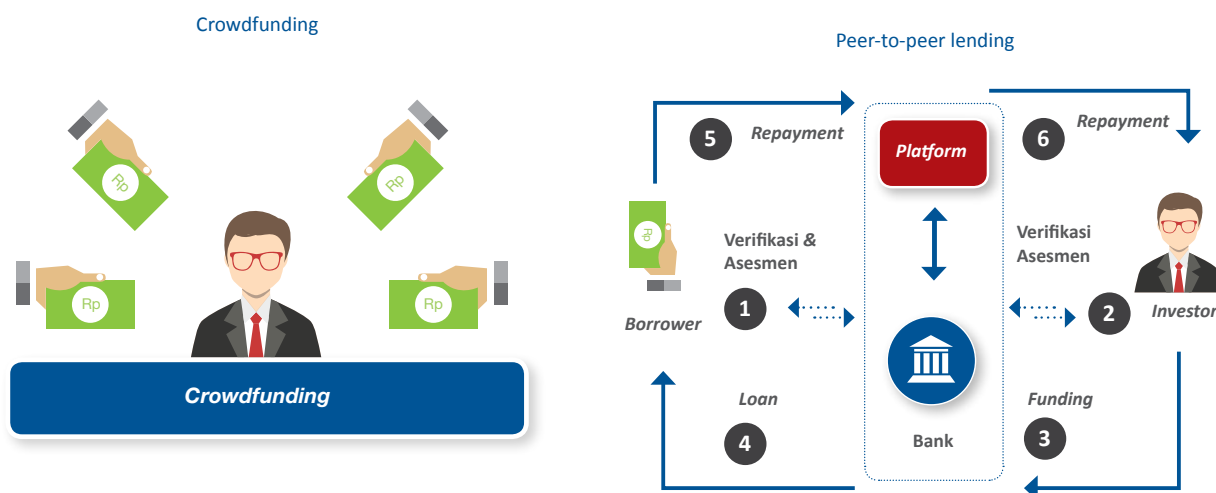
Of the four fintech categories as regulated by FSB, we will discuss the category of Deposits, Lending and Capital Raising. Of the categories, there are several distinct functions, namely Crowdfunding, Online Lending and Big Data Analytic.

Crowdfunding

Crowdfunding is funds collection from many investors (each in small sums of funds) through online platforms for certain projects (either for

commercial or social purpose). Crowdfunding can be conducted for social purposes, in which donators do not gain any yield in funding certain projects, despite, donators gain the yield in the form of product samples or discounts. Crowdfunding can also be applied to fund loans proposal through platforms, with yield in the form of interest, called peer-to-peer (P2P) lending or financing a startup business with yield in the form of share ownership, referred to as equity crowdfunding.

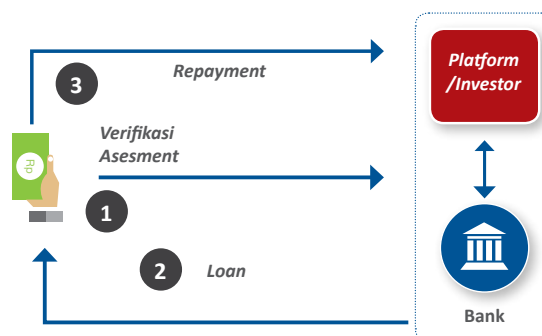
Box Figure 4.1.1. Crowdfunding and Peer-to-Peer Lending



Online Lending

Online lending (direct balance sheet) is an activity of loan disbursement (some or entirely) conducted through online platforms. The source of fund disbursed by online lending are from fintech company.

Box Figure 4.1.2. Direct Balance Sheet



Big Data Analytic

The big data analytic involves big data processing for non-traditional credit scoring purpose. It used digital footprints as data, such as social network data, mobile data, and browser data. Online transaction data for credit scoring are processed through machine learning algorithm. P2P and online lending platform can cooperate with this type of fintech to mitigate credit risks.

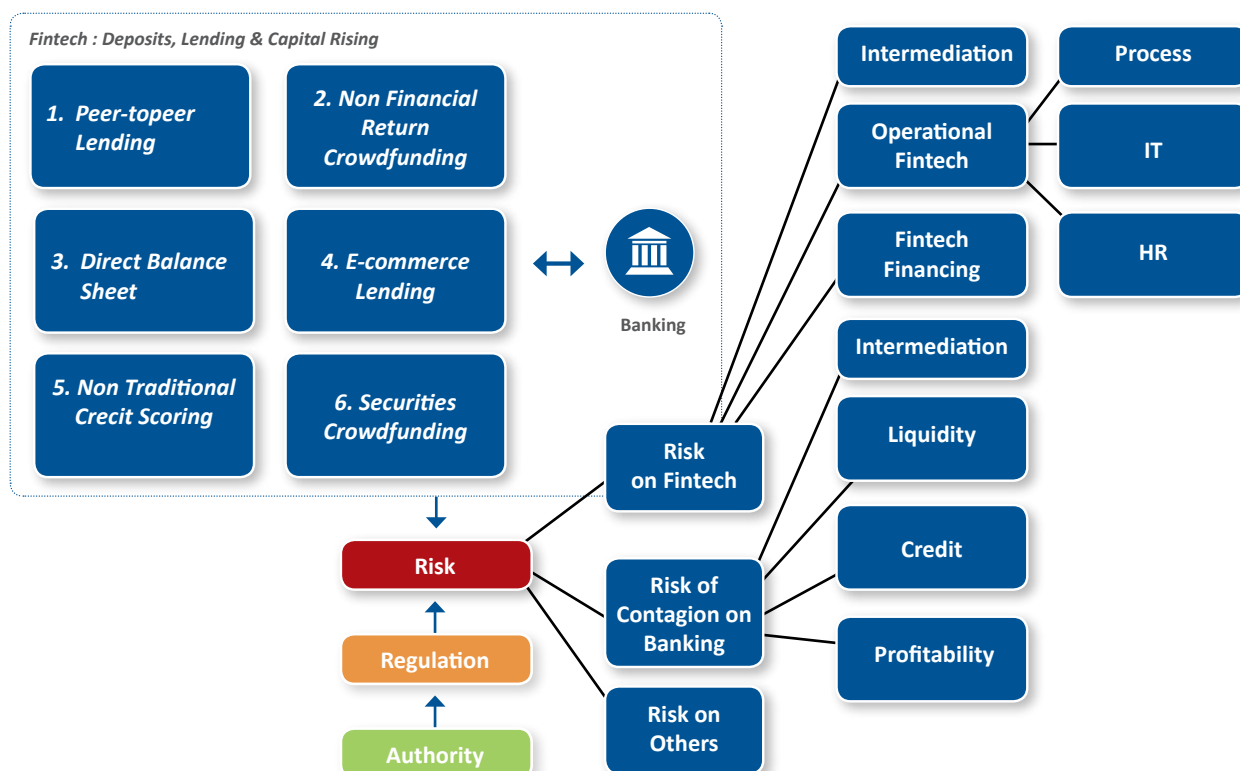
The Fintech Development Benefits

The rapid development of fintech is beneficial for lenders, investors and banking industry. For lenders, the benefits are to encourage the financial inclusion, to provide loans alternatives for unbankable debtors, the easy, fast process, and

its competitiveness has lowered down the interest rate of loans. For investors, fintech is an investment alternative offering a higher return with default risks scattered in many investors and relatively low nominal and more freedom to choose lenders for investors based on their preference. For the banking industry, the cooperation with fintech may reduce costs (such as the usage of nontraditional credit scoring for initial filter of credit application), additional Third Party Funds, additional credit disbursement channels and also be an investment alternative for the banking industry.

Nevertheless, without the rule of thumb and clear regulatory sandbox preparation, fintech may also obstruct the optimization of banking industry role

Box Figure 4.1.3. Fintech Risk: Deposits, Lending and Capital Raising



and its rapid development may also poses potential risks to the financial system. Several main risks of fintech are:

- Recording and reporting
Recording conducted by fintech is required to be reported to Financial Service Authority every 3 months. However, there is no credit categorization standardization yet so fintech companies may apply different parameters of NPL.
- Credit scoring
There is no standardization of web component foot prints used may result in different credit scoring and different results.
- Fraud
Fraud may occur in various forms, some are fictitious lenders, excessive loan disbursement to one single lender with doubtful status without investors' knowledge.
- Bank profitability dwindling
Total assets of fintech currently are very low, compared to the total assets of the banking industry yet it shows a rapid development. With this fast development, fintech may affect the stability of Third Party Funds in banks currently and compete in gaining income from credit interest with banks.
- Sudden investors' fund withdrawal

A fintech company tends to disburse loans in a single region or a single subsector which may cause dependency of a group of lenders. Negative sentiment may cause loss of trust of investors to fintech companies without any prior warning. This may affect the business sustainability of lender group with dependency on fintech.

- IT
There are theft potential of customer's data managed by fintech unless there is a proper and sufficient security level. If banks apply fintech technology used as a plug-in, it may increase the vulnerability of cyber attack.
- Credit disbursement to troublesome debtors
Aside from unbankable yet qualified debtors, there are potentials of loan disbursement of fintech to lenders who are rejected by banks, which brings more risks.
- Collection process
Fintech companies usually operate in a small business scale with inadequate experience and capacity in collection process compare to banks which may lead to lower recovery rate.
- Exit policy
There is no regulation on treatment of the fintech closure.

Box 4.2. Social Security Agency

Institution

The establishment of Social Security Agency (BPJS) is pertaining to Law No.24 Year 2011 regarding BPJS which is the implementation of Law No. 40 Year 2004 concerning the National Social Security System. The implementation of national social security system was conducted through the establishment of BPJS with the main objective to provide certainty of social protection and welfare for every Indonesian, including BPJS for Health and Employment. BPJS for Health is assigned to organize healthcare program for Indonesians, while BPJS for Employment is assigned to organize work-related accident insurance program, retirement insurance, pension funds, and mortality funds. By its establishment, since January 1, 2014, PT Askes changed its role into BPJS for Health and Jamsostek into BPJS for Employment. To finance its operational activities, BPJS collects funds from participants and employers. Funds collected are then managed and invested to enhance the welfare of its participants.

Monitoring

In addition to strategic functions regarding social security, BPJS also has a pivotal and strategic role in the financial system. This is related to the sum of total managed funds invested in the domestic financial market. Considering BPJS activities on fund collection from participants and managing funds in the form of investment, BPJS may be

categorized into a Non-Bank Financial Institution (NBFI) that is a business institution which conducts activities in financial sector, both directly and indirectly, collects funds from the people and disburse it to them for productive activities²¹. Based on this, Financial Service Authority (OJK) stipulated that BPJS belongs to the monitoring scope of NBFI as regulated in OJK Regulations no. 5/POJK.05/2013 regarding the BPJS Monitoring by OJK.

In its operations, OJK stipulated that BPJS for Health and BPJS for Employment in the group of insurance belong to the List of Insurance Companies²² (137 companies) issued by Financial Service Authority. With market share domination reaches 33% of the total insurance industry investment or 28% of the total insurance industry assets, BPJS is one of the NBFIs with great significance in the insurance industry in Indonesia.

Managed Assets and Investment

Based on December 2015 position, total investment of BPJS for Health amounted to Rp4.4 trillion or 26% of total assets. Meanwhile, total investment of BPJS for Employment amounted to Rp206 trillion or 97% of total assets.

The Social Security Fund investment, which is the managed asset of BPJS for Employment, dominated by bonds (both Corporate and Government Bonds)

²¹ Source: Financial Service Authority - <http://www.ojk.go.id/id/kanal/iknb/tentang-iknb/Pages/Tugas.aspx>

²² General, Life Insurance, Reassurance, Mandatory Insurance and Social Insurance as of December 31 2015 - <http://www.ojk.go.id/id/kanal/iknb/berita-dan-kegiatan/publikasi/Pages/Daftar-Perusahaan-Asuransi-Umum,-Jiwa,-Reasuransi,-Asuransi-Wajib-Dan-Asuransi-Sosial.aspx#sthash.jV6uW2wJ.dpuf>

with the proportion of 40.99%, deposits (22.71%) and stocks (21.17%).

Other than Social Security Funds, the investment portfolio of BPJS for Employment of the holding company is dominated by deposits (41.96%), followed by stocks and bonds (25.64% and 24.59% respectively).

Looking into the business models applied in BPJS for Employment, majority of BPJS for Employment portfolio is long-term investment as seen from the composition of quite large portfolio in bond instrument with the investment pattern of Held to Maturity (HTM)²⁴.

Box Table 4.2.1. Investments and Assets of Healthcare and Labor BPJS

	2015		
	Investment	Asset	% Investment to Asset
Healthcare and Social Security Program			
Social Security Funds	0.3	4.7	7%
Holding	4.1	12.2	33%
BPJS Ketenagakerjaan			
Labor Social Security Program	199.0	200.7	99%
Holding	7.1	11.1	64%
Social Insurance	210.5	228.6	92%
Insurance Industry	641.3	803.7	80%
% BPJS to Insurance Industry	33%	28%	

Box Table 4.2.2. Investment Portfolio of Labor BPJS in 2015

Investment	Work Accident Insurance	Retirement Insurance	Pension Insurance	Death Insurance	Social Security Funds	% to total investment	Holding consolidation	% to total investment
Deposit	7,003	34,731	1,569	2,017	45,320	22.71%	2,966	41.96%
Stock	1,649	39,623	85	887	42,244	21.17%	1,812	25.64%
Mutual Funds	476	15,331	75	182	16,064	8.05%	328	4.64%
KIK-EBA	24	144		2	170	0.09%	51	0.72%
Sukuk	1,086	10,386		654	12,126	6.08%	66	0.93%
Bonds	3,564	76,775	651	800	81,790	40.99%	1,738	24.59%
Direct Placement		109			109	0.05%	27	0.38%
Investment Property		1,694			1,694	0.85%	81	1.15%
Total	13,802	178,793	2,380	4,542	199,517	100.00%	7,067	100.00%

Source: Labor BPJS Financial Report, processed

²⁴ FGD Information, Thursday, February 11, 2016

BPJS Roles in Financial Market

Financial Service Authority through the OJK Regulation no.1/POJK.05/2016 regarding Bond Investment for Non-Bank Financial Institutions has required such institutions to apply Government Securities minimum ownership portion in investments made by BPJS for Health and BPJS for Employment. BPJS for Employments is required to place Government Securities at least 50% of the total investment of Employment Social Security Funds, and at least 30% of total investment funds of BPJS for Employment and BPJS for Health. The requirement must be observed not later than December 31, 2016. Aside from BPJS, other Non-Bank Financial Institutions are Life Insurance, General Insurance & Reassurance, Deposit

Insurance Institution and Pension Funds are also subjected to the Government Securities fulfillment with different percentages (table 3).

As of December 31, 2016, BPJS social security fund has reached its target of Government Securities amounted Rp129.3 trillion or 53.6% of the total investment (Rp241.3 trillion). Along with requirement by government to increase Government Securities investment in 2017, it is estimated that the need of Government Securities will hike up to Rp69 trillion, from BPJS and other Non-Bank Financial Institutions. It is expected that the need of Government Securities can be met partly by the realization of Government Securities issuance amounting Rp155 trillion²⁵ in the first quarter of 2017.

Box Table 4.2.3. The Ownership Portion of SBN by IKNB

IKNB	Dec-15			Dec-16			Target 2016		Shortage		Target 2017		Shortage	
(Rp. T)	Investment	State Bonds	% SBN	Investment	SBN	% SBN	% SBN	Nominal	SBN	%SBN	% SBN	Nominal	SBN	%SBN
Insurance														
- Life Insurance	283.2	45.1	15.9%	343.3	55.9	16.3%	20.0%	68.7	-12.7	-3.7%	30.0%	103.0	-47.1	-13.7%
- General Insurance & Reassurance	66.1	2.8	4.2%	69.7	8.11	11.6%	10.0%	7.0	0.0	0.0%	20.0%	13.9	-5.8	-8.4%
Insurance Institution	9.4	0.2	2.5%	9.7	0.2	2.5%	10.0%	1.0	-0.7	-7.5%	20.0%	1.9	-1.7	-17.5%
Pension Fund	199.1	35.6	17.9%	228.8	54.3	23.7%	20.0%	45.8	0.0	0.0%	30.0%	68.6	-14.3	-6.3%
Labor Social Security (Social Security Fund)*	199.0	66.2	33.3%	241.3	129.3	53.6%	50.0%	120.7	0.0	0.0%	50.0%	120.7	0.0	0.0%
Labor Social Security (Total Investment)	7.1	0.6	8.2%	9.0	2.6	28.9%	30.0%	2.7	-0.1	-1.1%	30.0%	2.7	-0.1	-1.1%
TOTAL	763.9	150.5		901.7	250.5			245.7	(13.6)			310.8	(69.0)	
Total	13.802	178.793	2.380	4.542	199.517	100.00%	7.067	100.00%						

Labor Social Security Fund is a social insurance fund for workers, Death Social Security Fund, Social Insurance Fund for Senior Citizens, and Pension Social Security Fund (PJK No. 1/POJK.05/2016 dated January 11, 2016 regarding State Bond Investment for Non-Bank Financial Service Institutions)

Source: OJK, BPJS Report

²⁵ FGD Information, Thursday, February 11, 2016

Considering the growth of BPJS managed funds, particularly the BPJS for Employment that continue to increase, in the few next years, BPJS for Employment is predicted to be a significant market player in the market of Government Securities. This could happen if BPJS for Employment manages to optimize its treasury function (investment portfolio management) and to not only apply the

held-to-maturity strategy. In addition, considering the total managed funds, BPJS for Employment also requires investment instrument variants to obtain optimal return and risk diversification. The investment strategy development and risk diversification of BPJS for Health is expected to become part of financial market expansion in Indonesia.

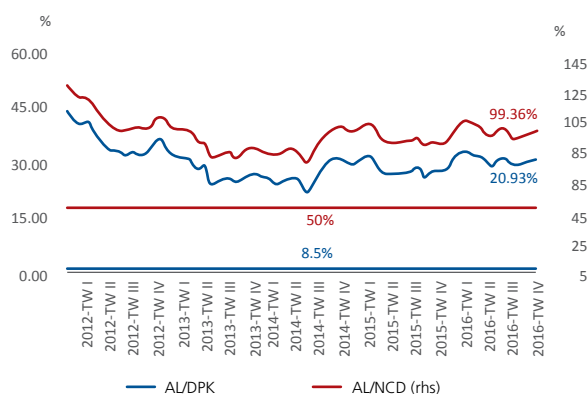
Box 4.3. The Behaviors of BPD (Regional Development Banks) Regarding Liquidity

Banking liquidity throughout 2016 was ample and showed a tendency of rising trend compared to the previous year, inline with the credit slowdown and the rising of Third Party Funds. The condition was also indicated by the liquidity ratio of all bank groups which was at the higher level compared to the previous year. The tendency of liquidity improvement still continues in the first quarter of 2017.

However, in accordance with the seasonal patterns, the banking liquidity in several days prior to the end

of year was inclining to tighten in conformity with the financial expansion patterns of the central and regional governments. The condition was shown by the temporary rise of Weighted Average of Interest Rate in the interbank money market loan in December 2016 to reach above 6%, especially in the Regional Development Banks group. Interest Rate of Interbank Money Market loan for Regional Development Banks in medium term (interest rate for 1, 2, and 3 months) surpassed 8%. The rise was temporary as it already slid down to normal range since January 2017.

Box Graph 4.3.1. The Ratio of Banking Industry Liquidity



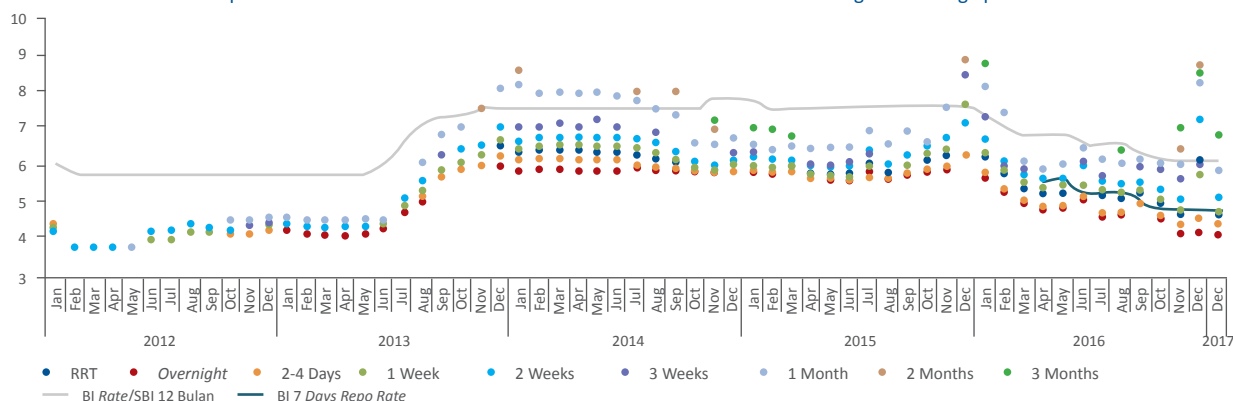
AL = Cash + Placement in BI + Excess Reserve - GWM
DPK = Current Account + Saving Account + Deposit Account
NCD = 30% Current Account + 30% Saving Account + 10% Deposit Account

Source: Bank Indonesia, LBU, processed

Box Table 4.3.1. The Ratio of Liquidity per Bank Group

Kelompok	Rasio AL/DPK (%)							Δ 2015 (ytd)	Δ 2016 (ytd)
	2015	2015	2016						
	Dec	Dec	Mar	Juni	Sept	Dec			
BUMN	23.7	20.5	22.0	19.8	18.6	21.5	(3.2)	1.0	
BUSN	17.0	16.6	19.4	18.3	18.3	18.0	(0.3)	1.4	
BPD	12.1	12.9	17.9	17.8	17.3	18.6	0.8	5.7	
KCBA	49.1	53.2	59.5	53.3	60.3	53.4	4.0	0.3	
Industry	20.5	19.4	22.0	20.3	20.2	20.9	(1.1)	1.5	

Box Graph 4.3.2. Rural Banks' Loan Interbank Financial Market Interest Rate Weighted Average per Tenor



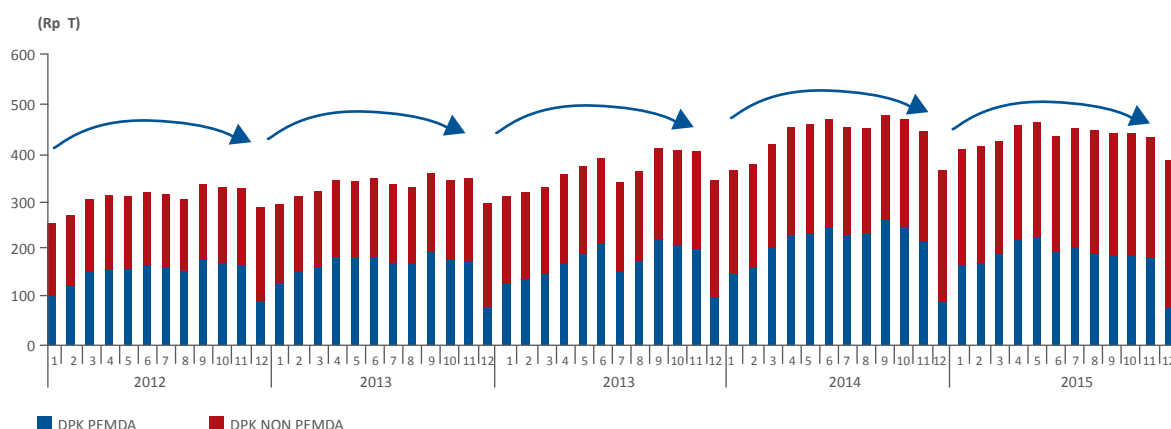
Source: Bank Indonesia, LBU, processed

The temporary liquidity stress in the end of 2016 was more limited and shorter than the similar condition in the previous year in which in December 2015 the stress was caused by changes of the Government financial expansion patterns regarding prefunding that reached Rp46 trillion. At that time, the weighted average of interest rate in Interbank Money Market loan for the whole banking industry exceeded 7%. The weighted average of interest rate in Interbank Money Market loan for Regional Development Banks for short and medium term (O/N, 1 week and 2 week interbank money market interest rate) rose above 7%, while for the medium term (3 week, 1 month, and 2 month) surpassed 8%.

The end-of-year liquidity stress which is temporary by nature is in line with the dynamics of Regional Development Banks' Third Party Funds which in general are dominated by funds of Regional Governments (around 46% of Regional

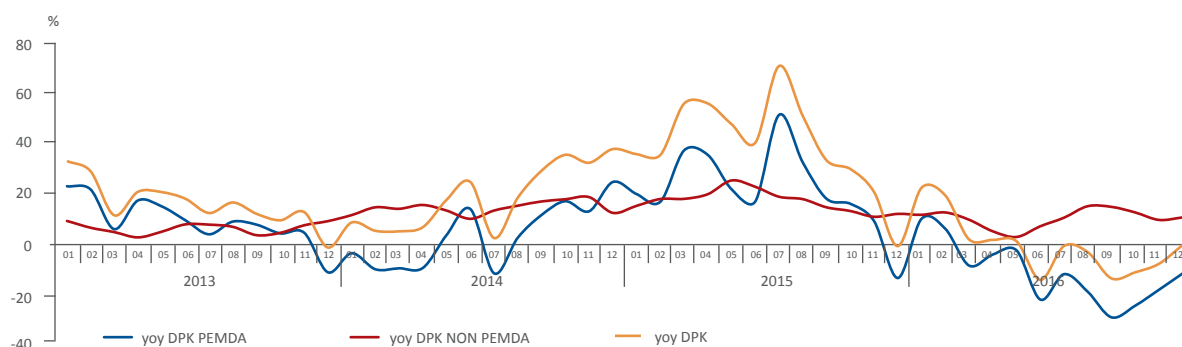
Development Banks' Third Party Funds on average since 2012). Usually the Regional Development Banks' Third Party Funds pattern is climbing up gradually and accumulate since the start of year (as the Central Government injects funds) yet also shrink down gradatorily approaching the end of year as Regional Governments conduct financial operations (schedule of Regional Governments' projects financing payments). In the meantime, Regional Development Banks' Third Party Funds of non-Regional Government funds (mostly individuals' funds) in general tended to remain stable throughout the year and only increase temporarily in the end of the year. Hence, despite the quite high liquidity level, Regional Development Banks did not have the flexibility of providing long-term financing as they only have short-term fund sources. In terms of growth, Regional Development Banks' Third Party Funds in 2016 tended to slowdown, partly attributed to the procrastination of regional fund transfers in the fourth quarter of 2016.

Box Graph 4.3.3.
The Development of Regional Bank Third Party Funds by Owners



Source: Bank Indonesia, LBU, processed

Box Graph 4.3.4. The Regional Bank Third Party Funds Growth (% yoy)



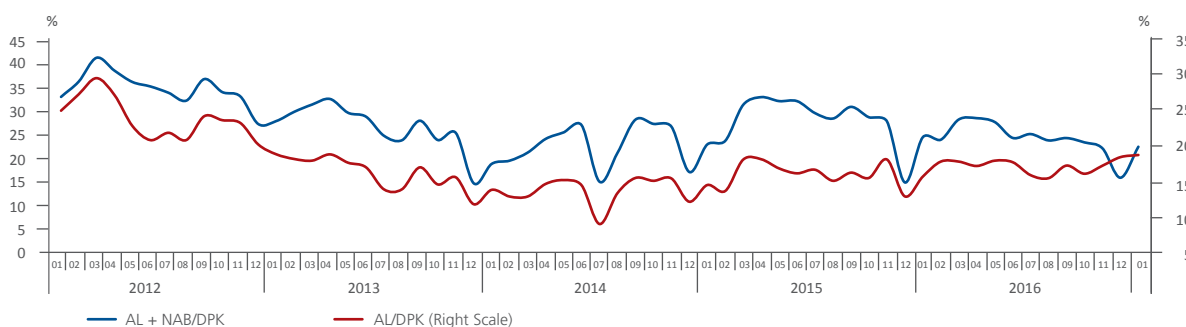
Source: Bank Indonesia, LBU, processed

The fund source patterns cause the tendency of Regional Development Banks' liquidity to remain at relatively high level in the middle of year yet it plummeted in the beginning and end of year. This condition was shown by the liquidity ratio of Regional Development Banks (after taking into account the interbank net placement) on Third Party Funds. The Regional Development Banks liquidity patterns are different from the banking liquidity in general, which tend to rise in the beginning of year and tighten up in the middle of year, according to the cycle of people fund withdrawal approaching the fasting month and Eid-al-Fitr. The specific fund source and liquidity cycle characteristic of Regional Development Banks leading to distinctive liquidity assets management which is rather different from

any other types of commercial banks. In addition to liquidity placement strategy in the form of Liquid Tools (Cash, Placement of funds into Bank Indonesia, Excess Reserve - GWM), Regional Banks tended to place funds in other banks (direct placement or through Interbank Money Market) in a quite large sum of funds (which may exceed 40% of a Regional Development Bank's liquidity).

Regional Governments and Regional Development Banks are required to improve liquidity management considering their strategic roles in developing regions and to lower liquidity stress in Interbank Money Market activities in the end of year and lower down the liquidity and credit risks.

Box Graph 4.3.5. The Regional Bank Liquidity Ratio



Source: Bank Indonesia, LBU, processed

Box 4.4.

The Foreign Commercial Loans of State-Owned Enterprises (SOE)/ Private-Owned Enterprises (POE) Regarding the Government's Projects

As mandated by Presidential Decree no. 59 Year 1972 regarding Offshore Credit Reception and Presidential Decree no. 39 year 1991 concerning Coordination of Offshore Commercial Loan Management, the Government established an Offshore Commercial Loan Coordination Team, led by the Coordinating Ministry of Economic Affairs in which Bank Indonesia is one of the members along with the Ministry of Finance and other related ministries. The underlying objective of the establishment of the team is to realize a better management of Offshore Commercial Loans less pressure on state's balance of payment. This is also to maintain Offshore Debt repayment not to exceed the state's economic capability. Based on the Presidential Decree No. 39 Year 1991, the main task of the team is to coordinate Offshore Commercial Loans related to the Government's development projects proposed by State-Owned Enterprises and/or Private-Owned Enterprises.

As the member of the team, Bank Indonesia receives request of Offshore Commercial Loans approval from the Coordinating Ministry of Economic Affairs upon Offshore Commercial Loans proposal submitted by State-Owned and/or Private-Owned Enterprises. Afterwards, Bank Indonesia conducts assessments upon the requests based on complete documents submitted by State-Owned or Private Owned Enterprises. The assessments is conducted by evaluating several aspects such as the monetary aspect and financial system stability. Based on the assessment, Bank Indonesia submits recommendations of Offshore

Commercial Loans proposals to the Coordinating Ministry of Economic Affairs as the Head of Offshore Commercial Loans Coordination team.

Offshore Commercial Loans is useful as one of the complementary sources for financing infrastructure project development in various fields such as electricity, telecommunications, and oil and gas mining. Aside from that, Offshore Commercial Loans is also financing other strategic domestic project, which in the end may improve economic capacity and growth. However, Bank Indonesia needs to monitor how the risks progress and the impacts on national economy. This is intended to provide confidence that Offshore Commercial Loans may take its optimum role to support financing development without causing risks which may affect macroeconomic stability.

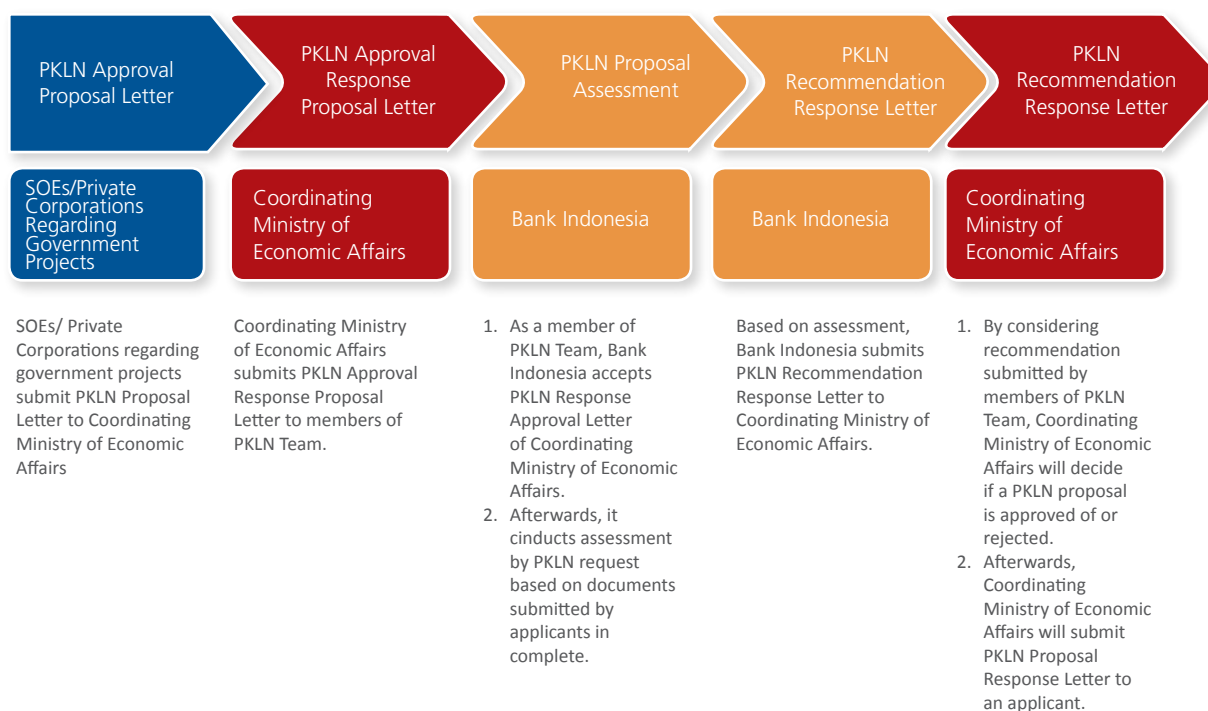
In mitigating risk of Offshore Commercial Loans, Bank Indonesia issued the Regulation of Bank Indonesia no.16/21/PBI/2014 dated December 29, 2014 regarding Implementation of Prudential Principle in Managing Non-Bank Offshore Loan. The prudential principle implementation was conducted by paying attention to a sustainable business activities and supporting investment activities. In addition, Bank Indonesia also monitors the Offshore Commercial Loans development periodically.

Throughout 2016, Bank Indonesia recommended approval of Offshore Commercial Loans of State-Owned/Private-Owned Enterprises related to

Government Projects with the nominal of USD10.43 billion, rising from the previous year which were USD7.15 billion. The increase was attributed to the rise of request of Offshore Commercial Loans recommendation for the electric power infrastructure development. The majority of fund sources were from Japan (78% of the total Offshore Commercial Loans recommended proposals) followed by China (18.70%), the United States (1.70%), France (1.42%) and Malaysia (0.18%).

The proposals of offshore loan in 2016 were mostly allocated to finance electric power plants infrastructure in line with the Government program of 35,000 MW electric generation projects. The offshore loan for the electric power sector amounted to 49.85% on the total nominal of Offshore Commercial Loans, followed by the oil and gas mining sector (47.92%), telecommunication sector (1.27%) and infrastructure financing companies (0.96%).

Box Figure 4.4.1. The General Description of PKLN Approval Mechanism



Source: Bank Indonesia, LBU, processed.



BANK INDONESIA



In a **Tarik Tambang** game, two differently positioned teams pull the same rope, making the strength of rope essential to this game. If Tarik Tambang is a metaphor of financial transactions that occurred in the financial system; so the rope is like a payment system that must be kept as such to work safely, smoothly, efficiently and reliably manner so it could support the financial system stability.

05

The payment system held by Bank Indonesia and industry during the second semester of 2016 remained sound to support the stability of monetary and financial system as well as facilitate economic activity. Such auspicious conditions were the result of BI policy to maintain a safe, smooth, efficient, and reliable payment system. The implementation of payment system held by Bank Indonesia was safe and smooth, as reflected by the low risk of settlement and liquidity risk, the fulfillment of the system availability level in accordance with the service level which has been established and the implementation of payment infrastructure implementation for both retail and high value service. Bank Indonesia also consistently established policies and carried out surveillance of payment systems organized by industry to mitigate the risk of payment system.

FINANCIAL SYSTEM
INFRASTRUCTURE

AS ONE OF A FINANCIAL SYSTEM INFRASTRUCTURE, PAYMENT SYSTEM HOLDS VITAL ROLE IN SUPPORTING DOMESTIC ECONOMIC ACTIVITY OF FINANCIAL SYSTEM STABILITY.



The payment system held by Bank Indonesia and the industry is running safely, smoothly, and efficiently.



BI-Operated Payment System

- ▲ Value
Rp87,600.43 trillion
- ▲ Transaction Volume
67.72 million



BI-RTGS

- ▲ Value
Rp57,970.06 trillion
- ▼ Transaction Volume
4.7 million



BI-SSSS

- ▲ Value
Rp27,775.99 trillion
- ▲ Transaction Volume
0.14 million



National Clearing System (SKNBI)

- ▲ Value
Rp1,854.38 trillion
- ▲ Transaction Volume
62.89 million



Industry-Operated Payment System

- ▲ Value
Rp3,032.07 trillion
- ▲ Transaction Volume
Rp3,194.37 million



Card-Based Payment Instruments Value

- ▲ Value
Rp3,028.18 trillion
- ▲ Transaction Volume
2,819.33 million

E-Money

- ▲ Value
Rp3.89trillion
- ▲ Transaction Volume
375.04 million



Payment System Indicators



- ▲ Checking Account Balance
Rp310.98 trillion



- ▲ Turnover Ratio
1.14



Low Queue Transaction

13 transactions of Rp1,055.60 billion
0.0003% of RTGS transaction value
0.0018% of RTGS transaction volume.
All could be settled at the end of the same day.



Risk Mitigation

Operational Risk Mitigation:

- Adjustment of the BI-RTGS, BI-SSSS, and SNKBI back-up system infrastructures at the Disaster Recovery Center (DRC) in line with the implementation of the BI-RTGS, BI-SSSS, and SKNBI Generation II.
- Periodic testing in the form of monitoring and partial testing of backup system and monitoring the readiness of Back up Front Office (BFO) and IT recovery (RPTI) infrastructures.

Systemic Risk Mitigation:

- Conduct regular and intensive monitoring of potential systemic risks in the implementation of payment systems as part of efforts to maintain financial system stability.



Development of Digital Financial Services

Public access and use of financial services increased in Indonesia



- ▲ Composite Financial Inclusion Index
0.41



- ▲ DFS Operators
5 Banks



- ▲ DFS Agents
133,811 agent



- ▲ Transaction value
Rp13.49 billion



Bank Indonesia's inclusive financial policies during 2016 focused on expanding financial access through non-cash ecosystem integration with Government programs/services, including:

- Noncash Social Aid
- Digital Village – Noncash Village Fund Utilization
- Financial Services Digitalization at Islamic Boarding School
- Remittances
- Retail payment system electronification

5.1. Payment System Performance

Payment System as integral part of the financial system infrastructure plays a key role to support the smoothness of economic activity and stability of national financial system. The payment system was operated securely, smooth, efficient and reliable during the second semester of 2016 so as to support domestic economic activities and financial system. The performance of payment systems held by Bank Indonesia (BI) was satisfyingly reflected in the relatively low settlement risks and adequate liquidity condition for transaction settlement during the reporting period. Meanwhile, smooth implementation of payment system was indicated accordingly since the reliability and availability targets were met in pursuance of the predetermined service level.

An efficient payment system was achieved with the implementation of payment infrastructure that accelerates the settlement of retail services (National Clearing System of Bank Indonesia-SKNBI) as well as payment infrastructure with liquidity saving mechanism for large-value services (Bank Indonesia Real Time Gross Settlement- BI RTGS System and Bank Indonesia-Scripless Securities Settlement System-BI SSSS). These favorable conditions were resulted from various efforts to mitigate risks, coupled with an improved operational performance of payment systems organized by BI. The effort was executed through various policies, regulations, infrastructure development and supervision of the payment system. On the other hand, the performance of the payment system held by the industry was also running well, reflected in the absence of significant disturbances and disruptions in its implementation as well as the

increase in transaction volume and value compared to the previous report period. This cannot be separated from various efforts made by Bank Indonesia to always encourage the use of non-cash payment instruments with due regard to national interests and aspects of consumer protection. In order to mitigate risks in the implementation of industrial payment systems, Bank Indonesia has established policies and stipulations of payment system, coordinated with institutions and industries, and actively monitored payment systems.

As a payment system regulator, Bank Indonesia has set various policies related to the payment system that is operated by Bank Indonesia and industry. Policies related to the implementation of payment system by Bank Indonesia issued during the reporting period are provisions concerning Transfer Form (Bilyet Giro) and amendments to the Bank Indonesia Regulation concerning the National Black List of Blank Check and/or Transfer Form Withdrawer. In addition there are provisions concerning the processing of payment transactions for the arrangement of instruments, organizers, mechanisms and infrastructures with due regard to the expansion of access, national interests, and consumer protection.

In order to increase trust, improve the aspects of consumer protection and public acceptance of non-cash payment instruments, Bank Indonesia considers it was necessary to adjust the provisions to the maximum limit of Credit Card interest rate and the obligation of Credit Card Issuers to deliver Credit Card closing statement stipulated in Circular Letter of Bank Indonesia (SEBI) No.18/33/DKSP dated December 2, 2016 regarding the Fourth Amendment to Bank Indonesia Circular Letter No. 11/10/DASP dated April 13, 2009 concerning Implementation of Card-Based Payment Instrument Activity. Broadly speaking, the

SEBI regulates the application of the maximum limit of credit card interest rate of 2.25% per month or 26.95% per annum as well as the obligation of Credit Card Issuer to provide Credit Card closing statement to Cardholder. In addition, the provision of Bank Indonesia related to the use of 6 (six) digit Personal Identification Number (PIN) for ATM Card and/or Debit Card which is expected to improve security for the society in conducting payment system transactions, especially ATM/debit cards transactions so as to improve non-cash transactions in Indonesia.

These policies have a positive impact on the use of infrastructure and the implementation of payment system during the reporting period which is becoming safer, smoother, and more efficient. During the reporting period, in the second half of 2016, the payment system held by Bank Indonesia and industry (System of BI-RTGS, BI-SSSS, SKNBI, APMK, and Electronic Money) was able to serve transactions with volume of 3,262.10 million transactions and transaction value amounted to Rp90,632.50 trillion.

5.1.1. Bank Indonesia Operated Payment System

During the second half of 2016, the payment system held by BI (both large and retail transactions) was able to serve 67.72 million transactions or an increase of 5.91% compared to 63.95 million transactions in the second half of 2015. Meanwhile, the nominal value of transactions that could be served during the reporting period was Rp87,600.43 trillion or an increase of 14.98% over the same period in the previous year of Rp76,187.85 trillion. In terms of system settlement capabilities, BI-RTGS and BI-SSSS systems could operate optimally as reflected in the reliability and settlement

capability of 99.99% in the reporting period or higher than the same period of 2015 of 99.97%.

5.1.2. Industry Operated Payment System

The performance of the industry-operated payment system recorded a positive increase both in terms of circulation of instruments and the use of non-cash payment instruments. This was reflected in the increasing use of Card-Based Payment Instruments and electronic money resulting from the policy of Bank Indonesia to promote the use of non-cash payment instruments. In addition, Bank Indonesia also coordinated with payment system operators to strengthen the infrastructure and expand the scope of payment system instrument service. During the second half of 2016, the payment system organized by the industry served transaction volume of 3,194.37 million transactions or an increase of 13.28% with transaction value of Rp3,032.07 trillion, an increase of 12.5% over the same period in previous year.

In order to carry out the task of arranging and maintaining the smoothness of the payment system, Bank Indonesia also has the authority to supervise all licensed payment system service providers as the provider of Card-Based Payment Instrument and electronic money. Supervision was conducted through an offsite inspection based on reports submitted by the operators as well as onsite inspection (onsite). In general, the scope of inspection of payment system providers is the compliance of providers to the provisions, the implementation of procedures, including the implementation of Anti Money Laundering and Counter-Terrorism Financing (AML and CTF) and internal control.

5.2. Development of Payment System Transaction

The activities of financial transactions through the payment system held by Bank Indonesia during the second half of 2016 increased both in terms of nominal and transaction volume. The largest portion of the value of financial transactions through the payment system was dominated by transactions through the BI-RTGS System, while the largest portion of the volume of financial transactions through the payment system was still derived from the use of ATM and ATM/ Debet Cards. Transaction growth through the BI-RTGS System, BI-SSSS, and SKNBI as well as transactions using Card-Based Payment Instrument and Electronic Money could be seen in Table 5.1.

Settlement of payment transactions through the BI-RTGS System includes monetary operation and government transaction, transactions based on orders of customers, capital market, Interbank Money Market (PUAB), settlement of interbank foreign

exchange trade in rupiah currency, settlement of forex transactions between banks and Bank Indonesia in rupiah currency and others.

During the second half of 2016, transaction activity of the BI-RTGS System increased in terms of nominal but transaction volume was declining compared to the same period in 2015 (yoy). In terms of nominal transaction, there was an increase of 3.97% from Rp55,759.02 trillion to Rp57,970.06 trillion. In terms of volume, there was a decrease of 11.54%, namely from 5.31 million transactions to 4.70 million transactions. Based on the type of transaction, the increase in nominal transactions of the BI-RTGS System was due to an increase in capital market transactions of Rp1,157.01 trillion, an increase of 48.53% compared to the same period in the previous year of Rp2,383.96 trillion.

Meanwhile, the decrease in transaction volume in the BI-RTGS System was precipitated by the decrease in transaction volume among customers as much as 522.41 thousand transactions or decreased by 12.13%

Table 5.1. Growth of BI-RTGS, BI-SSSS, SKNBI Systems, Card-Based Instruments and Electronic Money Transactions

	NOMINAL VALUE			VOLUME		
	2 nd Half 2015	2 nd Half 2016	Δ (%)	2 nd Half 2015	2 nd Half 2016	Δ (%)
	(RP TRILLION)	(RP TRILLION)		(MILLION TRANSACTIONS)	(MILLION TRANSACTIONS)	
BI-RTGS	55,759.02	57,970.06	3.97%	5.31	4.70	-11.54%
BI-SSSS	18,728.67	27,775.99	48.31%	0.09	0.14	52.44%
SKNBI	1,700.16	1,854.38	9.07%	58.54	62.89	7.42%
Card-Based Payment Instruments	2,692.13	3,028.18	12.48%	2,507.65	2,819.33	12.43%
ATM & ATM/DEBIT CARDS	2,546.75	2,886.86	13.35%	2,364.27	2,663.50	12.66%
CREDIT CARDS	145.38	141.32	-2.79%	143.38	155.84	8.69%
ELECTRONIC MONEY	3.01	3.89	29.31%	312.22	375.04	20.12%
TOTAL	78,882.99	90,632.50		2,883.81	3,262.10	

Source: Bank Indonesia

compared to the same period in the previous year which recorded at 4,306.84 thousand transactions.

Transactions of payment system which served through BI-SSSS tend to increase compared to the same period of the previous year both in terms of nominal and volume. From the nominal side, BI-SSSS transactions also increased by 48.31% from Rp18,728.67 trillion to Rp27,775.99 trillion during the reporting period. In terms of volume, an increase of transactions amounted to 52.44% compared to the same period of the previous year from 91.69 thousand transactions to 139.77 thousand transactions in the reporting period.

In terms of retail transaction services, transaction activity through SKNBI during the second half of 2016 increased both in nominal and transaction volume compared to the same period in the previous year. The nominal value of SKNBI transactions increased by 9.07% from Rp1,700.16 trillion to Rp1,854.38 trillion. The volume of SKNBI transactions increased by 7.42% from 58.54 million transactions in the second half of 2015 to 62.89 million transactions. The increase was mainly stemmed from the increasing of transfers volume of credit clearing among clearing participants in particular for the benefit of customers. Meanwhile, debit clearing transactions tend to decrease both in terms of nominal and transactional volume, namely 5.94% and 8.69% respectively compared to the same period in the previous year.

In terms of payment system which was operated by industry, transaction performance of Card-Based Payment Instrument consisting of ATM/Debit and credit card recorded positive growth compared to the same period of previous year. In terms of nominal

transactions, Card-Based Payment Instrument recorded a growth of 12.48% (yoy) to Rp3,028.18 trillion and in terms of volume it grew 12.43% (yoy) to 2,819.33 million transactions during the second half of 2016. Along with the strengthening of public consumption In the reporting period, the positive performance was driven by the nominal increase and ATM/Debet transaction volume with growth of 13.35% (yoy) and 12.66% (yoy), respectively. However, the positive performance of Card-Based Payment Instrument was driven only by the growth of ATM/Debit transactions, while credit card transactions experienced a slight correction of 2.79% (yoy) compared to the same period of the previous year, although the volume grew 8.69% (yoy).

On the other hand, electronic money transactions also grew positively, with nominal transactions in the second half of 2016 reaching Rp3.89 trillion or growing by 29.31% (yoy) with volume reached 375.04 million transactions or growing by 20.12% (yoy). The increase in electronic money transactions during the reporting period was driven by the addition of Automatic Toll Gate (GTO) in various road segments as well as various promotional programs provided by electronic money issuers. Bank Indonesia in coordination with relevant ministries and agencies will continue to issue policies and relevant program in order to expand non-cash acceptances on toll roads and Jabodetabek transportation modes.

The increased transactions of Card-Based Payment Instrument and e-money were congruent with public education on the use of non-cash payment instruments. In addition, Bank Indonesia also continues to expand the use of non-cash payment instruments with various

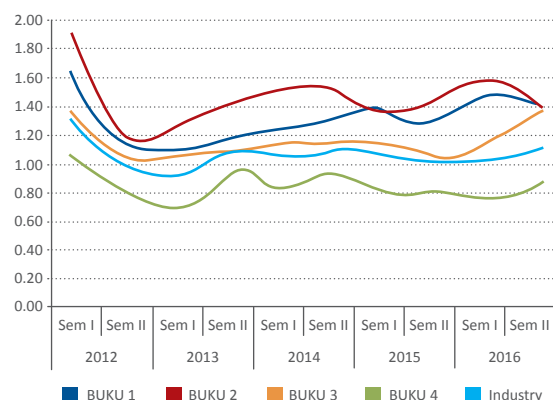
measures and policies. During the reporting period, Bank Indonesia held public education activities entitled “Smart Money Wave” in 4 (four) cities in Indonesia, namely Banjarmasin, Makasar, Medan, and Semarang which aims to improve public awareness and comprehension on Non-Cash National Movement (GNNT) and non-cash transactions. The main target of this program are students and millennial youth (Gen-Y) who have open communication and high adaptive power to the development of the times and changes in technology and information. Smart Money Wave activities as an entertainment event and award presentation which was consist of workshops and mini exhibitions, video and blog competition, publications such as in electronic and print media, and netizens party. Furthermore, Bank Indonesia also continues to encourage the providers of payment system services to continue to pay attention to the aspects of consumer protection in order to increase public trust in non-cash payment instruments.

5.3. Payment System Indicators

5.3.1 Account Balance

Checking account balance in BI-RTGS system at the end of the second half of 2016 increased by 16.6% from Rp266.79 trillion at the end of the first half of 2015 to Rp310.98 trillion at the end of the second half of 2016. The increase of account balance was anticipatory measures undertaken to meet the surge of banking transactions in BI-RTGS system.

Graph 5.1. Growth of Turnover Ratio



Source: Bank Indonesia

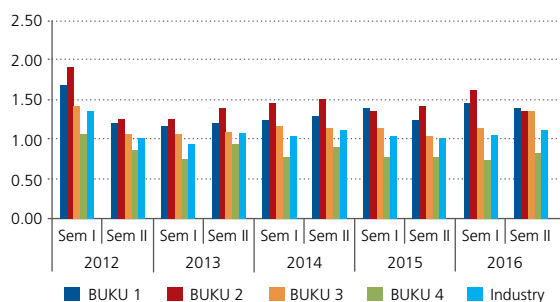
5.3.2 Turn Over Ratio (TOR)¹

Throughout the second semester of 2016 the TOR value was recorded at 1.14 or increased by 7% in the first half of 2016 which was recorded at 1.07 (Graph 5.1.). The increase of TOR was aimly derived from the increase of banking transactions via BI-RTGS system, in line with Bank Indonesia policy to decrease the minimum transaction for the benefit of customers from Rp500 million to Rp100 million since the beginning of second semester of 2016.

The increase in TOR was driven by the increase of TOR in BUKU 4 and BUKU 3 bank groups, which were also the largest transactions actors. The BUKU 4 group experienced an increase of 12% (TOR recorded at 0.84) while the BUKU 3 group increased by 14% (TOR recorded at 1.38). The highest TOR was in the group of BUKU 2 with a TOR of 1.38 falling by 12% from the previous period. While TOR BUKU 1 recorded at 1.41 which decreased by 4% from the previous period.

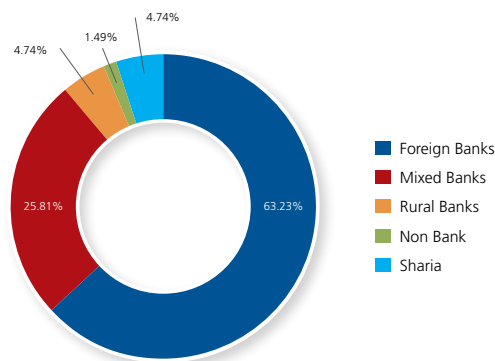
¹ TOR is a comparison between outgoing transactions and current balance of BI-RTGS System participants available at the beginning of the day. TOR is used to determine the tendency of BI-RTGS System participants' ability to fulfill their obligations in conducting payment transactions. The TOR ratio of > 1.00 indicates that in the fulfillment of obligations, the participant cannot rely only on the initial checking balance of the day but also requires incoming transaction from other participants.

Graph 5.2. Growth of Turnover Ratio by Bank Group (BUKU)



Source: Bank Indonesia

Graph 5.3. Queue Transaction



Source: Bank Indonesia

5.3.3 Queue Transaction²

During the second semester of 2016 there were 13 queue transactions with a total transaction value of Rp1,055.60 billion. Such queue transactions in terms of volume accounted for 0.0003% of all transactions in BI-RTGS System or nominally equivalent to 0.0018% of all transactions in BI-RTGS System. All queue transactions were successfully settled on the same day. The low queue transactions indicate the maintained and well mitigated liquidity risk in BI-RTGS System. Graph of queue transactions in second semester of 2016 is shown in Graph 5.3.

through the BI-RTGS System until the end of BI-RTGS System's window time. During the second semester of 2016, the total nominal unsettled transaction of BI-RTGS System was recorded at Rp8,519.68 billion or accounted for 0.00008% of the total nominal value of the transaction. In terms of volume, there were 64 unsettled transactions or accounted for 0.000008% of the total volume of 7,657,448 transactions.

5.4.2 Liquidity Risk⁴

In the second semester of 2016, liquidity risk in the payment system was relatively low. This was reflected in the absence of the request to use of Intraday Liquidity Facility (ILH) and ILF Sharia (FLIS) which is a funding facility provided by Bank Indonesia to participating banks in the form of a securities repurchase agreement (repo). The Intraday Liquidity Facility (ILF) is available to participating banks upon approval from Bank Indonesia and is provided automatically when the account balance of a participating bank is insufficient to execute its outgoing transactions. Thereafter, the ILF is settled automatically upon receipt of incoming transactions.

5.4. Payment System Risks and Risk Mitigation

5.4.1 Settlement Risk³

The settlement risk in the second semester of 2016 was considered to be relatively low as reflected in the small value and volume of unsettled payment transactions

² Queue transactions are those queued in BI-RTGS system due to insufficient funds of BI-RTGS participants at the respective bank to settle a transaction when it is received. The transaction is, however, still settled on the same day.

³ In general, the settlement risk from the participant's perspective is a risk arising from BI-RTGS system participants being late or unable to complete the payment transaction because of mutual waiting for incoming transactions from other participants. From the operator's perspective, however, settlement risk is not an issue since RTGS participants apply the principle of no money no game, where settlement transactions are only processed if sufficient funds are available.

⁴ Liquidity Risk occurs in the payment system when one of the participants of BI-RTGS system has insufficient fund to meet the liabilities on time despite potentially fulfilling the liabilities in the subsequent window time.

The absence of ILF and/or ILFS used by the participants of Non-cash BI Payment System indicated that during the second half of 2016 there were no participants experienced short-term funding difficulties due to mismatch between incoming and outgoing transactions.

5.4.3. Operational Risk⁵

In order to mitigate operational risk, Bank Indonesia has developed a Business Continuity Plan (BCP) procedure, including the provision of backup system infrastructure. The infrastructure could be activated at any time in case of disruption in the main system, the same performance as the production system. Bank Indonesia checks the readiness of BI-RTGS System, BI-SSSS and SKNBI infrastructure periodically. During the second half of 2016, BI-RTGS, BI-SSSS, and SKNBI backup system have been adjusted to the location of Disaster Recovery Center (DRC). In line with the implementation of BI-RTGS, BI-SSSS, and SKNBI Generation II, periodic testing of partial checks and partial test of the backup system in the reporting period has been conducted 2 (two) times on August 16 and November 3, 2016. The inspection for the preparedness of Back up Front Office (BFO) infrastructure has been done 2 (two) times each on August 18 and November 11, 2016, while the implementation of Information Technology Recovery Plan (RPTI) activities took place on November 26, 2016.

5.4.4. Systemic Risk⁶

Systemic risk is the risk of default at one or more banks due to systemic events. In the financial system, systemic risk could be measured by the interconnectedness of BI-RTGS participants. Participants' interconnectedness could be observed from the number of counterparties of each BI-RTGS participants. A larger number of counterparties implies greater risk. The greater the number of counterparties held by the participants, the greater the risk attached to the participants of BI-RTGS System. As for the second half of 2016, 10 core banks listed in BI-RTGS system are shown in Table 5.2.

In the second semester of 2016, there was a decrease in systemic risk, as reflected in the decline in total counterparty from the above 10 banks of 2,645 compared to the first semester of 2016 of 2,710. However, when compared to the second half of 2015, there was an increase in systemic risk, as reflected by the increase in total counterparty from 2,478 in the second semester of 2015 to 2,645 in the second half of 2016.

If a systemically assessed bank fails the settlement, it could have an impact on the smoothness of other bank settlements that are related to the systemically rated bank and potentially disrupt the stability of the financial system. Therefore Bank Indonesia conducts regular and intensive monitoring of potential systemic risks in the implementation of payment systems as part of efforts to maintain financial system stability.

⁵ Operational risk originates from operating factors, such as system and network issues.

⁶ Systemic risk is the risk of default at one or more financial institutions due to systemic events. This could be a shock that affect one of the institutions or shock that affects one institution which then spread or shocks that simultaneously affect several larger institutions (De Bandt and Hartmann, 2000 and Zebua, 2010 in the Monetary and Economic Bulletin, October 2013).

Table 5.2. Core Banks in BI-RTGS System

No	Bank	Outgoing			Incoming		
		#Counter-part	Nominal	Share	#Counter-part	Nominal	Share
1	Bank Persero A	145	2,571,545,399,062,340	12.62%	145	2,685,772,686,113,160	13.18%
2	BUSN L	145	2,031,840,580,175,820	9.97%	144	1,811,766,073,342,110	8.89%
3	Bank Persero B	144	1,356,964,776,783,430	6.66%	145	1,448,757,584,750,110	7.11%
4	Bank Persero C	143	1,056,374,531,872,250	5.19%	143	925,349,643,699,271	4.54%
5	Bank Asing W	107	933,869,768,412,521	4.58%	111	961,126,139,418,529	4.72%
6	Bank Asing X	128	890,401,006,666,793	4.37%	118	901,578,926,659,386	4.43%
7	Bank Asing Y	124	858,457,868,184,435	4.21%	119	861,401,054,931,587	4.23%
8	BUSN M	135	776,270,991,321,113	3.81%	138	831,992,498,053,842	4.08%
9	Bank Asing Z	120	731,813,815,232,260	3.59%	119	790,276,318,764,596	3.88%
10	BUSN N	137	722,677,668,650,341	3.55%	135	718,195,216,791,926	3.53%

Source: Bank Indonesia

5.5. Development of Financial Inclusion Data and Digital Financial Services

5.5.1. Indonesia Financial Inclusion Composite Index (IKKI)

One indicator of financial inclusion level in a country is the financial inclusion index. To calculate such financial inclusion index, several methods are used by several country and international organisations such as Alliance for Financial Inclusion (AFI), IMF and different economists such as Sarma (2008, 2010, 2012), Crisil and Chi-Wins. Bank Indonesia adopted the method proposed by Sarma (2012) as one of the methods to calculate the Indonesia Financial Inclusion Composite Index (IKKI).

In calculating the IKKI, Bank Indonesia uses three indicators for two dimensions of financial inclusion, namely (i) the access dimension that looks at the availability of banking services (BS), such as branch offices, ATMs, and agents of Financial Digital Services (FDS); and (ii) the banking penetration (BP) dimension; as well as (iii) the usage of the banking system (BU).

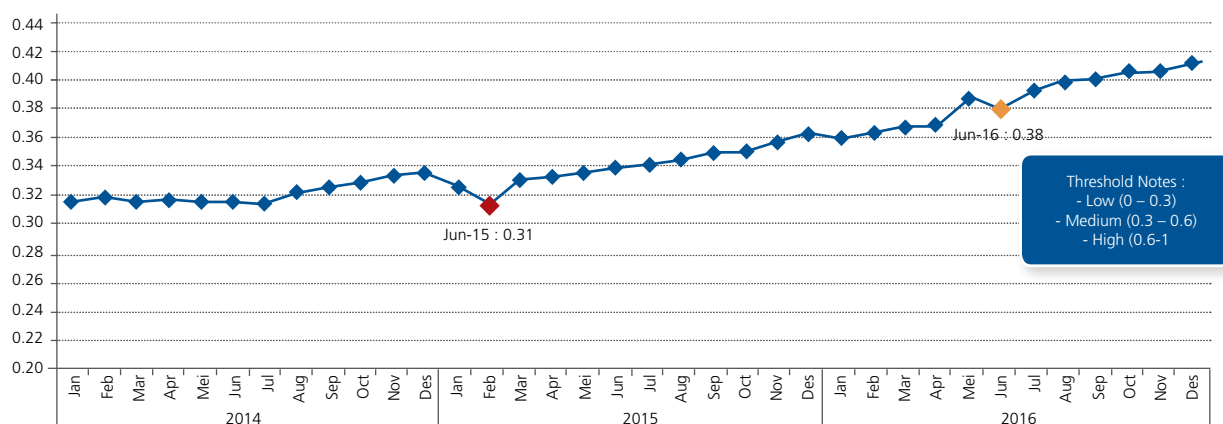
The Sarma method (2012) applies an index of financial inclusion between 0 and 1, in which the higher the value (closer to one), the financial inclusion in such country is better (complete financial inclusion). In contrast, the index value of closer to zero indicates a complete financial exclusion.

Determinants of financial inclusion differ from country to country, including geographical conditions, public awareness, and infrastructure availability in rural areas. Based on the calculation using Sarma method (2012), IKKI obtained in December 2016 was at the medium level of 0.41 or 41% (Graph 5.4), the index has increased by 7.89% compared to June 2016. This indicated that the access of Indonesian people to financial services has historically tended to increase.

5.5.2. Development of Digital Financial Services (DFS)

Digital Financial Services in Indonesia experienced an increasing growth as reflected in the increasing number of DFS operators, DFS Agents, DFS customers and electronic money transactions conducted at DFS Agents.

Graph 5.4.
Indonesia Financial Inclusion Composite Index (IKKI)



Source: Electronification and Financial Inclusion Development Data in Semester II 2016

i. DFS Operators.

Bank Indonesia has granted DFS license to 5 (five banks) operators namely BRI, Bank Mandiri, BNI, CIMB NIAGA, and BCA. The growing number of DFS agents in Indonesia was based on area coverage, BRI has the widest and extensive DFS agents spread in 446 Districts/Cities, followed by Bank Mandiri with DFS agents covers 375 Districts/Cities. Meanwhile DFS Agent from CIMB Niaga is only spread in 3 Districts/Cities, while BCA agents are concentrated in Jakarta.

ii. DFS Agents.

During the second half of 2016 the number of agents increased quite rapidly compared to the number of DFS agents in June 2016 which was from 101,689 agents to 133,811 DFS agents in December 2016. The number of agents in the period of December 2016 comprised of 118,700 Individual Agents and 15,111 agents were Business Agents. Individual agents include grocery stores, token stores, pharmacies, restaurants,

and payment point online bank (PPOB). While business agents contains of retailers, companies, pawnshops, and cooperatives.

iii. Transactions.

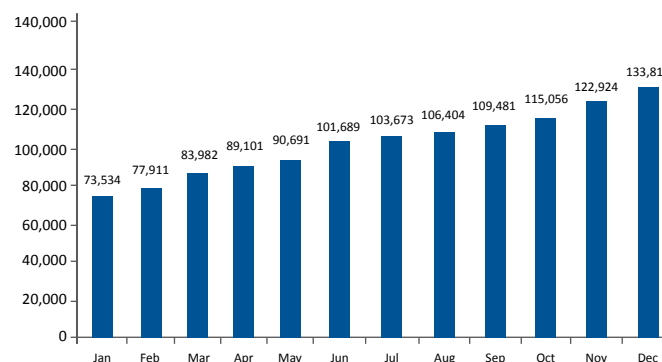
In the second semester of 2016, the most frequent type of transactions conducted by customers in the DFS agents were the top up transactions amounted to 27.00%. This indicated the need of socialization and education to boost up public awareness of other types of transactions carried out through DFS agents. The total amount of electronic money transactions in DFS agents was recorded at Rp13.49 billion, with the largest amount of transaction value took place in South Lampung Regency, Tangerang Regency, East Jakarta Municipality, Ciamis Regency, and Jember Regency. In addition, the amount of electronic money account holder in DFS agents also increased during 2016 and reached 1,244,102 which increased by 8% from December 2015.

Figure 5.1. DFS Agents in Indonesia



Source: Bank Indonesia, December 2016, Processed

Graph 5.5. Growth of DFS Agents in 2016



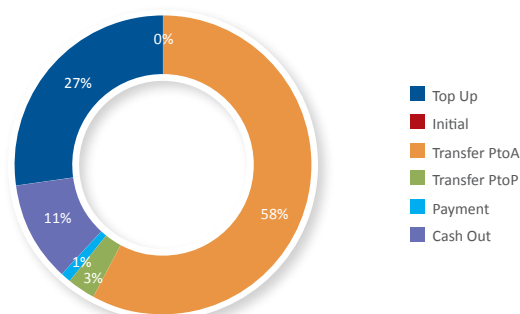
Source: Bank Indonesia

Table 5.3. Growth of Individual and Business DFS Agents

2016 Period	Individual Agent	Business Agents
Jan	63,810	9,724
Feb	67,970	9,941
Mar	73,790	10,192
Apr	78,641	10,460
May	80,745	9,946
Jun	84,374	17,315
Jul	86,534	17,139
Aug	90,477	15,927
Sep	94,065	15,416
Oct	100,050	15,006
Nov	107,733	15,191
Dec	118,700	15,111

Source: Bank Indonesia, December 2016, processed

Graph 5.6 Percentage of E-Money Transactions at DFS Agents in Semester II



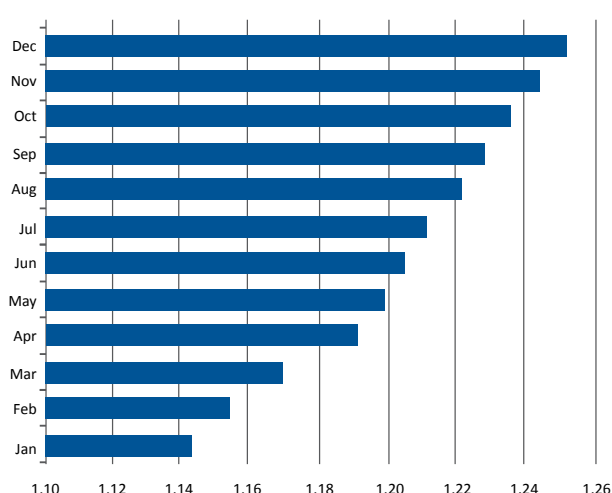
Source: Bank Indonesia, December 2016, Processed

iv. Additional Information.

Financial inclusion became one of the focus of Government's national policy with the official launch of the Financial Inclusion National Strategy (SNKI) by President on November 18, 2016. SNKI is a government comprehensive program to improve IKKI which built on the basis of five pillars of financial education, public's property right, facilities of intermediation and distribution channels, financial services to the Government sector, and consumer protection. The Government is targeting the Indonesia financial inclusion index in 2019 to reach 75 percent, which is significantly increased compared to the financial inclusion index in 2014 which was still at 36 percent.

Bank Indonesia's financial inclusion policy during 2016 focused on expanding financial access through non-cash ecosystem integration with Government programs/services, among others:

Graph 5.7. Growth of E-Money Account Holders at DFS Agents (Million)



Source: Bank Indonesia, December 2016, Processed

a. Non-cash Social Aid

The distribution of social aid is in the form of non-cash which aims to reduce consumptive behavior, to encourage saving habits, and to improve beneficiary understanding about the importance of good financial planning to improve welfare. During 2016, Bank Indonesia and the Ministry of Social Affairs have initiated the distribution of social aid with title of Program Keluarga Harapan (PKH) through Digital Financial Services (DFS) to 1.2 million beneficiaries.

b. Digital Village – Non-cash Utilization of Village Fund

Non-village fund utilization is done through a system that facilitates the village government to make payments for the use of village funds which previously in cash to non-cash. The utilization of village funds is also supported by the presence of DFS Agents. Bank Indonesia initiated a digital village pilot project that focuses on the non-cash utilization of village funds in the village of Sindang Jawa Cirebon.

c. Digitalization of Financial Services at Islamic Boarding School

Expansion of financial access is also done through the extension of Digital Financial Services (DFS) coverage for certain communities, one of which is Islamic boarding school. The several transactions that have been facilitated include the payment of student tuition, employee salary payments, and the payment of zakat.

d. Remittance

The expansion of DFS is also done to Indonesian migrant workers (TKI) and their

families with non-cash digital based digitized remittance development. Remittances by Indonesian migrant workers which previously made with cash-to-cash began to be directed to cash-to-account which will encourage recipient families to have financial access.

e. Electronification of retail payment system

The development of electronic system in the retail payment system continues to be implemented on an ongoing basis as well as in the transport sector, namely the

implementation of e-ticketing and e-parking. In addition, a card-based payment instrument is also developed for the fishing community whose main function is to buy fishing gear in the fishermen's cooperative. In the future this card is expected to be utilized to channel aid to the fishing community, with support from banks in Indonesia thus in addition to distributing aid it could also be used as a saving means.

Box 5.1

National Standard Indonesia Chip Card Specification (NSICCS)

National Standard Indonesia Chip Card Specification (NSICCS) is a national standard setting of chip technology established by Bank Indonesia for ATM/Debit cards issued by Indonesian issuers and used in Indonesian territory. The use of NSICCS is in order to improve the security system in the implementation of ATM/Debit cards and support the realization of interconnected system on the use of Card-Based Payment Instrument.

The use of chip technology on ATM/Debit cards has a higher level of security compared to magnetic stripe. This is because data storage on chip technology uses encryption mechanisms and authentication processes using certain algorithms making it difficult to duplicate. Utilization of chip technology is one of the mitigation to prevent fraud done through method of data theft (skimming) so as to improve security aspect, consumer protection, and public trust in conducting transaction of payment system especially transaction with ATM/debit card.

To support the implementation of NSICCS, Bank Indonesia has issued several policies and regulations related to the NSICCS namely BI Circular Letter No. 17/52/DKSP dated December 30, 2015 on the Implementation of the National Standard Chip Card for ATM/Debit Card and BI Circular Letter No. 18/15/DKSP dated June 20, 2016 on Management of National Standard Chip Card for ATM Cards and/

or Debit Cards. Such Circular Letter is a follow-up of the issuance of BI Circular Letter No. 17/52/DKSP dated December 30, 2015 on the Implementation of the National Standard Chip Technology and the Use of 6 (Six) Digits Online Personal Identification Number for ATM Cards and/or Debit Cards issued in Indonesia mandating further regulation of ownership and stipulation of national standards and arrangements on duties, responsibilities, and obligations of national standards operators.

The implementation of NSICCS involves card issuers, acquirers, principals, and the Association of Indonesia Payment Systems (ASPI). In order to improve the understanding of card issuers, ASPI cooperated with Bank Indonesia in holding a Workshop on Preparation of National Chip Technology Implementation and the use of 6 Digit PIN for ATM Card and/or Debit Card on August 31, 2016 until September 1, 2016, attended by 67 Banks (Commercial and Rural Banks). However, the NSICCS implementation for ATM/Debit cards is only used for accounts with balances above Rp5 million, while accounts with a maximum balance of Rp5 million could still use magnetic stripe cards with 6 digit online PIN.

The roadmap of NSICCS implementation in accordance with BI Circular Letter No. 17/52/DKSP date December 30, 2015 is as follows:

Box Figure 5.1.1. Roadmap of NSICCS Implementation



*the commencement of NSICCS implementation with the infrastructure preparation from the Acquirers covering host and back end system as well as the implementation of 6 digit PIN

The implementation of NSICCS requires interoperability between ATM/Debet principals to support the NSICCS utilization. The industry needs to do the preparation of infrastructure from the acquirer side which include host and back end system, 6-digit PIN implementation and ATM/Debet card migration from magnetic stripe card to chip card. New cards issued with NSICCS may be transacted for merchant purchases through the process of switching and settling payment transactions through the domestic debit principal network.

As industry prepares, Bank Indonesia continues to monitor industry readiness with the following approaches: 1) Survey circulated to banking industry, 2) Report from Principals, and 3)

Onsite and offsite Monitoring Reports. The monitoring process is pertinent to ensure that the implementation is in accordance with the timeline that has been determined. Monitoring process conducted by Bank Indonesia during year 2016 found that 24.64% of ATM machines and 19.64% EDC machines have been rolled out to process ATM/Debet card with NSICCS chip while the number of ATM/Debet cards that have implemented NSICCS chip amounted to 0.6%.

The implementation of NSICCS is in line with the National Payment Gateway (NPG) development plan. This includes transaction processing using NSICCS for debit cards only on national debit principals where their presence and interconnection is part of NPG development.



The efficacious strategy in the placement of the pawns based on the steps taken, the opponent's position and the expected response of the opponent is the key to triumph in the game called Damdas. Similarly, Bank Indonesia continues to maintain the financial system stability with various Macroprudential policies in response to the development of the financial system and effort to mitigate the systemic risks that occurred in the financial system.

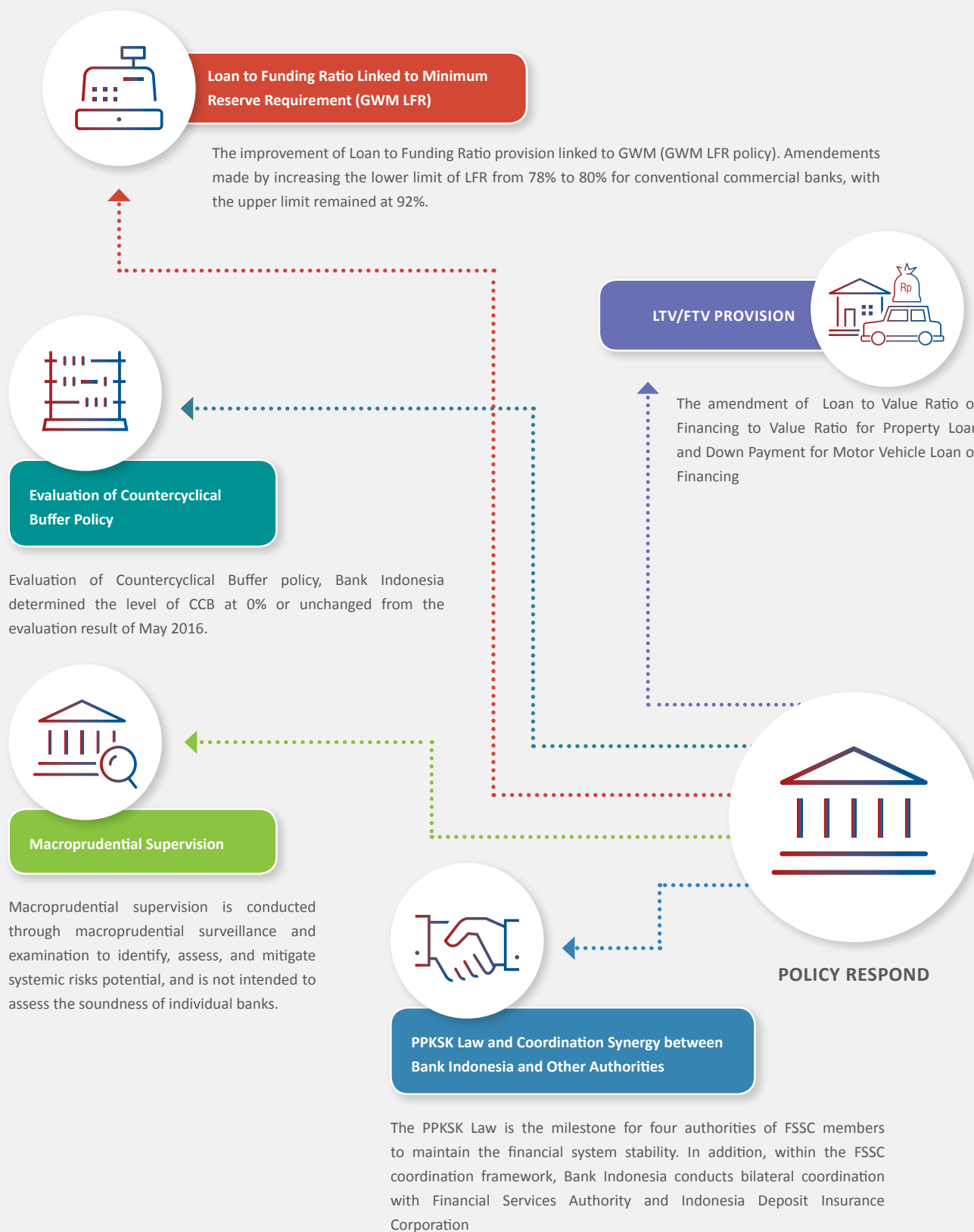
06

In order to maintain financial system stability, in 2016 Bank Indonesia has issued a number of accommodative and countercyclical macroprudential policies to respond to the financial system development and to mitigate major risks amid the consolidation of the domestic economy. As risks in the financial system remain contained, the development, space for provided accommodative macroprudential policies space to further promote the intermediation function of banks that plays a critical role in strengthening the pace of the domestic economy. The policies were combined with risk mitigation aspects that remain as a priority to protect the financial system from excessive risk taking behavior.

The macroprudential policies issued include the provisions of Loan (Financing) to Value Ratio, Loan to Funding Ratio provision linked to GWM, and the determination of the level of Countercyclical Buffer. In addition to the policy responses, efforts to maintain financial system stability were also conducted through the strengthening of coordination synergies between Bank Indonesia and related authorities as a follow up of the mandate of the Financial System Crisis Prevention and Resolution Law (PPKSK Law) enacted on April 15, 2016. The PPKSK Law was also a momentum for strengthening Bank Indonesia's Crisis Management Protocol framework which represents the authority of Bank Indonesia in the area of monetary, payment system, and macroprudential.

RESPONDS OF BANK INDONESIA'S
POLICY TO SUPPORT FINANCIAL
SYSTEM STABILITY

MACROPRUDENTIAL POLICY AIMS TO MITIGATE SYSTEMIC RISK IN ORDER TO MAINTAIN THE FINANCIAL SYSTEM STABILITY AND PROMOTE BALANCED INTERMEDIATION



Throughout 2016 Bank Indonesia has issued a number of accommodative and countercyclical macroprudential policies supported by the strengthening of coordination synergies with relevant authorities as an effort to maintain financial system stability. With due regard to the financial system development and the financial system risk that remain contained, these have provided a space for implementing accommodative macroprudential policies to promote the banking intermediation function that plays a critical role in the recovery of domestic economic growth. The efforts were pursued by remain prioritizing the importance of mitigating key risks that could potentially be systemic in order to prevent excessive risk-taking behavior that could compromise financial system stability. The strengthening of the coordination framework with relevant authorities supports the achievement of the objectives of the macroprudential policy response to mitigate systemic risk and to withstand the impact of the financial cycle contraction period.

The macroprudential policies issued include the provision of Loan (Financing) to Value Ratio, the provision of Loan to Funding Ratio linked to GWM, and the determination of Countercyclical Buffer (CCB) level. The amendment of the Loan (Financing) to Value provision was based on an evaluation result to the provision issued in 2015 which indicated the necessity of Loan (Financing) to Value Ratio that would be more accommodative to the property loan growth while remained prioritizing the risk mitigation aspects of the financial system. The similar conclusion also underlied

the amendment of the Loan to Funding Ratio linked to GWM i.e. a policy that would be more able to overcome the financial cycle contraction period in order to further promote lending by banks have not optimized their intermediation function but holding sufficient liquid assets and capital adequacy. In line with the continued contraction period in the financial cycle, the CCB's policy evaluation based on the third quarter of 2016 data, both the main credit-to-GDP gap indicator and the supporting indicators, indicated no systemic risk potential stemming from excessive credit growth, thus Bank Indonesia determined the CCB level of 0%.

On the national side, the issuance of the Financial System Crisis Prevention and Resolution Law (PPKSK Law) on April 15, 2016 was a milestone for strengthening coordination synergies in preserving financial system stability. In line with the mandate of the PPKSK Law, in 2016 Bank Indonesia has strengthened the coordination framework with relevant authorities through amendments of bilateral cooperation between Bank Indonesia and Financial Services Authority as well as between Bank Indonesia and Indonesia Deposit Insurance Corporation. The PPKSK Law was also a momentum for Bank Indonesia to increase its capacity in crisis prevention and resolution through the improvement of the Bank Indonesia's Crisis Management Protocol framework in Monetary-Exchange Rate, Macroprudential, and Payment System which represents the three main tasks of Bank Indonesia.

6.1. Amendment of Loan To Value Ratio Or Financing To Value Ratio For Property Loan Or Financing And Down Payment For Motor Vehicle Loan Or Financing

Evaluation of the implementation of Loan (Financing) to Value Ratio (hereinafter referred as LTV/FTV) provision for property loan or financing and down payment for motor vehicle loan or financing issued in 2015 showed that the implementation of the provision has been able to withstand the decelerating growth of property loan/financing provided by the bank. The evaluation result indicated the need for further amending the 2015 provision by lowering the LTV/FTV ratio to better support the consolidation of the domestic economy amid the financial cycle contraction period while remains ensuring financial system risk mitigation through the requirement of prudential and consumer protection principles.

Since 2012 Bank Indonesia has been actively implementing macroprudential policies aimed to mitigate systemic risk potential emerging from the growth of property and motor vehicles loan/financing channeled by banks. To promote economic growth, large multiplier effects from such sectors have to be maintained within the risk mitigation corridor of a sound financial system. The macroprudential policy on loan/financing of property and motor vehicle sectors has been applied by Bank Indonesia through the stipulation of LTV/FTV ratio for property loan/financing and down payment for motor vehicle loan/financing. From the first issuance in 2012, the provision has been amended several times to ensure that the provision remains not only anticipatory to

the financial system risk but also able to respond to contraction or expansion period of the financial cycle so as to be accommodative to the growth needs of property and motor vehicles loan/financing to support the domestic economy.

In line with the objectives of macroprudential policy, the LTV/FTV provision is intended to encourage better risk management in the disbursement of loan/financing for property and motor vehicles, thus it is expected to minimize systemic risks potential that may arise from the procyclicality behavior of property or motor vehicle loan/financing. The LTV/FTV provision has also issued in order to provide protection for consumers who are often being at risk of disadvantages than developer, particularly in the purchase of property with partially prepaid mechanism.

On the other hand, with due regards to the housing need, especially for low-income people, and the desire to support micro, small and medium enterprises (SMEs), the LTV/FTV provision governs exceptions granted to central/regional government housing programs.

At the beginning of the LTV/FTV provision issuance in 2012 and its amendment in 2013, the LTV/FTV provision aimed to strengthen the risk mitigation in the financial system in a view of the increasing indication of risks emerging from the growth in property loans. Meanwhile, the amendment of the provision made in 2015 aimed to maintain the momentum of national economic growth through the improvement of banking intermediation to the property sector and motor vehicles while remained maintaining the risk mitigation

aspects. The amendment in 2015 was issued by having that the risk in the financial system derived from the loan/financing of property and motor vehicles was relatively contained, thus there was policy space for improving the LTV/FTV policy to be accommodative to the needs of loan growth. The amendment was necessary given the continued slowdown in property and motor vehicles loan/financing which in turn could also posing risk to the financial system.

The amendment of LTV/FTV provision in 2015 managed to withstand a further decline in the growth of property loan/financing provided by banks. However, the amendment was insufficient to increase the growth of house mortgages. Therefore, in 2016, in order to support the consolidation of the domestic economy through the growth of property sector loans, further amendments to the LTV/FTV provision were required while remained taking into account

the mitigation aspect of financial system risks through the implementation of prudential and consumer protection principles. The amendments are expected to have a positive impact on the economy considering that the property sector has a large multiplier effect in boosting economic growth, while remain minimizing the systemic risk potential in the financial system.

The amendments to the provision of LTV/FTV are stipulated in Bank Indonesia Regulation No.18/16/PBI/2016 and Bank Indonesia Circular Letter No.18/19/DKMP on Loan to Value Ratio for Property Loans, Financing to Value Ratios for Property Financing, and Down Payment for Motor Vehicle Loan or Financing. The main amendments of the LTV/FTV provision in 2016 are as follows:

1. Adjustment of LTV ratio and tiering for Property Loan as well as FTV ratio and tiering for Property

Table 6.1. LTV Ratio and Tiering for Property Loan and Property Financing

Property Loan And Property Financing Based on Mudharabah and Istishna Contracts

Property Type	Existing Provision of Property Loan and Property Financing			Changes of Property Loan and Property Financing		
	I	II	III etc	I	II	III etc
House						
Type >70 m2	80%	70%	60%	85%	75%	65%
Type 22 - 70 m2	-	80%	70%	-	80%	70%
Type ≤ 21 m2	-	-	-	-	-	-
Flat/Apt						
Type >70 m2	80%	70%	60%	85%	75%	65%
Type 22 - 70 m2	90%	80%	70%	90%	80%	70%
Type ≤ 21 m2	-	80%	70%	-	80%	70%
Store/Home Office	-	80%	70%	-	80%	70%

Sharia Property Financing (MMQ And IMBT Contracts)

Property Type	Current Provision of Property Loan and Property Financing			Changes of Property Loan and Property Financing		
	I	II	III etc	I	II	III etc
House						
Type >70 m2	85%	75%	60%	85%	85%	80%
Type 22 - 70 m2	-	80%	70%	-	90%	85%
Type ≤ 21 m2	-	-	-	-	-	-
Flat/Apt						
Type >70 m2	85%	75%	65%	90%	85%	80%
Type 22 - 70 m2	90%	80%	70%	90%	85%	80%
Type ≤ 21 m2	-	80%	70%	-	85%	80%
Store/Home Office	-	80%	70%	-	85%	80%

Financing for the first facility, second facility, third facility and so on:

The adjusted LTV/FTV ratio and tiering are only applicable to a bank that fulfill certain requirements of Non Performing Loans (NPL)/Non Performing Funding (NPF) of total credit/net financing <5% and NPL/NPF of Property Loan/Financing gross <5%. In

the event that the bank does not meet the NPL/NPF requirements, the applicable LTV/FTV ratio is as follows:

2. Property loan/financing with partially prepaid mechanism is permitted up to the second loan facility with a gradual disbursement mechanism as follows:

Table 6.2. LTV/FTV Ratio based on Property Type

Property Type	Property Loan and Property Financing Based on Murabahah and Istishna' Contracts			Sharia Property Financing (Musarakah Mutanaqisah (MMQ) and Ijarah Muntahiya Bittamlik (IMBT) Contracts)		
	Property Loan/Property Financing Facilities			Sharia Property Financing Facilities		
	I	II	III etc	I	II	III etc
House						
Type >70 m2	80%	70%	60%	85%	75%	65%
Type 22 - 70 m2	-	80%	70%	-	80%	70%
Type ≤ 21 m2	-	-	-	-	-	-
Flat/Apt						
Type >70 m2	80%	70%	60%	85%	75%	65%
Type 22 - 70 m2	(1.95)	80%	70%	2.49	80%	70%
Type ≤ 21 m2	-	80%	70%	-	80%	70%
Store/Home Office	-	80%	70%	-	80%	70%

Table 6.3. Mechanism of property loan/financing disbursement

Disbursement Amount	Requirements
1. Vertical housing/Home Store/Home Office	
Max. cumulative disbursement up to 40% of limit	Foundation is compatible
Max. cumulative disbursement up to 80% of limit	Roof cover has been completed
Max. cumulative disbursement up to 90% of limit	Signing of Handover Report
Max. cumulative disbursement up to 100% of limit	Signing of Handover Report that has been completed with Deed of Sale & Purchase and Mortgage Granting Deed
2. Vertical housing	
Max. cumulative disbursement up to 40% of limit	Foundation is compatible
Max. cumulative disbursement up to 70% of limit	Roof cover has been completed
Max. cumulative disbursement up to 90% of limit	Signing of Handover Report
Max. cumulative disbursement up to 100% of limit	Signing of Handover Report that has been completed with Deed of Sale & Purchase and Mortgage Granting Deed

3. Top-up loan/financing is treated as loan/financing with the same facility provided that such loan/financing is a well-performing quality loan/financing. In the event that the loan/financing does not meet the above requirements, the top-up is treated as a new loan/financing facility. Such provision also applies to takeover loan/financing.

Meanwhile, the in the new LTV/FTV regulation, provisions related to the down payment of loan/financing for motor vehicle ownership were unchanged.

The revision of LTV/FTV regulation issued by Bank Indonesia in August 2016 began to exhibit positive results. The regulation has been able to curb the deceleration of mortgage growth as well as to lower the risk emerged from property sector loans.

In the second half of 2016, the growth of Mortgage Facilities for Houses (KPR) increased to 7.67% (yoy) higher than the growth recorded when the revised regulation was just enacted of 6.21%. The highest growth recorded by KPR of vertical housing type ≤ 21 . The improvement in mortgage growth was also supported by the improved credit risk as reflected by the decrease in NPL of KPR. The NPL of KPR in December 2016 fell to 2.54% from that of 2.92% in August 2016.

Property sales also showed an increase, especially the sale of small type house. Despite the increase of the property sale, property prices still exhibited a slowing trend. in the second semester of 2016, the property price of all types of houses rose at 2,38% (yoy), however the increase was lower than the first semester of 2016 at 3,39% (yoy).

Graph 6.1. Growth of Property Loan

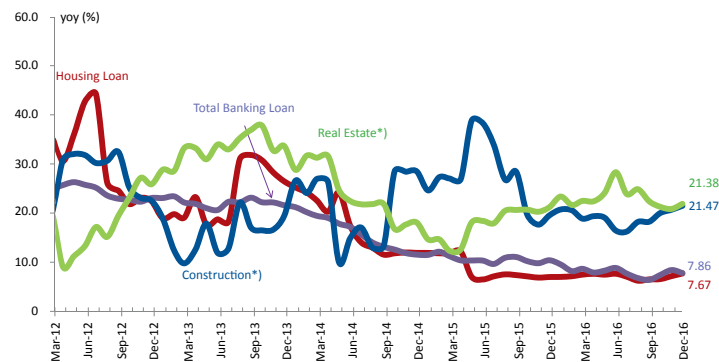
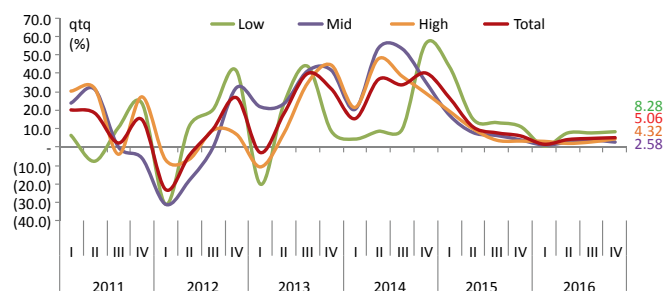


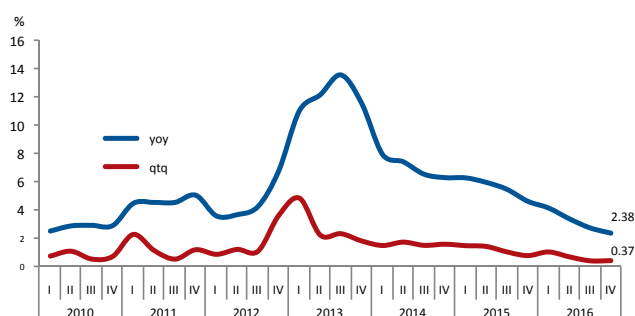
Table 6.4. Growth of Loan and NPL per KPR Type

KPR Type	Growth yoy (%)		NPL (%)	
	Aug'16	Dec '16	Aug'16	Dec '16
House				
Type ≤ 21 m2	(7.62)	(5.34)	2.93	2.30
Type 22 - 70 m2	13.93	14.32	2.69	2.31
Type >70 m2	1.02	3.45	3.03	2.70
Flat/Apt				
Type ≤ 21 m2	10.21	14.75	3.71	3.71
Type 22 - 70 m2	(1.95)	(0.57)	2.49	2.39
Type >70 m2	(3.59)	(3.33)	2.18	1.81
Home Store/Home Office				
	3.09	3.17	4.18	3.88
Total KPR	6.21	7.67	2.92	2.54

Graph 6.2. Growth of Property Sales



Graph 6.3. Growth of Residential Property Prices



6.2. Evaluation of Countercyclical Buffer (CCB) Policy

In November 2016, Bank Indonesia evaluated the ratio of CCB by using the third quarter data of 2016. The evaluation to the CCB's leading indicator namely the Credit-to-GDP gap showed no indication of systemic risk potential arising from excessive credit growth. The similar conclusion was also confirmed by supporting indicators consisting of macroprudential indicators, macroeconomic indicators, banking indicators, and asset price indicators. Based on the evaluation, it was concluded that at present it has not yet necessary to limit credit growth through the application of CCB above 0%. Therefore, on November 17, 2016 Bank Indonesia redetermined the CCB ratio of 0% or was unchanged from the evaluation result in May 2016.

Leading Indicator

The third quarter data of 2016 indicated that the leading indicator used in the CCB evaluation, namely Credit-to-GDP gap, showed a decline and the indicator fell within the area that showed no excessive credit distribution. This condition was mainly due to the less optimal and slowing growth of economic and loan. The loan growth in the third quarter of 2016 recorded at 6.47%, fell compared to that of in the second quarter of 2016 at 8.89%. In the third quarter of 2016, the economy grew at 5.02%, lower than that of the second quarter of 2016 (5.18%). The development indicated that no systemic risk potential emerged from excessive credit growth; therefore the recommended CCB was 0%.

Supporting Indicators

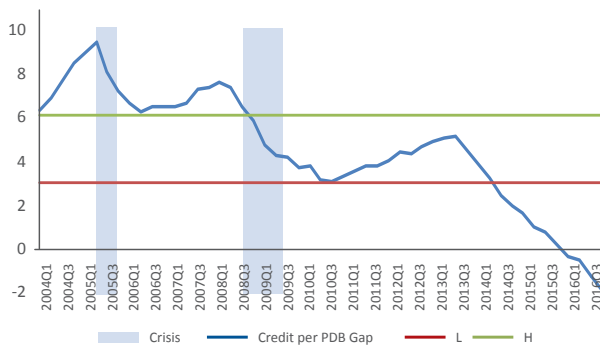
Meanwhile, the evaluation of supporting indicators that were used to support and complement information

obtained from the leading indicator also confirmed the evaluation result of the leading indicator. In general, the development of supporting indicators indicated a slowdown that supported the determination of 0% CCB. The supporting indicators consist of:

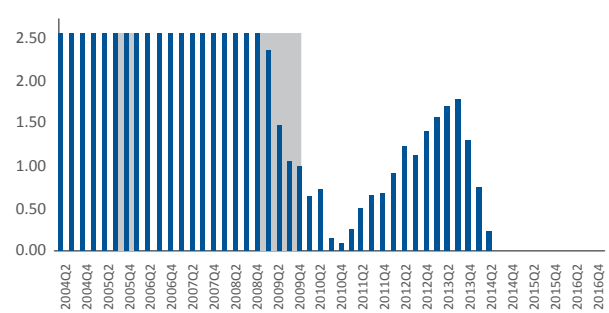
(i). Macroprudential Indicators

The Indonesian Financial Cycle (SKI) remained in a contractionary phase as shown in Graph 6.6. This was mainly due to the slowing trend in loan growth as one of the main component that formed the financial cycle. Such slowing indicated no systemic risk potential arising from excessive credit growth.

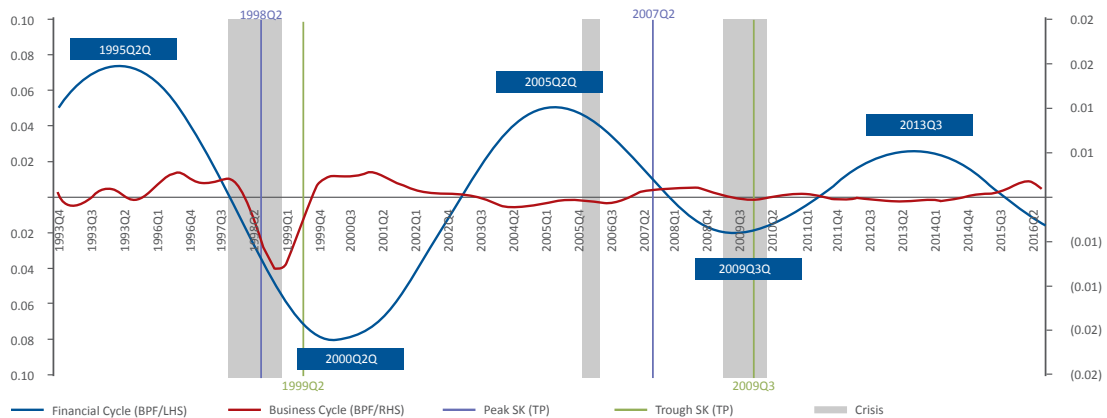
Graph 6.4. Leading Indicator of Credit-to-GDP Gap



Graph 6.5. Ratio of CCB based on Leading Indicator



Graph 6.6. Financial Cycle and Business Cycle



(ii). Macroeconomic Indicators

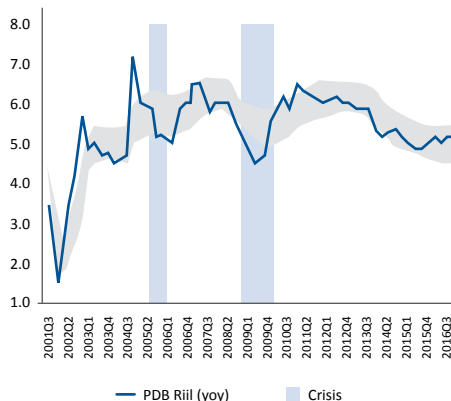
A number of macroeconomic indicators were used in the evaluation of CCB ratio. GDP as one of the macroeconomic indicators indicated a slowdown from 5.18% (yoy) in the preceding quarter to 5.02% (yoy) in the third quarter of 2016. Similarly, inflation also declined at the end of the third quarter of 2016 which was recorded at 3.07% lower than that of at the end of second quarter 2016 of 3.45%.

Another macroeconomic indicator was the development of exchange rate and external debt. The

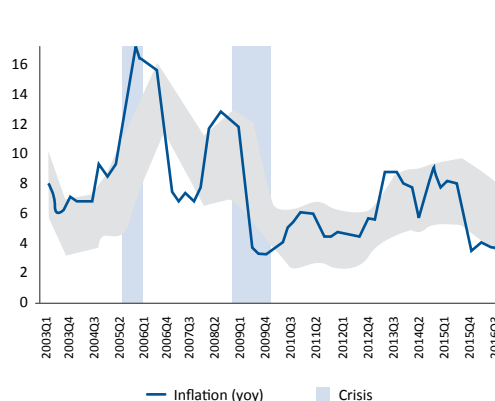
exchange rate appreciated during the first quarter of 2016. On the other hand, the growth of external debt in the third quarter of 2016 recorded at -6.68% (yoy) declined from the growth in the second quarter of 2016 of -2.27% (yoy).

The above macroeconomic indicators, in general, indicated that lending from banks are still necessary to the economy to promote higher economic growth. A CCB ratio of 0% could support the banks to promote their loan growth.

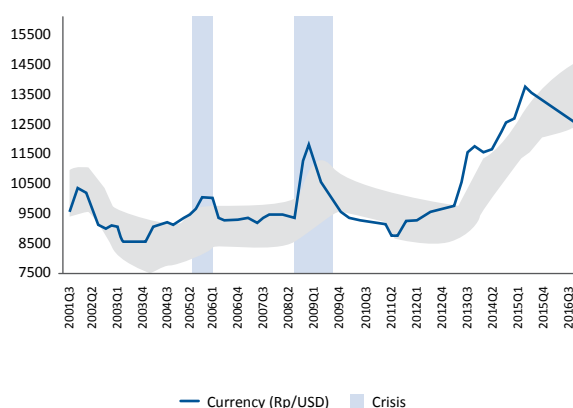
Graph 6.7. Growth of Real GDP (yoy)



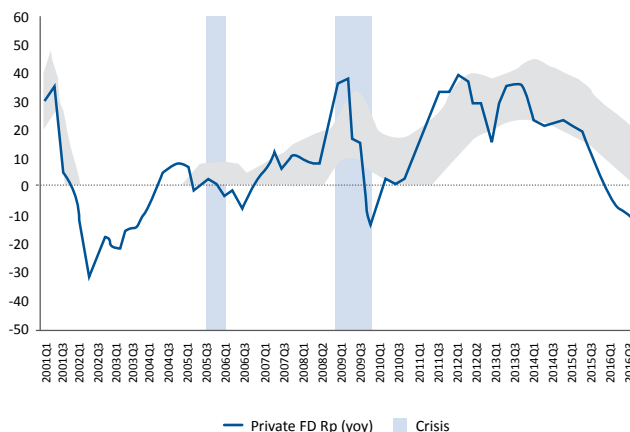
Graph 6.8. Inflation (yoy)



Graph 6.9. Exchange Rate (IDR/USD)



Graph 6.10. Private External Debt in Rupiah (yoy)

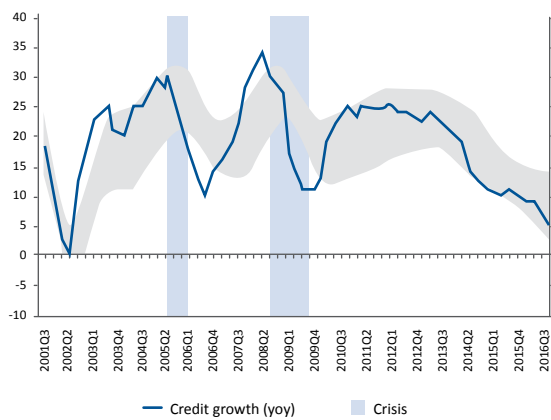


(iii). Banking Indicators

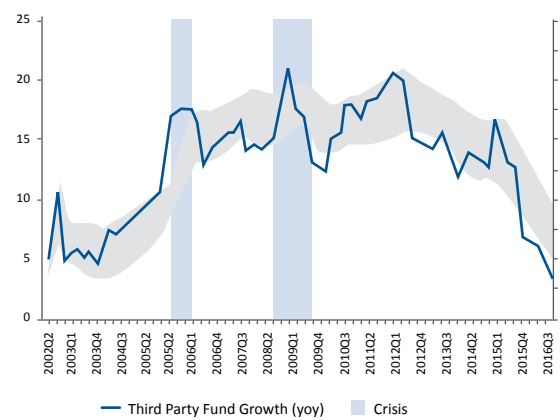
The economic deceleration was also reflected in the procyclicality behavior of banking credit growth, which was also slowing, thus affecting the rise of banking NPLs. Similarly, the growth of third party fund still showed a downward trend, namely to 3.15% in the third quarter of 2016 from 5.90% in the previous quarter. The condition prompted pressure on banking

ROA although the slightly increased to 2.32% in the third quarter of 2016 compared to that of 2.26% in the previous quarter. Meanwhile, banking CAR was relatively high, hence there was space for banks to increase lending and to absorb possible risks. The determination of 0% CCB provided more room for the banks to increase their lending.

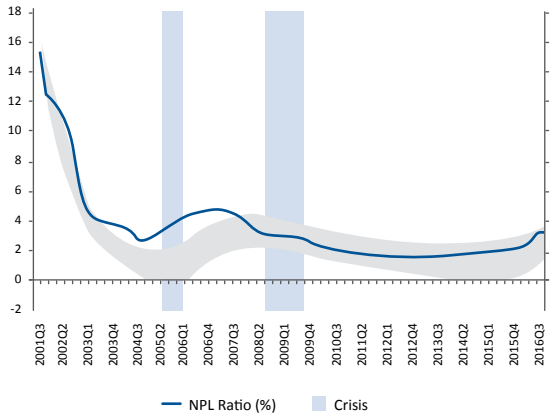
Graph 6.11. Growth of Loan (yoy)



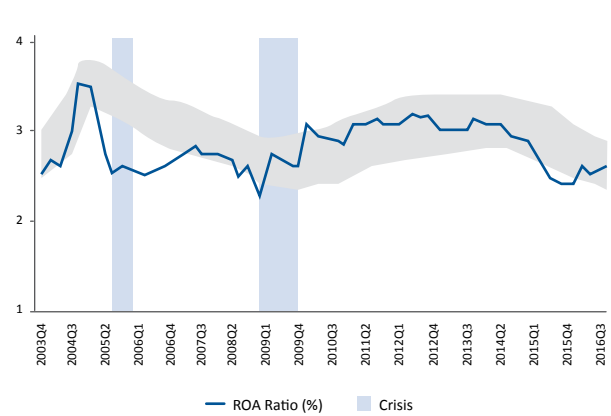
Graph 6.12. Growth of Third Party Fund (yoy)



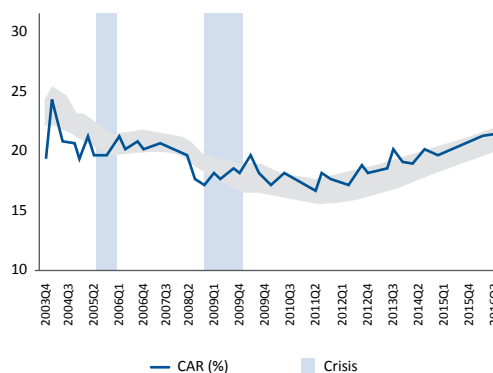
Graph 6.13. NPL Ratio (%)



Graph 6.14. ROA Ratio (%)

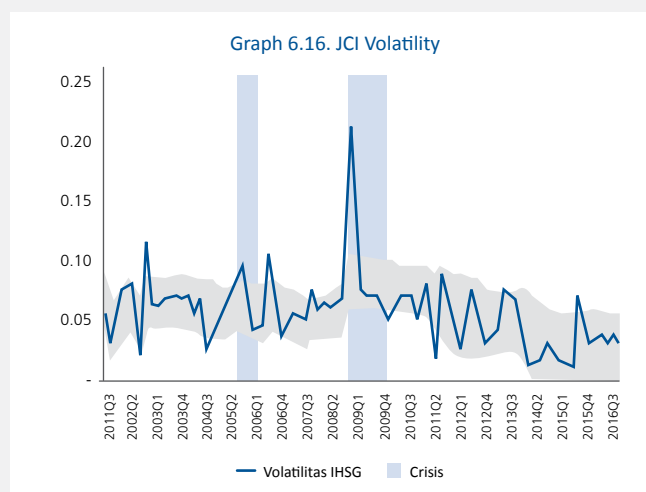


Graph 6.15. Capital Adequacy Ratio (%)



(iv). Asset Price Indicators

From the asset price point of view, low volatility of JCI reflected minimal pressure on the capital market. It also supported the determination of 0% CCB.



6.3. Policy of Loan to Funding Ratio Linked to Reserve Requirement (GWM LFR)

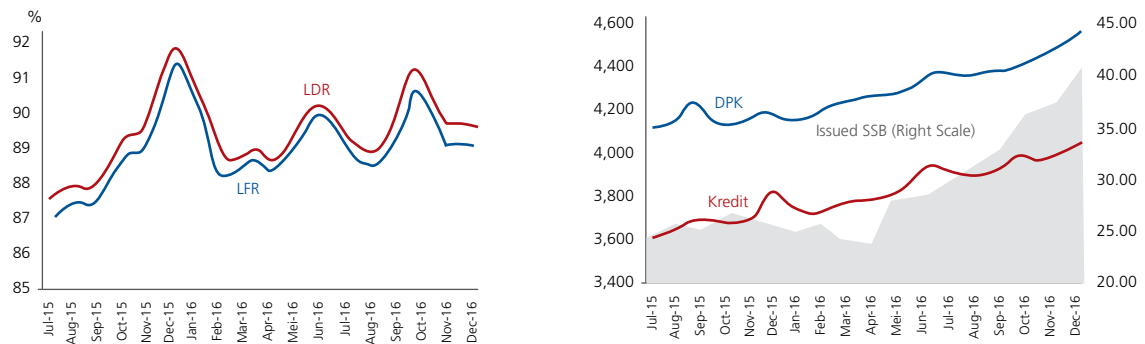
The revision of Loan to Funding Ratio provision linked to GWM (GWM LFR policy) in 2016 was driven by the necessity of a policy that will be more able to overcome the contraction period of financial cycle in order to further promote lending by banks that showed relatively low intermediation performance but hold relatively high liquid tools and sufficient capital adequacy. Taking into consideration that risks in the financial system were still well managed and in order to optimize monetary policy, in August 2016 Bank Indonesia revised the GWM LFR policy. The revision made by raising the lower limit of LFR from 78% to 80% for conventional commercial banks, with the upper limit maintained at 92%.

The continued decelerating loan growth in 2016 showed that the banking intermediation function

was less optimal yet as indicated by among others the Loan to Funding Ratio (LFR) of a number of banks that were still lower than the lower limit of LFR target determined by BI at 78% and the banks recorded a low credit growth over the past few years. The slowdown in loan growth was partly as a result of the decrease of corporate demand to loan and the increase of credit risk, in addition corporations also tended to retain credit expansion and to conducted efficiency.

GWM LFR instrument is a macroprudential instrument that aims to improve the resilience of banks by ensuring that the banks sufficient liquidity and apply credit risk management so as to promote a more optimal intermediation function. Bank Indonesia's efforts to encourage a more optimal intermediation function by banks through the GWM LFR instrument has been conducted in 2015 through the revision of the GWM LFR policy. In 2015, Bank Indonesia adjusted the formula used as one of parameters of the banks' intermediation, namely from Loan to Deposit Ratio (LDR) to LFR through the issuance of Bank Indonesia Regulation No. 17/11/PBI/2015 on Amendment to Bank Indonesia Regulation No. 15/15/PBI/2013 concerning Minimum Reserves Requirement in Rupiah and Foreign Currency for Conventional Commercial Banks. The amendement of the policy introduced the addition of certain components of securities (SSB) issued by banks into the funding formula (previously the formula only took into account third party fund) used in LFR calculation. The adjustment aimed at promoting the banks' intermediation process, encouraging the banks to utilize funding sources outside third party fund, as well as deepening financial market while remains ensuring the mitigation of systemic risk potential as the goal of macroprudential policy.

Graph 6.17. Banking Intermediation



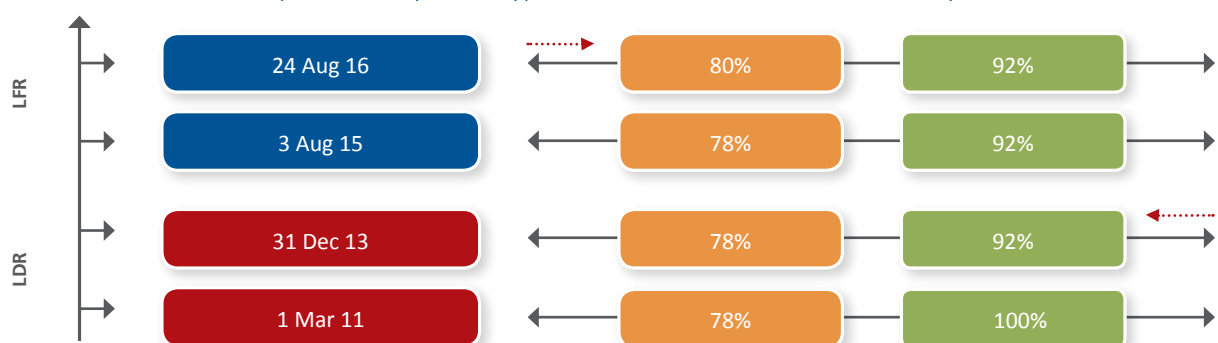
Description: Commercial Bank only

Following the implementation of the provision in 2015, the results of Bank Indonesia's evaluation in 2016 indicated the necessity to further promote lending from banking, especially by banks that shows relatively low intermediation performance but hold sufficient liquidity tools and capital adequacy. In addition, further revision of the GWM LFR provision was also to optimize monetary policy in 2016 that was taken by lowering the policy interest rate and decreasing the Primary Minimum Reserve Requirement (GWM). Taking into account the above matters and considering that the risk in the financial system was well managed, in August 2016 Bank Indonesia made another amendment to the GWM LFR policy.

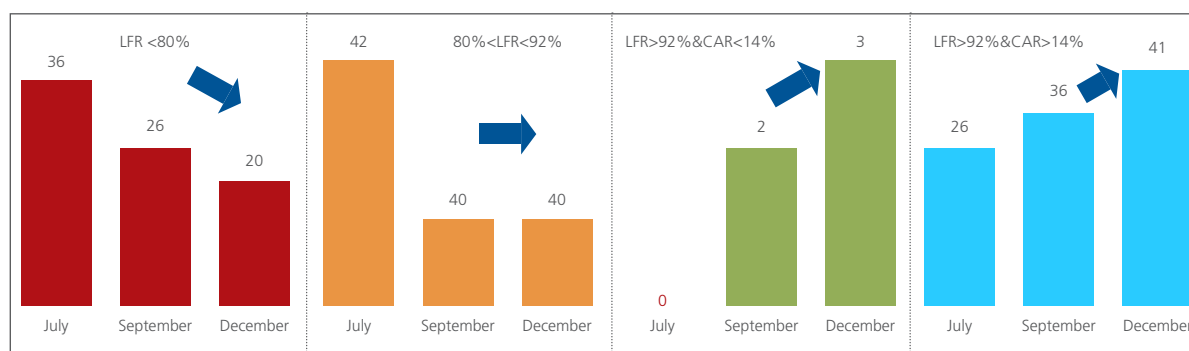
Bank Indonesia issued a revision of the GWM LFR policy as set forth in PBI No.18/14/PBI/2016 concerning

the Fourth Amendment of PBI No.15/15/PBI/2013 concerning Minimum Reserve Requirement in Rupiah and Foreign Currency for Conventional Commercial Banks. The regulation revised the lower limit of LFR linked to GWM by increasing the lower limit from 78% to 80% for conventional commercial banks, while the upper limit being maintained at 92%. The revision came into effect as of August 24, 2016. Furthermore, Bank Indonesia also revised the related Circular Letter (SE) of Bank Indonesia, namely Bank Indonesia Circular Letter No. 18/18/DKMP regarding Third Amendment of Bank Indonesia Circular Letter No.17/17/DKMP on Calculation of Minimum Reserve Requirement in Rupiah and Foreign Currencies for Conventional Commercial Banks.

Graph 6.18. Development of Upper Limit and Lower Limit of GWM-LDR/LFR Policy



Graph 6.19. Development of Number of Banks Which Fulfill GWM LFR Provision



The increase of the lower limit of the LFR ratio from 78% to 80% has encouraged intermediation by banks to the economy. This can be seen by the decline in the number of banks that were unable to meet the ratio of LFR < 80% from 26 banks in the third quarter of 2016 to 20 banks by the end of 2016. The number of banks that held LFR ratio in the range of 80% - 92% stable as many as 40 banks. In the same period, the number of banks with LFR ratio of > 92% also increased, both those held CAR > 14% and those held CAR < 14% but was still considered as adequate capital ratio for the banks. Banks met LFR ratio of > 92% with CAR > 14% increased from 36 banks to 41 banks, while banks maintained LFR ratio > 92% with CAR < 14% increased from 2 to 3 banks. The increasing number of banks with LFR ratio of > 92% reflected that the expansion of banking intermediation was also supported by the resilience of banking capital adequacy.

regulation but also macroprudential supervision. In the context of macroprudential supervision, Bank Indonesia has the authority to supervise banks or other financial serviced institutions conducted through macroprudential surveillance and examination.

Macroprudential surveillance is conducted to all elements of the financial system to determine the condition of the financial system by monitoring, identifying, and assessing systemic risks as well as imbalances in the financial system. If necessary, Bank Indonesia may conduct a macroprudential examination of banks and other institutions that are linked to the banks. The macroprudential examination is conducted as thematic examination which aims to confirm the occurrence of systemic risk or compliance of banks and/or other institutions to macroprudential policy. The examination is not intended to assess the soundness of a financial institution (bank) individually.

6.4. Macroprudential Supervision

In order to support the implementation of duty and authority in safeguarding the stability of the financial system, Bank Indonesia as a macroprudential authority, is authorized to perform not only macroprudential

In implementing the macroprudential supervisory function, Bank Indonesia is guided by the internal regulation of macroprudential supervision. The provision governs the implementation of macroprudential supervision and follow-up of supervision as well as imposition of sanctions. Following the transfer of banking microprudential supervision

from BI to OJK, aside from the macroprudential supervision, Bank Indonesia supervision also covers the supervision of monetary and payment system. In this regards, PSSK was appointed as a center of excellence of Bank Indonesia supervision.

6.5. Financial System Crisis Prevention and Resolution Law and Coordination Synergy between Bank Indonesia and Other Authorities

The issuance of Law No. 9 of 2016 on the Financial System Crisis Prevention and Resolution Law (PPKSK Law) was a significant momentum in constructing the stability of the financial system in Indonesia whereas the Law provides a strong foundation for four financial sector authorities in Indonesia, namely the Ministry of Finance, Bank Indonesia, Financial Services Authority, and the Indonesia Deposit Insurance Corporation, to preserve the financial system stability in order to function effectively, efficiently, and able to withstand turmoil originating from within and abroad. The Law provides a guidance on coordinated synergy among the four financial sector authorities in (i) coordinating the monitoring and maintaining financial system stability; (ii) addressing the financial system crisis; and (iii) resolving systemic bank problems, both under normal condition and financial system crisis condition. These are the task of a Committee established by the PPKSK Law in order to preserve the financial system stability, especially in the prevention and resolution of the financial system crisis, namely the Financial System Stability Committee (FSSC). Members of FSSC consist of Minister of Finance as a coordinator and member concurrently, Governor of Bank Indonesia as a member, Chairman of Board

of Commissioner of Financial Services Authority as a member, and Chairman of Board of Commissioner of Indonesia Deposit Insurance Corporation as a member. In the Committee, the Minister of Finance, the Governor of Bank Indonesia, and the Chairman of Board of Commissioner of Financial Services Authority hold voting rights, while the Chairman of Board of Commissioner of Indonesia Deposit Insurance Corporation is a member of FSSC without voting rights.

The formidable task of maintaining the financial system stability could only be carried out if inter-authority coordination, both within the FSSC framework and bilaterally inter-authority, could work well. Coordination among FSSC member authorities plays a crucial role in maintaining financial system stability in a view of the significant linkages and incisions in the implementation of duty and authority among the financial sector authorities, particularly regarding the banking sector. In this regard, the PPKSK Law reinforces the importance of coordination and inter-authority cooperation in the prevention and resolution of financial system crisis, especially between Bank Indonesia, Financial Services Authority, and Indonesia Deposit Insurance Corporation. In its role as the authority of monetary, payment system, and macroprudential, the PPKSK Law mandates the coordination between BI and the relevant authorities covering a number of matters: i) data exchange and/or information; ii) coordination between Bank Indonesia and Indonesia Deposit Insurance Corporation in resolving banks' solvency problem, iii) coordination between Bank Indonesia and Financial Services Authority in the provision of Short Term Liquidity Borrowing as well as the determination and the updating of domestic systemic bank list, as well as iv) support from the Ministry of Finance, Bank Indonesia, and Financial Services Authority on the bank

restructuring program arranged by Indonesia Deposit Insurance Corporation.

As a follow-up to the coordination mandate, Bank Indonesia already has a number of bilateral coordination frameworks i.e. with Financial Services Authority and Indonesia Deposit Insurance Corporation. Although the coordination frameworks with the two institutions already existed prior to the issuance of the PPKSK Law, the frameworks were further strengthened following the issuance of PPKSK law. The bilateral coordination framework between Bank Indonesia and Financial Services Authority as well as between Bank Indonesia and Indonesia Deposit Insurance Corporation were manifested in the form of Joint Decree of BI-OJK and BI-LPS Memorandum of Understanding. The agreements in both bilateral coordination frameworks are expected to facilitate and optimize the cooperation and coordination of BI with both institutions in order to carry out the functions, duties, and authorities of Bank Indonesia. In addition, in the context of coordination within the FSSC framework, Bank Indonesia has developed an internal provision on the Crisis Management Protocol which, among others, regulates inter-agency coordination within the FSSC framework.

a. Bilateral Coordination between BI and OJK

Prior to the issuance of the PPKSK Law, the coordination framework between BI and OJK established as a follow-up to the mandate of Law No. 21 of 2011 concerning the Financial Services Authority (OJK Law). The OJK Law marked a fundamental change in the institutional arrangement of financial sector authorities in Indonesia. Prior to the establishment of OJK, Bank Indonesia was the financial sector authority assigned to: i) formulating and implementing

monetary policy; ii) regulating and ensuring a smooth payment system; and iii) regulating and supervising banks, as regulated in Law No. 23 of 1999 concerning Bank Indonesia as lastly amended by Law No. 6 of 2009 concerning Bank Indonesia.

With the issuance of the OJK Law, the task of regulating and supervising banks from the microprudential side transferred from Bank Indonesia to OJK. Meanwhile, the task of regulating and supervising banks from the macroprudential side remains the task of Bank Indonesia that covering matters other than those set forth in article 7 of OJK Law. In addition, the elucidation of article 7 also states that in the context of macroprudential regulation and supervision, OJK assists BI to conduct moral suasion to banks. The arrangement indicates a mandate of the importance of coordination between BI and OJK. A number of other articles in the OJK Law also provide coordination mandates between BI and OJK in the implementation of each authority namely are as follows:

- Article 39 stipulates that in carrying out its duties, OJK coordinates with BI in establishing supervisory regulation in Banking sector, among others: i) minimum capital adequacy requirement; ii) integrated banking information system; iii) the policy of receipt of funds from abroad, receipt of foreign currency funds, and foreign commercial loans; iv) banking products, derivative transactions, and other bank business activities; v) the determination of banking institutions categorized as systemically important banks; and v) other data exempted from the provisions concerning the confidentiality of

- information.
- Article 40 paragraph (1) stipulates that in the case where Bank Indonesia in carrying out its functions, duties, and authorities requires to conduct a specific examination of a particular bank, BI may conduct a direct examination to the bank, by submitting prior written notice to OJK. Furthermore, in paragraph (3), it stipulates that the bank examination report as referred to in paragraph (1) shall be submitted to OJK no later than 1 (one) month since the issuance of the examination report.
 - Article 41 paragraph (2) stipulates that in the event that OJK indicates that a particular bank is experiencing liquidity difficulties and/or the bank's soundness level is deteriorating, OJK shall immediately inform BI to take steps in accordance with the authority of Bank Indonesia.
 - Article 43 regulates that OJK, BI, and LPS shall establish and maintain an integrated infrastructure of information exchange.

The articles emphasize the importance of coordination following the separation between microprudential and macroprudential regulatory and supervisory functions given the incisions in the exercise of BI's authority as the macroprudential authority and OJK's as the microprudential authority. Therefore, the coordination framework between BI and OJK has been established since 2013, which was marked by an agreement between the Governor of Bank Indonesia and the Chairman of the Board of Commissioners of OJK namely through the Joint Decree of BI and OJK Number 15/1/KEP.GBI/2013
PRJ-11/D.01/2013 dated October 18, 2013 concerning Cooperation and Coordination for the Implementation of Tasks of Bank Indonesia and

the Financial Services Authority. The agreement between BI and OJK was arranged in order to manage the smooth transfer of authority and to ensure the smooth coordination in the exercise of the duties of each authority.

The cooperation and coordination of BI and OJK is based on the following principles: i) collaborative; ii) improving efficiency and effectiveness; iii) avoiding duplication; iv) completing arrangements in the financial sector; and v) ensuring the smooth implementation of BI and OJK duties, in order to achieve a stable and sustainable financial system. The Joint Decree serves as a basis for cooperation and coordination of BI and OJK covering four main areas, namely: 1) the implementation of tasks according to each authority's respective duties; 2) information exchange of Financial Service Institutions as well as management of reporting system of bank and finance company by BI and OJK; 3) the use of BI's wealth and documents by OJK; and 4) management of BI officials and employees who are transferred or employed to OJK.

Furthermore, to facilitate the coordination and cooperation implementation of the Joint Decree, an Implementing Guidance or Technical Guidance has been prepared which regulates the details of the Joint Decree implementation. Cooperation and coordination cover not only Departments at BI and OJK Head Offices but also include cooperation and coordination between Domestic Representative Offices of Bank Indonesia and OJK Regional Offices/OJK Offices. The scope of coordination and cooperation includes the following matters:

1. Exchange of Data and/or Information on financial services institutions (LJK) and Macro-

Surveillance Results

2. Bank Examination
3. Preparation of Joint Study and/or Research
4. Indonesia's Stance on International Fora Issues
5. Information Exchange for Public Dissemination and Education
6. Cooperation and Coordination in the area of Payment System
7. Cooperation and Coordination between Bank Indonesia Domestic Representative Office and the OJK Regional Offices/OJK Offices

Various cooperation and coordination between BI and OJK has been well implemented. A number of achievements has been recorded from the cooperation and coordination, among others:

1. **Exchange of data and/or information.** One of the most crucial cooperation and coordination between BI and OJK is the exchange of data and/or information. In carrying out each authority's duties and authorities, BI and OJK require data sourced from Financial Service Institutions such as banking, non-bank financial institutions, and capital market. In this regard, BI and OJK coordinate and cooperate in exchanging data and/or information as mandated by Article 43 of OJK Law. The exchange of such data and/or information is carried out through an infrastructure called an Integrated Information Exchange (SAPIT) for machine-to-machine data (capturing data from reporting application). Meanwhile, the exchange of non-machine to machine of BI-OJK data and/or information, is conducted through other infrastructures such as SAPIT Information Exchange Application (SAPIT IEA),

mail, CD, or e-mail. Regarding the involvement of LPS in data/information exchange, currently BI and OJK each has a Memorandum of Understanding with LPS in which it regulates the exchange of data and/or information of each institution. In the future, the involvement of LPS in the integrated information exchange facilities that have been developed by BI and OJK will soon be regulated as well as the potential integration of reporting from Financial Service Institution.

2. **Use of documents and/or wealth.** The transition team of BI and OJK conducted, the identification of archive/documents, including the borrowing mechanism of archive/document by OJK to BI, namely the archive/document of the bank regulation and supervision prior to the transfer of microprudential authority to OJK. Furthermore, in relation to the use of BI's assets by OJK, the mechanism of return and/or renewal of the use of BI's wealth by OJK has also been arranged.
3. **Assignment of BI officials and/or employees to OJK.** In accordance with OJK Law, the assignment of BI officials and/or employees to OJK ended on December 31, 2016. In this regard, BI has completed the transfer of BI's employees who have chosen to become OJK employees, or who have chosen to return to BI. During the completion of the assignment, BI and OJK had conducted coordination and cooperation to ensure the rights or obligations of BI's employees who have chosen to become OJK's employees have been fulfilled in accordance with applicable provisions.

Furthermore, after the issuance of the PPKSK Law, BI-OJK has also prepared the Implementation Guidances as a follow-up to the issuance of the PPKSK Law, namely the Implementation Guidances of Cooperation and Coordination concerning the Determination and Updating of the List of Systemic Banks and the Implementation Guidance of Cooperation and Coordination in providing Short-term Liquidity Borrowing/Sharia Short-term Liquidity Borrowing.

To date, the coordination and cooperation between BI and OJK have been proceeding quite well, among others related to routine data exchange, development of report, and coordination in the preparation of BI regulations and OJK regulations.

In the future, the coordination and cooperation between BI and OJK will need to be further strengthened. This is not only based on the history of the OJK establishment, but also the development in the financial industry that requires an integrated inter-authorities actions. Several developments such as financial market deepening, financial technology, and financial inclusion are clearly related to the authority of various financial sector authorities, mainly because the object of regulation and supervision is largely banking. The initiatives launched by each institution should be formulated through coordination and collaboration mechanisms to be more efficient and provide greater value-added.

b. Coordination between Bank Indonesia and Indonesia Deposit Insurance Corporation

The framework of coordination and cooperation between BI and LPS has been translated through the signing of a Memorandum of Understanding by the Governor of Bank Indonesia and Chairman of the Board of Commissioners of LPS Number xxxx dated July 28, 2016 on Coordination and Cooperation for the Implementation of the Functions, Duties, and Authorities of Bank Indonesia with the Indonesia Deposit Insurance Corporation. The Memorandum of Understanding (MOU) is a renewal of the 2009 BI-LPS Joint Decree by considering the transfer of function, duty, and authority of banking microprudential regulation and supervision to OJK and the issuance of the PPKSK Law in April 2016.

The scope of coordination and cooperation between BI-LPS includes: i) cooperation and coordination of the disposal/settlement of Failing Bank that has no systemic impact in the form of revocation of business license; ii) funding in handling Bank solvency problem; iii) exchange of data and/or information; iv) employee competency development; v) research, study, and/or joint surveys; vi) dissemination and/or co-education; vii) the assignment of employees; and/or viii) the handling of other duties in accordance with prevailing laws and regulations, such as supporting the implementation of the Non-Cash National Movement (GNNT), financial markets deepening and financial access broadening.

The coverage related to funding aspect in handling Bank solvency problem, is the mandate of Article

27 paragraph (2) and Article 37 paragraph (2) of the PPKSK Law in which the articles govern the sale of Government Securities (SBN) by LPS to BI in handling the solvency problem of systemic banks and non-systemic banks, the latter is only in the financial system crisis condition. As a follow-up of the mandate 18/12/NK/GBI/2016
MoU-3/DK/2016, a Cooperation Agreement on the sale of Securities by the Indonesia Deposit Insurance Corporation to Bank Indonesia has been signed on October 31, 2016. The cooperation agreement serves as an implementation guideline for BI and LPS with regard to the sale of Government securities (SBN) in the context of handling the solvency problem of systemic banks and non-systemic banks, the latter

is only in the financial system crisis condition, in accordance with the decision of FSSC.

As mentioned above, in addition to strengthen the coordination, the issuance of the PPKSK Law was also a momentum to synergize the inter-authorities Crisis Management Protocol in Indonesia as an integrated guidance on work process and decision making in the prevention and resolution of the financial system crisis. In this regard, Bank Indonesia has strengthened BI's Crisis Management Protocol framework in relation to the three tasks of Bank Indonesia namely monetary, payment system, and macroprudential (Box 6.2.).

Box 6.1

Center of Excellence of Bank Indonesia Supervision

Following the transfer of Bank supervision from BI to OJK in 2014, the scope of Bank Indonesia's supervision is currently a reflecting Bank Indonesia's three tasks in the area of monetary, payment system, and macroprudential. Therefore, the coverage of Bank Indonesia's supervision includes supervision in the monetary, payment system, and macroprudential sectors. In this case, the supervisory task is conducted by the Department of Financial System Surveillance (DSSK) which has been appointed as the center of excellence of Bank Indonesia supervision.

As the authority of monetary, payment system, and macroprudential, Bank Indonesia has a great interest in overseeing the implementation of Bank Indonesia's policies considering the objectives/goals to be achieved from the policies in those three tasks are linked to each other and to the stability of the financial system.

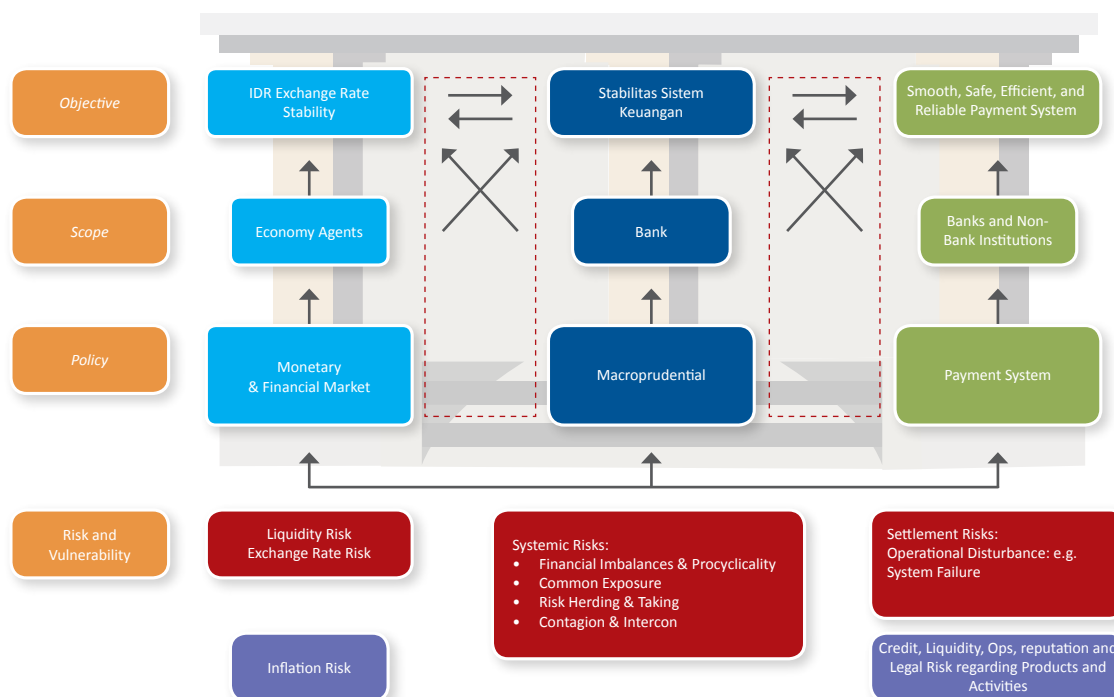
The monetary policy has a final goal to achieve monetary stability that leads to the stability of Rupiah. Since most economic players are also elements of the financial system, behavioral changes due to the monetary policy changes may indirectly influence the development in financial system. Therefore, monitoring of monetary variables is conducted not only for achieving the

goal of monetary stability but also for the purpose of financial system stability considering that the monetary variables are also the source of risk in the financial system.

On the other hand, macroprudential policies that are implemented to maintain financial system stability also contribute to the achievement of monetary targets and the stability of the payment system. For example, macroprudential policy that governs the countercyclical capital buffer may affect lending by banks to the domestic economy. This could affect economic growth, which in turn may contribute to the achievement of inflation as targeted by monetary policy.

The relationship between macroprudential policy and payment system could be seen from the role of payment system function in the financial system. A problem in the payment system will directly or indirectly affect the stability of the financial system. Conversely, financial system condition, such as the adequacy of a bank liquidity to perform its obligations in the payment system transactions will also affect the smoothness of the payment system. Thus, macroprudential policy which is related to the role of the central bank as a Lender of Last Resort will also affect the stability of the payment system.

Box Figure6.1.2. Policy Interaction of Bank Indonesia in Macroprudential, Monetary and Money Market, and Payment System



Taking into account the linkage of targets to be achieved from the three tasks of Bank Indonesia, supervision is an essential element in the implementation of Bank Indonesia policies. The supervisory result will serve as an input to observe the effectiveness of BI's policies as well as the compliance with BI's policies. The scope of each BI's supervision pillar is as follows:

- a. **Macroprudential supervision** is conducted to the financial system in order to prevent and mitigate Systemic Risk, promote balanced and quality intermediary function, and increase efficiency.
- b. **Monetary supervision includes**, among others, supervision of Banks' treasury activities and Money Market Brokerage activities, focusing

on their compliance with monetary regulations such as requirement regulation (GWM), external debt, net open position (NOP)) and risk identification in the money market in order to support the systemic risk analysis.

- c. **The payment system supervision** includes supervision of banks as participants of BI RTGS and SKNBI and supervision of payment system services provided by industry in the form of card-based payment instrument (APMK), electronic money (UE) including digital financial services, and Banks' fund transfers. Under these scopes, the payment system supervision will focus on payment system activity that may pose systemic risks, such as the high linkage of the payment system's players. In addition,

the supervision is also conducted to the implementation of prudential principles that may affect the security, smoothness, reliability, and efficiency of the payment system, including compliance with the applicable regulations. In this regard, the

supervision is also undertaken on the approval process of the development of payment system services, the development of product and payment system services activities, and cooperation between payment system providers and other parties.

Box Figure6.1.2. Bank Indonesia's Supervision Cycle



Based on the scope of the BI supervision, the three main objectives of the supervision conducted by BI are (1) to prevent and reduce systemic risk; (2) to ensure that payment systems and financial market activities are conducted with due regard to prudential principles; and (3) to ensure compliance with Bank Indonesia regulations.

Bank Indonesia Supervisory Framework is developed through a continuous monitoring cycle with a range of activities consisting of surveillance, examination, and follow-up of surveillance results.

The surveillance is carried out through monitoring, identification, and assessment.

a) Monitoring

Monitoring is conducted on data and information that are relevant to identify risks that potentially affect the condition and stability of the financial system. The data and information include financial cycle, condition and performance of financial institutions (such as banks, non-bank financial institutions, financial conglomerate groups), condition of financial market and financial market infrastructure including related financial market players (such as money markets, foreign exchange markets, capital and equity markets, and money market brokers), condition of non-financial entities, real sector (including corporate and household sectors), and payment system (which includes: i) monitoring of activities and transactions by Bank as BI RTGS and SKNBI

participants and ii) monitoring of payment system service activities provided by industry, including reporting of products, activities, and payment systems cooperation, as well as other supporting aspects).

b) Identification

Identification and analysis of instability sources in the financial system will include (1) identification of systemic risks in the financial system and (2) identification of other risks arising from money market activities and payment systems that are indirectly related to the systemic risk.

The identification of systemic risk is initially started by conducting assesment of systemic risk priority to the financial system as well as its transmission process to the financial system. Sources of risk in the form of disruption or shock could originate from external factors and internal factors. Sources of risk from external factors include among others global economic conditions, falling commodity prices, geopolitical developments and so forth. Meanwhile, the source of risk from internal factors could be a relatively massive disruption in the payment system or failure of financial institutions that are categorized as systemic. The materialized disruption or shocks in the financial institutions will be reflected in changes or deterioration of the institutions' risk profile, such as credit, market, and operational risks. In such condition, the presence of financial

system vulnerabilities will increase systemic risk potential. Vulnerability of financial system can be translated into several conditions, namely (1) financial imbalances, including procyclicality, (2) risk taking and risk herding behavior, and (3) common exposure and interconnectedness in the financial system.

The identification of other risks in the financial market and payment system involves identifying risks that are indirectly related to systemic risk, but may contribute to the achievement of the monetary policy targets as well as the payment system. For example, the payment system supervision also identifies operational risk of credit card activities in each issuer bank. Such identification is indirectly related to systemic risk but is important to the objective of payment system supervision in achieving a safe, smooth, reliable, and efficient payment system.

c) Assessment

Assessment is conducted to the assessment of systemic risk and other risks. Currently, the systemic risk assessment is carried out by applying several tools such as granular stress test, liquidity stress test, Banking Industry Rating, and network analysis. Meanwhile, the assesment tool that is being developed for assessing other risks is the use of risk matrix that will be able to portray risk profile of each payment system provider .

In accordance with the stages of the Bank Indonesia supervisory cycle, if necessary, Bank Indonesia may conduct examination, whether related to monetary, macroprudential, or payment systems. The examination is differentiated into thematic examination and compliance examination. The Thematic examination is conducted for a particular topic on one or more banks, while the compliance examination is more of a compliance-based examination on the implementation of Bank Indonesia regulations.

Box 6.2

Crisis Management Protocol of Bank Indonesia

The experience of 1997 and 2008 crisis has taught the importance of financial system stability. Crisis that occurs in a financial system could be originated from both domestic and external factors due to spillover impact of global economic conditions. The vulnerability of financial system as well as external and domestic disruption/shock increases the potential of financial system crisis which could lead to significant crisis costs and require substantial recovery time. The speed and accuracy of authorities' actions will play a crucial role in minimizing the worsening and spreading impact of the financial system crisis. Therefore, the actions require a guideline which regulates the structured actions to be taken in crisis prevention and resolution in the form of a Crisis Management Protocol. In this regard, as a tool in maintaining financial system stability, Bank Indonesia has established an internal Crisis Management Protocol that serves as a guidance and legal basis regarding work process within Bank Indonesia in a systematic and an integrated manner called as the Crisis Management Protocol of Bank Indonesia.

The enactment of the Financial System Crisis Prevention and Resolution Law (PPKSK Law) on April 15, 2016 was a momentum for Bank Indonesia to revise its 2012 Crisis Management Protocol through the issuance of Board of Governor Regulation (PDG) Number 18/16/PDG/2016 on Crisis Management Protocol and Internal Circular Letter No. 18/105/INTERN of 2016 on Guidelines for Implementation of the Crisis Management

Protocol. The revision includes provisions on the status of pressure in the financial system, data and information exchange mechanisms, as well as a coordination mechanism with the Financial System Stability Committee (FSSC) in the context of National Crisis Management Protocol.

BI Crisis Management Protocol as stipulated in PDG 2016 aims to be a guidance that is systematic, integrated, and sustainable that governs work process at Bank Indonesia and serves as a legal basis for BI decision-making process as well as implementation of actions undertaken by BI in the context of crisis prevention and resolution. The Crisis Management Protocol of Bank Indonesia includes 3 (three) sub-protocols namely Monetary subprotocol - Exchange Rate, Macroeconomic subprotocol, and Payment System subprotocol. The three subprotocols represent the three main tasks of Bank Indonesia.

Each sub-protocol regulates the conduct of surveillance and assessment either periodically or at any time as one of the prevention measures of the financial system crisis. The surveillance and assessment are conducted through several activities that include:

(1) Identification of risks, both global and domestic. The identification is carried out on risks that may trigger the increase of pressure in exchange rate and external pressures, financial system instability and increased systemic risk, and payment system instability. The identification is

conducted through collection and monitoring of data and information.

(2) Analysis of vulnerability and factors that trigger the increase of pressure in Exchange Rate and External pressures, instability of the Financial System as well as the increase of Systemic Risk and the instability of Payment System. The analysis is conducted by applying various quantitative and qualitative indicators.

(3) Formulation of pressure status indication of Monetary-Exchange Rate subprotocol, Macroprudential subprotocol, and Payment System subprotocol.

The surveillance and assessment activities within the Bank Indonesia's Crisis Management Protocol framework shall be undertaken by each subprotocol periodically (ie monthly, weekly and daily) or at any time. The surveillance and assessment were conducted using both qualitative and quantitative indicators.

The results of surveillance and assessment include analysis of development, potential of risk, and pressure status indication of each subprotocol. The indication of pressure status from surveillance and assessment results is differentiated into Normal and Potential Crisis Status. Normal condition is further distinguished into Stable, Cautious, and Alert. The criteria of each pressure status are

distinguished, among others, by the intensity of pressure, the impact on Financial System Stability and the economy, as well as the policy responses to be taken by Bank Indonesia.

Decision making in the BI's Crisis Management Protocol framework is conducted through the Board of Governors Meeting. The objective of the meeting is to take decisions on: (1) pressure status, (2) delivery of pressure status to FSSC, (3) policy responses to be undertaken by Bank Indonesia, and (4) policy response options that require coordination with the Government, FSSC, and/or other related institutions. In the event that the Board of Governors Meeting determines the status of the potential crisis, the Board of Governors Meeting may decide the establishment of a financial system crisis management center of Bank Indonesia to accelerate the steps or procedures undertaken in the context of crisis prevention and resolution.

In relation to the National Crisis Management Protocol, under the Potential Crisis status, Bank Indonesia will propose the conduct of the FSSC Meeting to discuss the change of the pressure status. This procedure will be conducted considering that in the Potential Crisis status, policy responses must be conducted nationwide comprehensively.

Within the framework of the National Crisis Management Protocol, Bank Indonesia is one

of the 4 (four) institutions that is responsible of maintaining financial system stability especially in preventing and handling the financial system crisis. In addition to Bank Indonesia, 3 (three) other institutions are the Ministry of Finance, OJK, and LPS. Under the PPKS Law, a Committee that is responsible for the prevention and resolution of financial system crisis is called as Financial System Stability Committee (FSSC), which is comprised of the Minister of Finance who also serves as the coordinator, the Governor of Bank Indonesia, the Chairman of the Board of Commissioners of OJK, and the Chairman of the Board of Commissioners of LPS.

Under the PPKS Law, Bank Indonesia plays a very significant role in the prevention and resolution of the financial system crisis namely (1) as a member of the FSSC with voting rights, (2) plays an active role in monitoring and preserving the stability of the financial system in accordance with the Bank Indonesia' authorities in monetary, macroprudential, and payment system; (3) provides input to OJK in the determination of systemic bank; (4) as a Lender of Short Term Liquidity Borrowing/ Short Term Sharia Liquidity Borrowing; (5) as a

buyer of Government Securities owned by LPS for handling failing Bank based on FSSC decisions, and (6) provides support to the Banking Restructuring Program. The implementation of the mandate of the PPKS Law requires coordination and cooperation among financial sector authorities both bilaterally and through FSSC. Therefore, coordination and cooperation within the framework of National Crisis Management Protocol become the priority of each financial sector authority in maintaining financial system stability. The implementation of Bank Indonesia's role within the framework of the national Crisis Management Protocol is governed in Bank Indonesia internal regulation concerning Bank Indonesia's Crisis Management Protocol and other Bank Indonesia regulations.



BANK INDONESIA



Playing kite requires a good grasp of weather as well as wind direction and speed to control the kite stability in the sky. In order to maintain the financial system stability, Bank Indonesia could also forecast both global and domestic economic conditions, challenges to be faced and potential risks to prepare the necessary policy responses to maintain sound stability.

In 2017, the financial system stability was predicted to be in control as the economic condition improve and its supported by the increasing resilience and performance of the banking industry. Accordingly, the growth of credit and Third Party Funds in 2017 is expected to be better. Credit risk is also expected to be stable and declines in line with the banking consolidation effort and improvement of economic growth. Although, several economic sectors still need to observe regarding the development of credit risk in these areas.

In the future, several potential risks need to notice, both from the external (including the unstable global economic recovery and the uncertainty of US government policy direction) and internal (such as the potential for inflation due to administered prices) which may affect the financial system stability. Therefore, Bank Indonesia will continue to strengthen measurable, integrated and synergistic macroprudential policies with the policies of monetary and payment system, including strengthening coordination and communication with the government, OJK, and LPS. Macroprudential policy is mainly directed to strengthen financial system stability and maintain the resilience of the financial system, which among others are strengthening the assessment and surveillance of the financial system, as well as the identification and monitoring of systemic risk using the Balance set of Systemic Risk.

CHALLENGE, OUTLOOK AND FUTURE POLICY DIRECTION OF FINANCIAL SYSTEM STABILITY

CHALLENGES, OUTLOOK AND POLICY DIRECTION



The forecast of financial system stability in 2017 is expected to be under control, supported by increased resilience and improved industrial performance amid improving economic conditions.



External

- ✓ Unstable global economic recovery
- ✓ US government policy directions remain uncertain including a three-times plan of Fed rate increase by 2017
- ✓ Rebalancing in China



Internal

- ✓ The potential for increasing inflation from administered prices and volatile foods
- ✓ Maintain no increase in NPL, as well as efforts to improve the performance of debtors
- ✓ Unbalanced banking funding structure and financial market that is still shallow
- ✓ Unfulfilled state revenue target from taxes could lead to a cut in government spending budget which may affect fiscal stimulus for the economy

5,0%–5,4%



Credit Growth (yoy)



4,0% ± 1% yoy



Growth of Third Party Fund (yoy)



Policy Direction of Financial System Stability

1. Strengthen and expand the scope of macroprudential surveillance to identify earlier sources of pressure,
2. Systemic risk identification and monitoring using the Balance set of Systemic Risk in the form of Risk Assessment Matrix (RAM) to detect priority risk that could potentially lead to imbalance of the financial system,
3. Strengthen the crisis management framework through the alignment of financial system stability indicator and Bank Indonesia's surveillance results with the National Crisis Management Protocol,
4. Support financial market deepening efforts to strengthen financial market resilience against shocks, and
5. Strengthen coordination and communication with government, OJK, and IDIC to support the policy mix to be taken by Bank Indonesia.

7.1. Challenges of Financial System Stability

7.1.1. External Opportunities and Challenges

External challenges include: (1) an unstable global economic recovery, (2) inflationary pressure in developed countries is expected to increase which resulting in an encourage for tighter monetary policy in these countries, (3) Geopolitical risk in Europe, and (4) uncertainty in the direction of United States government policy including the Fed's interest rate increase plan that could boost the strengthening of the US currency and rising the cost of borrowing and potentially put pressure on capital flows and exchange rates. Also, rebalancing (consolidation and adjusting sources of economic growth) that occur in China could also be one of the challenges of the external side.

Meanwhile, the IMF in the World Economic Outlook (WEO) publication in January 2017 estimated global economic growth in 2017 to improve to 3.4%. The condition has mainly supported by economic development of the emerging market area which is expected to grow by 4.5%.

The growth contributors, among others, comes from China and US economic growth in 2017, which is expected to grow by 6.5% and 2.3%, respectively.

Table 7.1. Forecast of Global Economic Growth

Variable	2015	2016	2017	2018
Global GDP	3.2	3.1	3.4	3.6
- GDP of Advanced Economies	2.1	1.6	1.9	2.0
- GDP of Emerging Economies	4.1	4.1	4.5	4.8
World Trade Volume	2.7	1.9	3.8	4.1

Sumber: WEO IMF 2017

These growths are mainly supported by the following factors: (1) relatively limited opportunities for a further decline in world commodity prices, moreover in oil prices, (2) fiscal stimulus policy of the US government, and (3) the possibility of normalization of US monetary policy which more accommodative than originally estimated. These factors are expected to have a positive impact on other countries and increase the volume of international trade that is supposed to grow by 3.8% by 2017.

In addition, there is an upside risk that could affect the future outlook of the US economic growth to be higher than the original estimation. If such scenarios occur, then it could make the Fed raise its policy rate more aggressively than the forecast resulting in the boost of the yield for US Treasury yield curve and USD currency appreciation. On the other hand, the downside risk that needs to be observed, among others, is when the US government aggressively conduct protectionism of their domestic product and limits immigrants

Table 7.2. Forecast of the US and China GDP

Forecast of US GDP

	The Fed	IMF	
		Oct'16	Jan'17
2016	1.9	1.6	1.6
2017	2.1	2.2	2.3

Forecast of China GDP

	Govt	IMF	
		Oct'16	Jan'17
2016	6.5-7	6.6	6.7
2017	6.5	6.2	6.5

from outside the US. Such policy could lead to the production of previously diversified US goods based on the comparative advantage of each country to become centralized in the US that could potentially trigger a slowdown in the economies of US trading partners. Besides, US export destination products are becoming increasingly difficult to enter the US due to a significant tax imposition plan. The condition has the potential to weaken world economic growth and inflationary pressure due to increased production costs.

7.1.2. Internal Opportunities and Challenges

On the internal/domestic side, the challenges that need to observe are the potential for inflationary increases from administered prices or government regulated prices, as well as efforts to increase state revenues primarily from taxes to control the deficit. Meanwhile, efforts to improve the quality of bank credit will still be continuing and expected to stabilize and decline.

Along with rising economic growth, some commodity prices and strong domestic consumption will also be an opportunity for increasing bank lending, as well as improving credit quality. The continued implementation of government economic policy packages could also be an opportunity for the financial sector to boost economic growth and maintain financial system stability. Bank Indonesia through macroprudential policy seeks to achieve this condition. The policies are the relaxation of Loan to Value (LTV) for property loan and Financing to Value (FTV) for property financing, as well as an increase in the lower

limit of Minimum Reserve Requirement (GWM)-Loan to Funding Ratio (LFR) from 78% to 80%.

Moreover, corporate performance is expected to be more stable and to improve may also be an opportunity for the financial sector to keep growing, including efforts to improve credit quality. Furthermore, in line with the increase in economic growth and improvement in corporate performance, it is expected to increase the accumulation of bank's third party funds as one source of funds for banks in lending.

Regarding inflation control, especially administered prices and the effect of volatile foods on inflation, Bank Indonesia will always strengthen coordination with the government through the Inflation Monitoring & Control Team at both national and regional levels with a focus on price controls to stay within a certain range to support sustainable economic growth. Meanwhile, regarding fiscal, tax amnesty program is expected to provide additional state revenue and expand the taxpayer's tax base. The risk of unfulfilled state revenue targets from taxes could lead the government to cut spending budget which could impact to limited fiscal capacity to provide stimulus for the economy. From the financial sector, especially banking, the biggest challenge is to prevent further NPL increment and improvement of debtor performance to fulfill its obligations. Efforts to decrease NPL could reduce loan provision thus expected to support efforts to reduce loan interest rate. In addition, the unbalanced structure of banking fund and the not yet deep financial market also serve as a domestic challenge.

7.2. Prospects of Banking Resilience and Financial System Stability

Indonesia's economic condition in 2017 is predicted to be better amid the global economy is estimated to grow limited. Indonesia's economy is estimated to grow in the range of 5.0%–5.4% with an inflation target of $4\% \pm 1\%$. The phase of economic recovery is expected to continue, driven mainly by improving export performance as commodity prices begin to rise. Meanwhile, household consumption growth is predicted to be adequately stable and robust enough to support Indonesia's economic growth which backed up by controlled inflation. Financial system stability is also expected to be stable and controlled, especially supported by the resilience and improved performance of the banking industry.

In line with the increase in economic activity and various policies that have taken before, credit growth and Third Party Funds in 2017 are estimated to be better than in 2016. Credit is expected to grow in the range of 10%–12% in line with a corporate performance that tends to increase despite expanding prudently. Along with the performance of nonfinancial corporations in 2016 that showed improvement and business conditions in 2017 which will still face challenges, it estimated that non-financial corporation performance could still maintain with several economy sectors experience growth. The infrastructure sector still requires substantial financing thus encourage the growth of bank credit in line with government policy in building the means of supporting economic growth. Meanwhile, export is expected

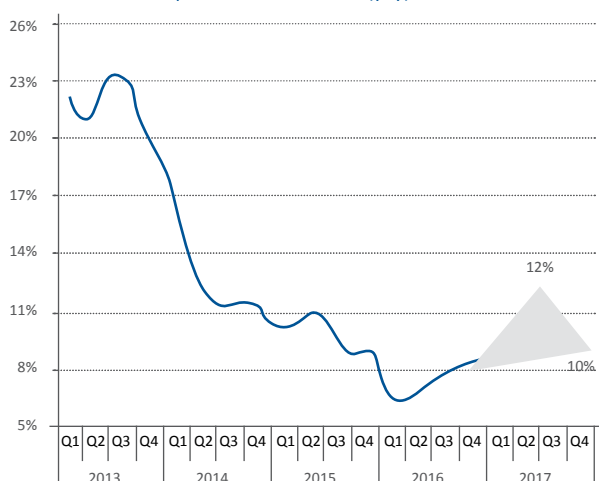
to increase along with economic improvement in trading partner countries and rising prices of some commodities. The export improvement is projected to continue not only supported by export commodities but also manufactured products.

Meanwhile, Third Party Fund in 2017 is estimated to grow in the range of 9%–11% or higher than the previous year. On the other hand, the credit growth is expected to be greater than third party fund has the potential to generate funding gap, especially in the fourth quarter of 2017, which will encourage banks to seek other sources of financing. The situation is in line with the increased projection of securities issuance and foreign debt in 2017. The relatively low projected growth of third party fund is partly due to the potential for transfer of bank funds from third party fund to Tradable Government Securities (SBN) since SBN offers higher returns, as well as OJK regulations that require Non Bank Financial Institution (IKNB) to place investment funds in the form of SBN instruments in certain portions.

Non-Performing Loan (NPL) and banking consolidation are predicted to continue affecting credit growth in 2017. Credit risk is expected to stabilize and is supposed to decline along with banking consolidation efforts and increased economic growth. In the meantime, several sectors of the economy still need to be noticed and observed about the credit risk conditions of these areas compared to the previous period.

Furthermore, considering the ability of banks to maintain profit growth and capital sustainability, and well-managed credit risk, financial system stability,

Graph 7.2. Credit Growth (yoy)



Graph 7.3. Third Party Fund Growth (yoy)



and banking resilience are expected to remain intact in 2017. Meanwhile, the banking liquidity condition is also expected to improve along with government financial operations and currency inflows, as well as economic improvement.

7.3. Policy Direction

In the future, various challenges, both external and domestic, still need to be observed to maintain the stability of financial system. Facing these difficulties, Bank Indonesia will always strengthen its measured macroprudential policies, integrated and synergized with monetary policy and payment system. Macroprudential policies designed to strengthen financial system stability and to maintain the resilience of the financial system.

Taking into account the challenges in 2017, macroprudential policy direction will include, among others: (1) strengthening and extending the scope of

macroprudential surveillance to identify sources of shock early, (2) systemic risk identification and monitoring using the Balance set of Systemic Risk in the form of Risk Assessment Matrix, (3) strengthening the crisis management framework through the establishment of financial system stability indicator alignment and the results of Bank Indonesia surveillance with the National Crisis Management Protocol, (4) supporting financial market deepening efforts to strengthen financial market resilience against shocks, and (5) strengthening coordination and communication with government, OJK, and IDIC to support the policy mix that to be taken by Bank Indonesia.

Furthermore, there are several Bank Indonesia's efforts in strengthening the assessment and surveillance of the financial system. Policies applied through the approach and implementation of LTV, Countercyclical Capital Buffer (CCB), RR-LFR, national and regional balance sheet analysis, and the role of financial technology (fintech) office in responding the fintech development especially in relation to Indonesia's financial system.

In addition, the access to MSME player, particularly in the creative industry sector, will explore in

collaboration with the Indonesian Creative Economy Agency (Bekraf) in which Bank Indonesia will facilitate the preparation of business models of financing and banking intermediation with the creative industries. Efforts to encourage the distribution of MSME credit are also supported by the lending opportunity for MSME through the pattern of linkage in cooperation with fin-tech in line with the development of money lending services based on information technology (fin-tech).

Box 7.1

Systemic Risk Survey on Indonesia Financial System

As an institution with macroprudential authority, Bank Indonesia plays a role in maintaining and preserving financial system stability, especially by preventing and reducing systemic risk. In performing its duties, Bank Indonesia developed a Balanced Approach mechanism by identifying priority risks that need to monitor, so that the resources could be used effectively and efficiently on those risks. Implementation of the Balanced Approach includes: (1) identify sources of disturbances in the form of shocks¹ and vulnerabilities², (2) determine the sources of risk which are the interactions between shock and vulnerability, and (3) prioritize those risks that potentially cause systemic risk.

In the identification of the shock and vulnerability that becomes sources of risk in the financial system, Bank Indonesia also captures information from stakeholders through the implementation of a systemic risk survey. As such, Bank Indonesia could obtain more comprehensive information, as well as reduce the asymmetric information on risks in the Indonesian financial system.

Systemic risk survey begins to take place in 2015, with improvements to the questionnaire in the second survey in 2016. Moreover, the survey will be conducted semi-annually.

In Systemic Risk Survey 2016, the number of respondents amounted to 202 respondents with a response rate of the questionnaire amounted to 74.3%. Respondents' are among others participants in the financial sector who are considered to have adequate competence and knowledge of the latest developments in the financial system. Respondents are high-level officials in the bank and non-bank financial institutions, professional associations, economic experts, corporations, international agencies, and others such as academicians, media, and research institutions.

The survey has designed with 2 (two) main questions. First, the question to explore information about the source of systemic risk (shock and vulnerability) in the Indonesian Financial System. This question is intended to explore respondents' perceptions of the impact³ and possibility⁴ of each shock, also the risk characteristics⁵ and severity⁶ of each vulnerability. The result of the respondent's assessment will be quantified⁷ resulting in a list of shock and vulnerability priorities. Second, the question is intended to explore information related to the level of trust of respondents to Financial System Stability in Indonesia, both in the short term (<6 months) and long term (> 6 months)⁸.

¹ A shock is a specific event that triggers (accompanies) a crisis (the proximate cause).

² Vulnerabilities are the conditions (pre-existing features) of the financial system which may amplify and accelerate the spread of shock.

³ The assessment of risk impact is differentiated into Large, Medium and Small with the quantification values of 3, 2 and 1 respectively.

⁴ Assessment of possibility is differentiated to High, Medium and Low with the quantification values of 3, 2 and 1 respectively.

⁵ Assessment of the nature of risk is differentiated into Temporal and Structural with the quantification values of 2 and 1 respectively.

⁶ Assessment of severity is differentiated into Alarming and Non-alarming with the quantification values of 2 and 1 respectively.

⁷ The total shock value obtained by multiplying the impact and probability values, while the vulnerability value obtained by adding the value of the characteristics and severity.

⁸ Assessment level of trust is divided into Highly Trusted, Trusted, Not Trusted and Highly Not Trusted with the quantification values of 4, 3, 2 and 1.

The list of shock and vulnerability priorities based on the results of the Systemic Risk Survey of 2016 is as follows:

Shock	Vulnerability
1. Slowing economic growth in the country that has an influence on the world economy (e.g., China). 2. Changes in government policies related to fiscal (e.g. tax amnesty, front loading policy). 3. The decrease in commodity price index. 4. Condition in domestic economic growth has slowed down 5. The decline in world oil prices. 6. The increase of Fed Fund rate. 7. Changes in policies and regulations on financial institutions (e.g. ownership of State Securities by IKNB, capping of the interest rate). 8. Domestic and global political and security issues. 9. Force Majeure which affects the operation of the financial system.	1. Concentrated sources of funding to major customers. 2. The banking sector dominated by several major banks. 3. The share and volatility of foreign capital ownership are high. 4. Shallow financial market. 5. Increased private foreign debt. 6. The composition of exports dominated by commodities that have falling prices. 7. Over leverage in the corporation. 8. Financial technology innovation which has not balanced with IT security. 9. The problem of Bank Funding Source. 10. The linkage of the financial system to the fiscal deficit. 11. Loan concentration in particular sectors or on commodities that have falling prices. 12. There is segmentation in PUAB. 13. Procyclicality problem in credit growth.

The results of the survey will be later processed into a list and determination of sources of risk in the Indonesian Financial System.

Through this stipulation, Bank Indonesia could identify the priority of systemic risk sources. As a result risk mitigation can be more focused, directed, and comprehensive.

Box 7.2

Function of Micro, Small and Medium Enterprise Development in Supporting Financial System Stability

Bank Indonesia is a macroprudential authority that contributes to the maintenance of Financial System Stability⁹ through macroprudential authority. Based on Bank Indonesia Regulation (PBI) No.16/11/PBI/2014 dated July 1st, 2014 on Macroprudential Regulation and Supervision. It stipulated that macroprudential regulatory and supervisory authority conducted with the aim of (1) preventing and reducing systemic risk, (2) encouraging a balanced and quality intermediation, and (3) improving the efficiency of the financial system and financial access.

Although systemic risk mitigation is the ultimate goal of Macroprudential policy, a balanced and quality intermediation objective, as well as the purpose of efficiency and financial access are also needed especially for Indonesia as a developing country. The purpose of balanced and quality intermediation has done to create a sound and optimal credit distribution by the capacity and cycle of the economy, to minimize risks that may arise such as the concentration of credit in certain sectors and credit procyclicality. Meanwhile, the purpose of efficiency and financial access, among others, is to encourage sound competition climate. This situation is expected to reduce intermediation cost, and support the development of financial markets through the development of Micro, Small and Medium Enterprise (MSMEs) as well as to

expand banking coverage to all levels of society (financial inclusion). These indicate that the implementation of macroprudential policy by Bank Indonesia is done by looking at and considering other important factors by the condition of Indonesia that includes the aspect of improving financial access, especially the financial access of MSMEs as one of the supporting factors in realizing the stability of the financial system.

The several considerations of the inclusion of the MSMEs development function as the scope of macroprudential policy implementation are as follows:

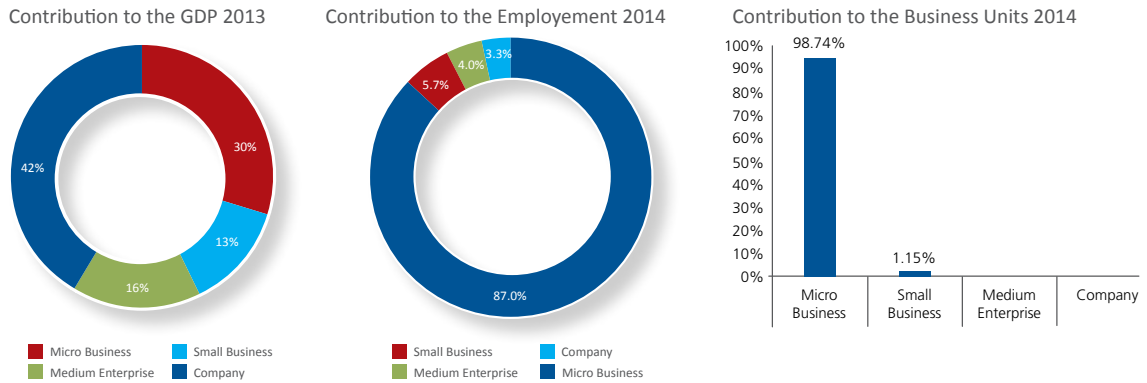
1. The Strategic Role of MSMEs in Indonesia's Financial System.

In the structure of the Indonesian economy, MSMEs is one component of non-financial companies and households that conduct productive business. MSMEs play a major role in the financial system since 98.74% of business units in Indonesia are MSMEs with a contribution to Gross Domestic Product (GDP) accounted for 59% and absorbed almost 97% of Indonesian workforce.

Considering the strategic role and substantial contribution of MSMEs to the Indonesian Economy, therefore to achieve stability of the financial system, the financial system cannot

⁹ Financial System Stability is a condition of the financial system that functions effectively and efficiently and able to survive from turmoil originating from domestic and abroad (PPKSK Law, 2016).

Box Graph7.2.1. Contribution of MSME to the Number of Business Units, GDP, Employment

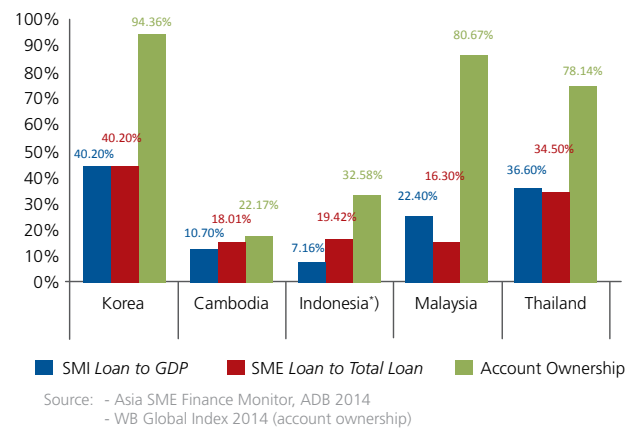


separate from efforts to build the resilience of MSMEs through the maintenance of business sustainability and increased economic capacity.

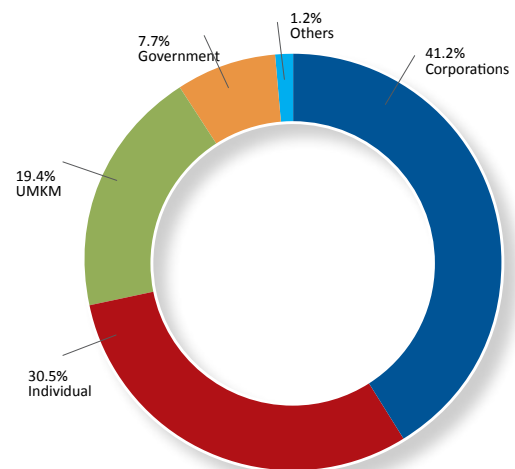
2. The effort to Create Balanced Banking Intermediation.

Although the role of MSMEs is very strategic in the Indonesian economy, MSME has not been fully supported by adequate financing from formal financial institutions (banking). In December 2016, the bank credit disbursed to MSME in Indonesia only reached 7.2% of GDP. This funding support was relatively low compared to other ASEAN countries such as Malaysia (22.4%), Thailand (36.6%), Korea (40.2%) and Cambodia (10.7%). This condition occurred since the portion of bank financing disbursed to MSME in Indonesia was relatively low at 19.4%, lower than Thailand (34.5%) and Korea (40.2%). The portion was also lower

Box Graph7.2.2. Financing of MSME compared to Other Countries



Box Graph7.2.3. Banking Credit Composition



than that of banking credit to the corporation (41.2%) and individual/household (30.5%) which mostly for consumption purposes.

The indicator above shows that credit distribution to MSMEs in Indonesia is still relatively low. On the other hand, to realize the stability of the financial system, it requires a more balanced intermediary function by expanding access to credit for MSMEs. Also, by developing access to MSMEs, it could mitigate the occurrence of systemic risks that potentially arise from the high concentration of credit to corporations.

Furthermore, to develop MSMEs through improvement of banking intermediary to MSMEs. Within PBI No.14/22/PBI dated December 21, 2012 as amended by PBI No.17/12/PBI dated June 25, 2015 regarding Credit/Financing by Commercial Banks and Technical Assistance In the context of the Development of Micro, Small and Medium Enterprises, Bank Indonesia requires Commercial Banks to distribute credit to MSMEs at a minimum of 20% (gradually) from total loans disbursed. The obligation to increase the ratio of MSMEs loans has done with due observance of the prudential principles of banks, in which Commercial Banks are required to maintain the level of credit risk with NPL ratio of MSMEs credit and

NPL ratio of total loans below 5%. Furthermore, Bank Indonesia also strives to develop MSMEs by implementing various facilitation programs and education and training needed by MSMEs, so it expected that asymmetric information between financial institutions and MSMEs could be minimized and also risk could manage properly.

3. Development of MSMEs as Financial Development Effort in Supporting the Implementation of More Effective Macroprudential Policies.

Based on the research of BIS (2016)¹⁰ on the relationship between financial development in a country with the level of effectiveness of macroprudential instruments. The research mentioned that particularly price-based macroprudential instruments, such as Reserve Requirement based on Loan to Funding Ratio (GWM LFR), is more efficient under the condition of the financially developed market. The financial development indicator used in the research refers to the World Bank's financial development indicator which largely indicates that the greater the contribution of banking and financial institution financing to GDP, the more developed the financial system of a country (Financial Developed), among others: private credit by bank/GDP. Accordingly, the minimum MSMEs, credit ratio policy, implemented by Bank Indonesia is one of the efforts to improve

¹⁰ Baskaya, Kenc, Shim, and Turner (2016): "Financial Development and The Effectiveness of Macroprudential Measures" BIS Working Paper, no. 86.

financial development in Indonesia's financial system. The achievement is expected to support efforts to maintain and preserve the stability of the financial system, among others through macroprudential policy.

4. The function of MSMEs Development as Supporting Achievement of Bank Indonesia Task.

Besides, for supporting efforts to maintain financial system stability, the implementation of MSMEs development function by Bank Indonesia is also intended to support other tasks in the field of monetary and payment systems. The tasks are: 1) maintaining inflation stability through volatile food with the implementation of facilitation programs to develop MSMEs engaged in food commodities,

and 2) to encourage financial inclusion and efficiency of financial transactions and to increase market access of MSMEs through technology utilization.

In some other countries, the function of MSMEs development is also implemented by central banks, including India, Philippines, and Korea. Reserve Bank of India (RBI) performs the role of developing MSMEs in the context of financial inclusion and financial system development. Bangko Sentral ng Pilipinas (BSP) is implementing banking credit disbursement to MSMEs as part of the financial system oversight function. Meanwhile, Bank of Korea (BOK) implements the MSMEs credit lending policy to support monetary policy.



ARTICLE 1. LIQUIDITY STRESS TESTING

THE USE OF MACROPRUDENTIAL TOOLS IN THE FRAMEWORK OF CRISIS MANAGEMENT PROTOCOL

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1.1. Background

In accordance with the establishment of Financial Service Authority (OJK) by means of Law No. 21 Year 2011, Bank Indonesia has been granted with the mandate to take part in maintaining financial system stability through macroprudential regulation and supervision. In order to implement the mandate, Bank Indonesia issued Bank Indonesia Regulation (PBI) No.16/11/PBI/2014 on July 1, 2014 concerning Macroprudential Regulation and Supervision. Based on the regulation, one of Bank Indonesia's objectives is to undertake regulatory and supervisory measures in macroprudential domain to prevent and mitigate systemic risk.

Granular Stress Test (GST) is one of the approaches to measure systemic risk emanating from individual bank (idiosyncratic risk) which interacts with other banks or other elements in the financial system resulting contagious impacts that potentially disrupt financial system stability. Risks incorporates in the granular stress test framework are credit, market and liquidity risks. GST has two types of stress test, namely (i) Solvency Stress test, to assess a bank's capital resilience under stress condition due to intensifying credit risk exposures and market risks, and (ii) Liquidity Stress Test to assess a bank's liquidity adequacy in meeting

depositors' fund withdrawals during stress condition in the next 30 to 90 days. Both stress tests include several risk measurement models, among other things are NPL model for credit risk, yield curve model for trading book market risk, gap analysis for interest rate risk in banking book, exchange rate risk model based on a sensitivity analysis for Net Open Position, and simplified Liquidity Coverage Ratio (LCR) model for liquidity risk.

Liquidity GST in particular, is conducted not only to measure the adequacy of bank's liquid assets, but also part of Bank Indonesia Crisis Management Protocol framework, especially to support Bank Indonesia's role as the lender of the last resort.

In the macroprudential supervision cycle, GST is a part of systemic risk assessment coherent with other assessment tools. Beside GST, macroprudential supervisors in Bank Indonesia currently have tools and early warning indicators implemented to identify and assess systemic risk, such as the Banking Industry Rating (BankIR) and Network Analysis. Therefore, stress test serves as an integral part of surveillance activities depicted in the cycle of Bank Indonesia supervision.

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1.2 The Implementation of GST Liquidity in the Cycle of Macroprudential Oversight and Application in the Crisis Management Protocol Framework



As mentioned earlier, in the framework of Bank Indonesia's Crisis Management Protocol, liquidity Granular Stress Test has become one of the confirming

factors of other liquidity indicators in surveillance activities, in the form of early warning indicators and cash flow projection, to determine financial system status.

1.3 Benchmarking of Liquidity GST practices

Liquidity stress test in several other countries is implemented in various approaches with some detail as follows:

calculation approach with this approach is similar to the calculation of LCR, in which the stock of liquid assets (or high-quality liquid assets) is compared with the need of liquidity to meet net cash outflows due

Authority	Income	Scenario	Methods and Model	Time Horizon	Scope
Bank of Japan	Balance Sheet	Hypothetical	Liquidity Ratio Based	3 months	All major and Regional Banks (77% total asset)
Sveriges Riksbank	Balance sheet	Hypothetical % historical	Swedish LCR (old basel III version)	30 days	4 largest banks (75% total asset)
Bank of Italy	Balance sheet	Hypothetical % historical	Counterbalancing and NCO Gap	30 days	Top 33 Banks (90% total asset)
Central Bank of Brazil	Balance sheet	Hypothetical	Liquidity Coverage Ratio approach	30 days	All Banks
Central Bank of Austria	Model Based	Macroeconomic scenarios align with solvency test	Cash flow based	30, 90 days, & 1 year	Largest 29 Banks (80% Total asset)
Bank of England	Model Based	Hypothetical align with solvency test	LCR and Implied cash flow	5 and 30 days	10 Banks (80% total asset)
Bank of Korea	Model Base	Hypothetical	Implied cash flow	30 days	All Commercial Bank

Similar with Bank Indonesia's approach, a number of authorities apply balance sheet approach to measure bank's liquidity adequacy under stress. The liquidity stress test is conducted separately from the solvency stress test which emphasize bank's capital resilience. The separation of stress tests can be traced back since the global financial crisis in 2008, in which banks with strong capitals were not immune from liquidity risks. Despite that, some authorities attempt to combine both stress test types by utilizing model-based approaches to capture interactions between both stress test types.

Liquidity stress test with a balance sheet approach in general is done by applying the roll-off and run-off assumption determined based on certain references (hypothetical) and based on historical data owned by banks or a relevant industry. The liquidity adequacy

to liabilities payment, withdrawal of customers' funds, and loan disbursements. The final results of stress tests may vary in the form of ratio (as LCR) and in the form of remaining liquid assets that banks after a certain period. In general, the authority conducts liquidity stress tests within the next 30 to 90 days using current balance statement (static approach).

The liquidity stress test implementation in several authorities focused on several large banks which tend to be categorized as systemic banks. In Indonesia, Bank Indonesia applies the liquidity stress test on all banks, not only to systemic banks. The method used is balance sheet approach with hypothetical and historical scenarios to measure credit roll-off and deposits run-off. The final result is the daily remaining balance of liquid assets up to 90 days to meet liquidity needs for net cash outflows.

1.4. The Liquidity GST Framework of Bank Indonesia

As described previously, the liquidity GST approach of Bank Indonesia employs the balance sheet approach which is similar to the LCR approach regulated in Basel III or known as simplified LCR. Akin to LCR, the component of cash inflow and cash outflow consists of many components of on- and off- balance sheet which under stress condition are charged with certain roll-off and run-off rates based on a pre-determined severity assumptions. The rates (both roll-off and run-off) are determined based on bank's historical data that shows customer's behavior. In the absence of specific historical data, the rates are determined based on hypothetical approach. For example, run-off for customers' deposits are measured based on historical data, whilst run-off for loans from other banks is determined at 100% based on a hypothetical assumption.

The gap between cash outflows and cash inflows will generate net cash outflows which will be fulfilled by

bank's counterbalancing capacity determined mostly by, stock of liquid assets such as Cash, reserve at BI, central bank's bill, placement in the central bank's deposit facility, and AFS securities and Trading. These liquid assets must be owned and controlled by banks and easily converted into Cash with minimum cost. The credit risk and the liquidity of the assets determine weight or haircuts for each liquid assets. Similar to run-off and roll-off rates, the haircut for each liquid asset in the liquidity GST of Bank Indonesia is based on the historical and hypothetical approaches, such as by calculating the highest haircut of certain securities during stress period, or, in the absence of historical data, the haircut is based on some well-known references, such as LCR, IMF and other BI regulations.

The GST framework is applied for Rupiah only, Foreign Currencies only and total currencies which combines the two. Meanwhile, the brief comparison between Bank Indonesia's liquidity GST and LCR is as follows:

LIQUIDITY COVERAGE RATIO	VS	LIQUIDITY STRESS TEST
Stock of HQLA (High Quality Liquid Assets) Net Cash Outflow (Cash Outflow - Cash Inflow) In 30 days	FORMULA	Gap between Liquid Equipment and Net Cash Outflow (Cash inflow - Cash Outflow)
Assess bank HQLA resilience in fulfilling liabilities (net cash outflow) in the stress scenario in the next 30 (thirty) days	OBJECTIVE	Assess sufficiency of bank Liquid Tools in fulfilling net cash outflow under stress situation in the next 90 (ninety) days.
Granular, according to Basel III	DATA GRANULARITY	Simplified, according to LBU LHBU and LBBU granularity
Ratio Based	MEASUREMENT BASIS	Daily Cash Flow Gapping
Minimum 100%	PASS/FAIL	Fail, if Liquidity Equipment can not fulfil NCO in 90 days
There is no liquidation strategy	HQLA LIQUIDATION	Considering liquidation strategy

In the LCR framework, a bank is considered pass or fail if the ratio between bank liquid tools and net cash outflows is greater than 100% threshold. Different from the criteria, pass or fail in the liquidity GST of Bank Indonesia is based on remaining liquid assets after taking into account net cash outflow that a bank maintains daily in the next 90 days. If a bank is able to maintain liquid assets above a certain threshold (for instance, in idiosyncratic scenario, the threshold can be the Required Reserve), the bank is then said to pass the test.

1.5. The Liquidity GST Scenario

Bank liquidity GST is conducted based on two scenarios according to the trigger sources of stress, namely bank individual (idiosyncratic) and industrial or market condition (general market). The main difference of both scenario types are as follow:

- a. The run-off assumption of depositors' funds is based on historical data (the contractual and behavioral approach) with a higher severity level in the general market scenario, compared to idiosyncratic scenario. The stipulation of such run-off does not take the flight-to-safety assumption into account in which amid a crisis, some banks turn out to be able to acquire additional cash inflows from customer funds in smaller banks.
- b. The roll-off rate for credit is assumed to be higher in general market scenario. For instance, in time of crisis, cash inflows is expected to come only from working capital loans repayment.

- c. Haircut of liquid assets is determined to be lower in the idiosyncratic scenario than in the general market scenario. This is based on the assumption that the price of securities which serves as a liquid assets remains at the normal range in the idiosyncratic scenario. Liquidity stress occurs in a bank does not affect the price of securities which considered in a bank's stock liquid assets. On the contrary, in the general market scenario, stress occurred in the industry and financial market causes all banks to experience stress over their liquid assets' price.
- d. The asset liquidation strategy in the idiosyncratic scenario is conducted using prioritising assumption, in which the most liquid securities (such as Government and Central Bank securities) is sold first, and then followed by less liquid assets (such as corporate bonds and asset-backed securities). The opposite strategy is applied in the general market scenario. The liquidation strategy is based on the fact that in the idiosyncratic scenario, there is no pressure over the securities price, hence, banks tend to prioritizing liquidation of securities with lower haircuts to prevent huge loss. On the other hand, in the general market scenario, the pressure over securities price push the banks to immediately sell second-class securities to avoid a more drastic price decline.

In brief, the haircut assumption for liquid assets, roll-off rate for cash inflow, and run-off rate for cash outflow can be seen in the following table:

Description			Idiosyncratic Risk		General Market Risk	
			Scenario	Scenario		
Liquid Tools	Cash in vault Current Account in Bank Indonesia Oprasi Moneter (OM) Deposit Facility (DF)		HAIRCUT			
			0%	0%	0%	
			0%	0%	0%	
			0%	0%	0%	
			0%	0%	0%	
	SSB of AFS and Trading Category Level 1 Level 2 A Level 2 B		5%	5%	20%	
			15%	15%	20%	
			50%	50%	50%	
	Reverse Repo (sovereign)*) SSB HTM (Reclassified)**) GWM Primer dan LFR		5%-	5%	20%	
			According Clarification (Level)			
0%			0%	0%		
Total AL			xxxx	xxxx	xxxx	
Cash inflow Cash Outflow	on B/S	Credit Placement in Other Banks Reverse Repo (Soverign) SSB HTM	ROLL-OFF			
			NPL (Moderate)	NPL (Severe)	Working Capital Credit	
	100%		100%	No Repayment		
	100%		100%	100%		
	100%	100%	100%			
off B/S	Derivative	100%	100%	100%		
Total Cash Inflow			xxxx	xxxx	xxxx	
Cash inflow	on B/S	RUN-OFF				
		Percentile Run-Off DPK	P-10%	P-5%	P-2,5%	
		Current Account in Rupiah Current Acoount in Foreign Exchange Core Current Account***) Rupiah Savings Foreign Currency Savings Core Savings****) Rupiah Deposit Foreign Exchange Deposit Core Deposito***)	Run-off rates by behavior and Third Party Funds	Run-off rates by behavior and Third Party Funds	Run-off rates by behavior and Third Party Funds	
		Liabilities in Other Banks Other Liabilities	100% 100%	100% 100%	100% 100%	
		off B/S	Withdrawal Ease (committed) Derivative Other Contingency Liabilities	5% 100% 5%	5% 100% 5%	5% 100% 5%
			Total Cash Outflow	xxxx	xxxx	xxxx
	Net Cash Outflow			xxxx	xxxx	xxxx

*) Maturity date > 90 days

**) Maturity date > 90 days, reclassification under stress condition

***) Run-off in accordance with the LCR proxy

****) 7, 14, 21, 30, and 90 days

1.6. The Macroprudential View of Liquidity GST Results

a. Contagion Analysis of Liquidity Stress Test

The liquidity GST result will provide conclusion regarding liquidity resilient of each bank in fulfilling net cash outflows under stress period. For failed banks, there will be additional analyses concerning contagion impact for first round, second round, and so forth. Liquidity risk transmission from one

bank to another occurs via interbank lending and borrowing channels. Therefore, liquidity failure in a bank will cause losses in other banks which placed its fund in the failed bank. In turn, the loss in the second bank may reduce the bank's ability to fulfill its liability in any other bank. A final result of contagion analysis is systemic risk sum reflected by the number of failed banks.

b. Banking Interconnectedness

In addition to contagion analysis of liquidity GST results, an interconnectedness analysis of banks is also conducted to strengthen systemic risk assessment in relation to to liquidity. The interconnectedness analysis is conducted through various network analysis method to observe a bank's role in borrowing and lending transactions in the financial market. With this analysis, the supervisor can understand a bank's position whether it plays as central intermediary, central borrower, central lender in the interbank money market. A bank considered a central player in the interbank market will increase its contagion impact to the system once it fails its liquidity GST.



ARTICLE 2.

THE ANALYSIS OF HOUSEHOLD VULNERABILITY BY USING THE BALANCE SHEET APPROACH (BSA) AND FINANCIAL MARGIN APPROACH (FMA)

Arlyana Abubakar¹, Rieska Indah Astuti², Rini Oktapiani³

The vulnerability of household sector can be measured by both macro (aggregate) and micro approach. The first involves the Balance Sheet Approach (BSA) and the second the Financial Margin Approach (FMA), accompanied by the assessment of household vulnerability in terms of household coping strategies in dealing with financial difficulties. The household vulnerability assessment through these coping strategies can be conducted based on survey result by referring to the coping strategies heat-map which contain three zones of vulnerability including moderate, high and extreme. The whole assessment showed that the household sector in Indonesia is relatively solvent and sound; however there is a high interconnection with corporations and the financial sector, particularly the banking sector. Despite the coping strategies heat-map exhibits that households vulnerability remains below the moderate zone, there ought to be more attention and alertness on vulnerability potentials directing towards a higher level (high and extreme) thus it may lead to the build-up of imbalances in the financial system.

Keywords: balance sheet analysis, financial margin, coping

JEL Classification: E020, G390, J100

1. Background

The experience of sub-prime mortgage crisis in the United States which led to the global crisis in 2008 revealed that credit risk of household sector may affect significantly on the economy. The high interconnectedness between the household sector and financial sector may potentially increase the systemic risk in case of shock in the household sector.

The imbalances risk from the household sector may be transmitted to the financial system through several ways (IMF, 2005).

Households are exposed to the risk in their capacity as the holder of liabilities (creditor) of some financial instruments such as deposits, securities, equities as well as insurance and pension funds. In addition, households are also exposed to the risks in their role as the issuer of liabilities (debtor) from financial institutions notably banks. The imbalances occurs whenever households encountering financial issue, so as they are incapable to repay their contractual liabilities to banks, thus banks suffer large losses. On the other hand, these households will also reduce their expenses for consumption and in consequence it will decrease demands of goods and services which later may affect the whole economy condition. As a result, corporations suffer from income shrinkage which may affect their repayment capacity of bank loans. Therefore, it requires more comprehensive assessments on household risk profiles to mitigate the risks arising from the financial imbalance of household sector.

2. Literature Review

2.1. Studies Concerning Financial Margin

Vatne (2007) discloses that financial margin indicator is a household's liquid asset minus debt cost including interest rate cost and principal amount of debt and total expense. This indicator represents the households' resilience in dealing with macroeconomic changes such as interest rate hike or decreasing income. The analysis result with the data Income and Property Statistics for Household 1987-2003 exhibits that 13%

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of Norwegian households are vulnerable to default or having negative financial margin values, in which their debt holdings reaches 17% of the total household debts.

In addition, Albacate & Fessier (2010) describes that households with negative financial margin value could be considered as vulnerable households. Share of vulnerable households could be the main indicator in monitoring resilience against various types of shocks such as employment shock, and changes in interest rate, asset prices, exchange rates, and so forth. By utilizing the OeNB's Household Survey on Housing Wealth 2008 (HSHW 2008) data, the research reveals that the vulnerable households in Austria are in the ranges of 9.2% to 15.6%. Bilston, Johnson & Read (2015) utilize the the survey data of Household, Income, Labour Dynamics in Australia (HILDA) and find that the share of vulnerable households in Australia reached 12% in 2002, 10% in 2006 and 8% in 2010.

Pratama & Hidayat (2015) explain that financial margin may be used as the proxy of households' credit risk which performs their ability to repay both short-term and long-term debt. Households with negative financial margin could be considered as vulnerable households with financial difficulties, and these conditions are marked by households' inability to fulfill their basic needs and meet debt installments, which means they have high probability of default. The analysis⁴ of household vulnerability by using Indonesian Family Life Survey (IFLS) 2007 data denotes that there are 16% of vulnerable households with debt holdings of 48% in the direct approach. Meanwhile,

26% of households with bank loans are categorized as vulnerable households and they hold 52% of total bank loans. The result of indirect approach points that the share of vulnerable households reaches 49% with debt holdings by 45%. This result is relatively similar with the households who only have bank loans, in which 49% of the households are vulnerable to default and owning debts that amounted to 46%.

2.2. The Definition of Household Coping Strategies

Coping Strategies are mechanisms of risk management as the responses of unforeseen event which may plausibly affect households' financial condition (Hoogeveen, Tesliuc & Vakis (2004)). World Bank (2011) explained that several shocks whether from the labor market (termination of employment); credit market (the rise in interest rates); product market (the rise in food price), or the reduction of government subsidies generally will be responded by withdrawing savings, taking extra jobs, and reducing spending. The failure of households to survive against the adverse events would lead to the decline in the household welfare level which is represented by a decrease in the financial assets (savings) and non-financial assets, as well as in the accumulation of long-term human capital such as young child labor and so forth.

USAID (1999) elucidates that the household vulnerability level may be classified into three zones, i.e. moderate, high and extreme. Households with adaptive coping strategies in response to an adverse shock, generally have a relatively moderate level of vulnerability. While households that select to divest their liquid assets tend to have a high or even extreme

⁴ The analysis is conducted with 2 approaches. In the direct approach, financial margin value is gained from the difference between per capita expenditure (income proxy) with monthly payment (expenses). Meanwhile, financial margin value in the indirect approach is obtained from the difference between household expenditure (income proxy) with predicted basic consumption and monthly payment.

level of vulnerability, especially for those who divest their productive assets.

3. Research Methodology

3.1. Analysis Method

The analysis of the research involves two approaches, namely the macro approach called Balance Sheet Approach (henceforth BSA) and the micro approach called Financial Margin Approach (henceforth FMA). The macro analysis using BSA method generates information of household sector risk profiles which are obtained through the household risks assessment and interconnection assessment of household and other sectors.

The household risk assessment can be carried out with the balance sheet risk indicators. These indicators reflect both liquidity risk which is projected through the saving-to-expenditure ratio, and the solvability risk which is represented by liabilities to asset ratio and liabilities to GDP ratio. Meanwhile, the interconnection assessment is conducted by utilizing BSA matrix of Net Financial Position indicator that describes financial position of household sector relative to others. The net financial position⁵ is measured by subtracting total financial assets and liabilities. The more negative of

the net financial position value implies that the sector is facing financial difficulties because the total financial assets are insufficient to cover all contractual liabilities (IMF (2015)).

The micro analysis with FMA method is conducted by utilizing two approaches, i.e. income approach and expenditure approach. The two approaches produce share and demographic characteristics of households with negative financial margin that hereafter will be defined as vulnerable households. As for the income approach, household financial margin value is generated from income subtracted by expenditure for consumption and debt installments.

Meanwhile, the expenditure approach acquires financial margin value as the result of subtracted total consumption, which is the income proxy, with debt installments. The use of total consumption as a proxy of income is to minimize error-term resulting from the use of income data from survey result that tends to bias downward.

Aside from that, household vulnerability can also be examined based on their coping strategies in dealing with financial tightening. These strategies, such as

$$FM_i = Y_i - BC_i - DS_i$$

$$FM_i = C_i - DS_i$$

Y_i : Household income

BC_i : Household basic consumption

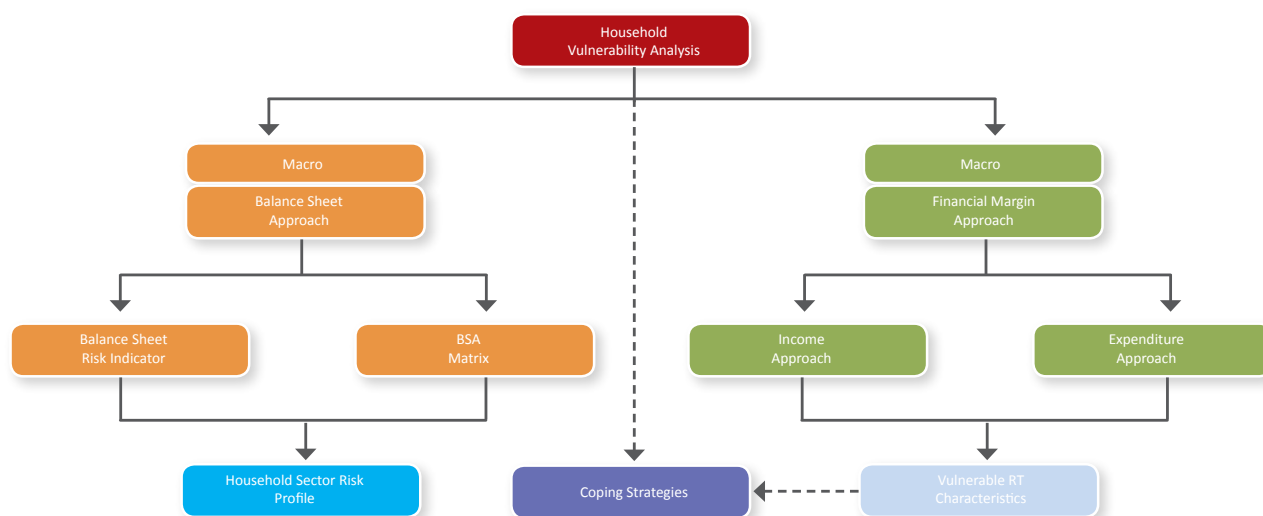
DS_i : Household debt installments

C_i : Household Total consumption

DS_i : Household debt installments

⁵ A sector records net financial assets on condition that financial asset value is higher than liabilities; whereas, if financial asset value is less than liabilities then sector records net liability.

Household Vulnerability Analysis Framework



withdrawing large cash from banks and so on, may trigger vulnerability and potentially affect the financial sector directly as well as financial system stability as a whole.

3.2. Research Data

The data used in the research include National and Regional Financial Account & Balance Sheet (henceforth FABS) 2015 data as input for aggregate household vulnerability analysis, and Household Balance Sheet Survey 2015 data which is the micro data to analyze individual household vulnerability.

The FABS data consist of Financial Account (FA) and Balance Sheet (BS) data. The FA data records transactions or financial flows among sectors in terms of asset and liabilities on a national and regional scale. Meanwhile, the BS data contains assets and liabilities positions of institution sectors on a national scale or regional scale as well as in a given period of time. The FABS data are detailed based on institution

sector classification which encompasses NFC (Non-Financial Corporations) sector, HH (Household), ODC (Banking), OFC (Other Financial Corporations/NBFI), CB (Central Banks), CG (Central Government), LG (Local Government) and ROW (External or Non-Residents) and based on financial instruments⁶ both in terms of asset and liability. The research uses the FABS data at the national and regional level.

The Household Balance Sheet Survey 2015 data is the survey data of Bank Indonesia in 2015 which aim to understand about the balance sheet structure of households in Indonesia especially for those which have access to the banking system. The survey covers household sector in 12 provinces representing 71% of the households' population in Indonesia based on Indonesian National Social Economic Survey 2013Q1. The twelve provinces covered in the survey are North Sumatera, West Sumatera, South Sumatera, DKI Jakarta, West Java, Central Java, East Java, Bali, South Kalimantan, East Kalimantan, North Sulawesi and South Sulawesi. The

⁶ Financial instruments classification includes Monetary gold and sdrg; Debt securities; Equity and investment fund share/units; Financial derivatives and employee stock options; Currency and deposits; Loans; Insurance, pension and standardized guarantee schemes dan other accounts receivable/payable.

Table of Household Financial Assets and Liabilities per Province (% to GRDP)

Balance Sheet Components	Regions							
	Jakarta Special Region	West Java	East Java	East Kalimantan	North Sulawesi	North Sumatera	North Sumatera	South Sumatera
Financial Assets	132.26%	39.01%	38.95%	30.19%	28.60%	28.60%	24.34%	35.07%
Liabilities	16.87%	14.28%	11.73%	6.75%	26.01%	14.78%	17.43%	14.45%

Source: Regional FABS 2015

*Several provinces cannot be viewed due to incomplete data

sample size of the survey accounts for 2.170 households which is determined by considering the employment to population ratio of each province and the average number of household members.

4. Stylized fact: The Latest Condition of Household Sector in Indonesia

Households are the largest national asset contributor whose asset reached 33% of the total national economic assets that majority in the form of financial assets. The household financial assets are still dominated by equity, especially corporate equity, amounting to 47% of the financial assets and followed by deposits in banks accounting 42%. In the financing aspect, the liabilities are mostly from banks (83%), NBFI (12%), and non-financial sector (5%). The bank loans instrument dominate household liabilities which account for 97% of total liabilities.

Spatial analysis of regional balance sheet reveals that DKI Jakarta had the biggest share of household financial assets to GRDP by about 132.26%, which were mostly invested in non-financial corporations' equity (51%). This condition implies the important role of household sector to the economic sustainability of DKI Jakarta especially in fulfilling non-financial corporations' financing needs for business expansion.

5. Household Vulnerability Analysis Using Balance Sheet Approach (BSA)

The household liquidity and solvency risk indicators were relatively maintained throughout 2015 in spite of the indicators have been under pressure as a result of continuing economic slowdown in 2015. This was indicated by the decline in the value solvency risk indicator, both Liabilities to Asset and Liabilities to GDP. The decline was triggered by the growth of financial assets, accounted for 20 percent (y-o-y), which were higher than the growth of liabilities (6 percent). This indicated that the household sector in Indonesia was quite solvent especially in covering short-term and long-term debts.

Cummulatively, the liquidity risk indicator proxied by saving ratio inclined to rise rather than the previous period. This was triggered by the increase in the growth of households' deposits to banks. The liquidity improvement implied that households had sufficient liquid assets to cover the basic necessities and short-term debt due.

Based on BSA matrix Net Financial Position indicator, the household sector had the largest financial surplus which reflected by the net asset value amounted to 39.68% of GDP. The sizable net assets was contributed

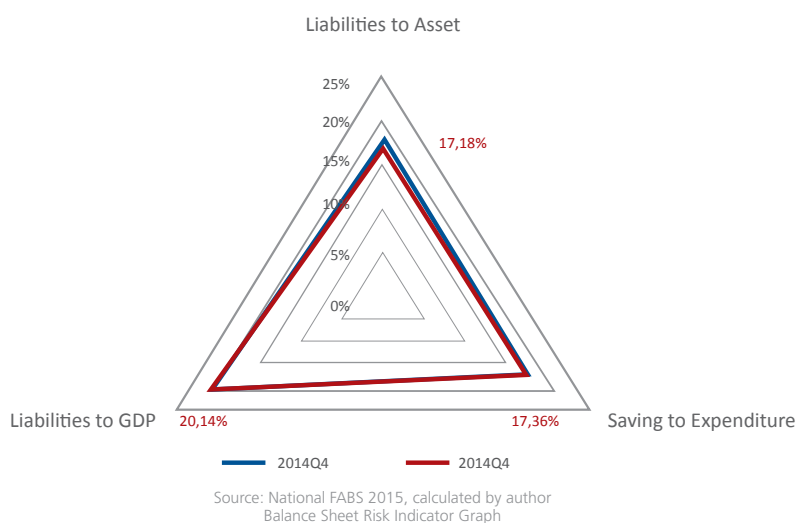
by the large of financial asset accounted for 32% of the national financial assets. This implied the significant role of household sector in the economy as the substantial source of domestic funds. Majority of household financial assets were mostly allocated to the corporation sector with the household net asset value vis-à-vis corporations attained 28.95% to GDP.

The financing to corporation sector was dominated by equity instrument⁷, in which 98% of the household financial assets in the form of equity (46.41% of the total financial assets) were allocated to corporations. This pointed the high interconnection between two sectors. As a result, the household sector tended to be exposed to capital loss risk and liquidity risk whenever corporations encountering financial difficulties or even default. Aside from that, there was also a high interconnection between the household sector and the banking sector. The household financial asset in the form of deposits reached 42.15% that majority of those were distributed to the banking sector by 92%, so as the banking sector was inclined to be exposed to withdrawal risk especially when households

experiencing financial deficit and requiring to fulfill liquidity needs.

In the meantime, the spatial analysis of household financial asset instruments indicates that most households in several provinces in Indonesia still put their funds in the form of deposits in banks. Besides that, the household contribution in several provinces to the real sector also proved to be relatively high. This was pointed by the large of corporation equity holdings in several provinces which reached more than 50% such as East Kalimantan, South Sumatera, West Java, Jakarta, and East Java.

Regarding financing aspect, both on the national and regional scale, household financing sources other than income were still dominated by loans instrument. At the national scope, the household loans amounted to 96.86%, in which 86% of it was bank loans. Despite the fact that most of the regions are already exposed to the banks loans with the share reached more than 90%, household sector credit risk was still relatively well-maintained. This was indicated by the average



⁷ Including equities which owned by another corporation, in this manner we assume that the ultimate shareholder is individual or household.

Table of BSA Matrix on Net Financial Position in the 4th Quarter of 2015

Issuer of the Liability (debtor Sector)	Holder of Liability (Creditor Sector)								
	Balance Sheet	NFC	HH	ODC	OFC	CB	CG	LG	ROW
	(In percent of GDP)								
Total		-70.34%	39.68%	0.98%	0.81%	1.1%	-14.26%	2.31%	39.72%
NFC			28.95%	6.19%	1.67%	-1.76%	.80%	0.9%	28.60%
HH		-28.95%		-6.44%	-1.90%	-2.08%	-0.42%	0.11%	0.00%
ODC		-6.19%	6.44%		1.14%	-7.61%	-1.42%	1.56%	5.10%
OFC		-1.67%	1.90%	-1.14%		-0.13%	-2.04%	0.00%	2.27%
CB		1.76%	2.08%	7.61%	0.13%		-0.15%	0.03%	-12.57%
CG		-5.80%	0.42%	1.42%	2.04%	0.15%		-0.27%	16.32%
LG		-0.88%	-0.11%	-1.56%	0.00%	-0.03%	0.27%		0.00%
ROW		-28.60%	0.00%	-5.10%	-2.27%	12.57%	-16.32%	0.00%	

Non-Performing Loan (NPL) of regional households which was still below the minimum threshold of 5%.

6. The Household Vulnerability Analysis by Using Financial Margin Approach (FMA)

The household vulnerability analysis by using the financial margin indicator indicated that the whole result of income approach was inclined to be overestimated by nature compared to the expenditure approach. This was caused by the use of household income value in the income approach which tended to bias downward. Based on the expenditure approach, the share of vulnerable household of the total indebted households with respect to the banks was 14% with the debt holdings amounted to 45%. Meanwhile, the share of vulnerable household in the income approach accounted for 43% with debt holdings by 63%.

The high share of vulnerable households with large bank debt, primarily on the income approach, implies that banks were facing higher credit risk especially if the households encountering the difficulty in covering their liabilities. In line with this result, NPL

of the household sector also rose by 2.40% in 2015. The increase was notably influenced by the economic slowdown phase which still continued in 2015. The slowdown also has put pressure both on households' consumption and ability to repay debt due (Financial Stability Review (2016)).

Based on the income group, both income and expenditure approach yield the same pattern in which the high-income households had the largest share of vulnerable households and bank debt. These facts suggest that high-income households were likely to have higher probability of default when facing financial deficit and the liquid assets totally were insufficient in meeting short-term debt. Nonetheless, the potential of financial distress in high-income household group was relatively small because they had sizable assets which could cover financial deficit. Further, the sort of coping strategies that could be probably applied by those households in dealing with deficit are withdrawing savings or deposits from banks and selling productive assets.

Based on household demographic characteristics, analysis results with both approaches showed that majority of vulnerable households tended to have a male household head in the productive age range (25-59 years), married, high school graduates, and work as an employee. In addition, these vulnerable households are also exposed to the banking sector through loan instrument with a relatively high share. The result is in line with the research of Pratama & Hidayat (2015) which obtained information that households headed by male in productive age tended to have high vulnerability and also held relatively large share bank loans.

Meanwhile, households that were headed by at least a college graduate and work as employer tended to have large amount of bank loans with relatively small number of vulnerable households. This indicates that these households' risk was relatively subdued, given that the head of the household was a businessman who can use bank debt for working capital. These households would plausibly have a small probability of default since they might gain return from the debt that were fully used for investment and other financing.

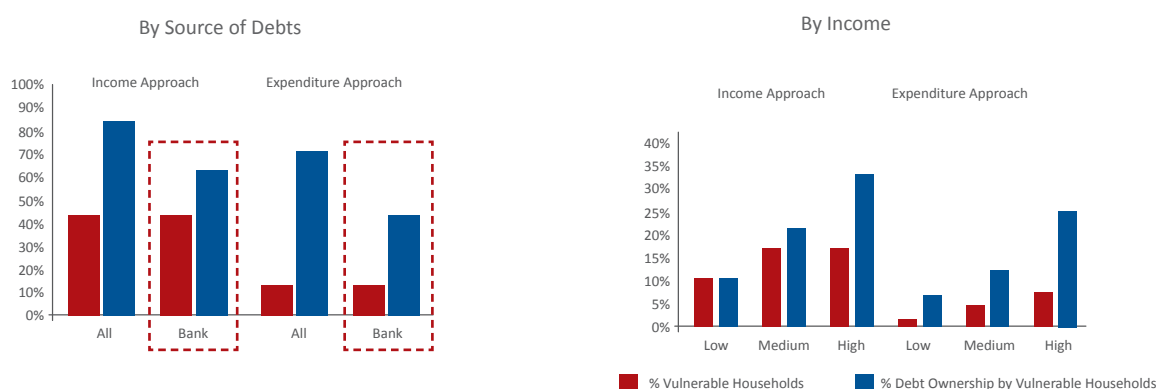
7. Indonesia's Household Coping Strategies Analysis

Based on the survey of household balance sheet 2015 by about 29% of households in Indonesia had to deal with difficulty in meeting basic needs over the past year, whilst 23% of which had adversity in repaying contractual liabilities.

The most preferred strategies of households to anticipate a deeper risk of financial distress were adaptation strategies, in which accounted for 61% of households tended to reduce their expenditure in dealing with the difficulties. The other alternative strategies that also picked by households, inter alia, selling valuable items (40%), borrowing food or money to relatives and family (39%), withdrawing money from savings (37%), as well as finding additional jobs (27%).

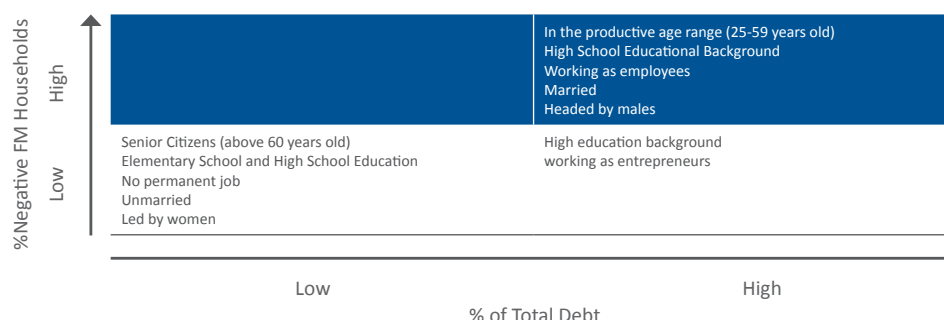
Referring to the coping strategies heat-map in the USAID manual book of food security & early warning vulnerability assessment (1999), the vulnerability level of households with debts was still within the moderate zone as the majority of these households still heavy relied on the adaptive strategy by curbing expenditure as

Chart of Vulnerable Households Share and Debt Ownership Share by Vulnerable Households



Source: Household Balance Sheet Survey 2015, calculated by authors

Matrix Chart of Vulnerability Analysis by Household Characteristics



a response to financial distress. However, on that note, besides applying the adaptive strategy, cumulatively these households also adopt several divestment strategies on liquid asset which could plausibly affect the increase in the level of vulnerability. Several divestment strategies on liquid asset include selling the valuable goods, borrowing money from relatives, and withdrawing deposits.

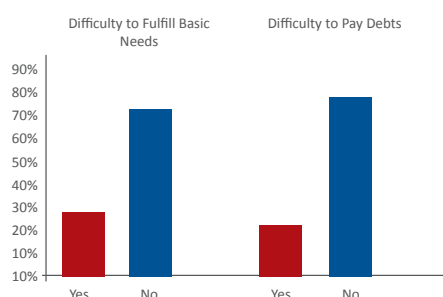
Moreover, Indonesian households had a high tendency to divest their productive assets, in case the adaptation strategies and liquid assets divestment strategies they taken were not able to cover the remaining of financial deficit. The failure on productive assets divestment strategies would induce the loss of households' ability in meeting both short-term and long-term liabilities. In this matter, the vulnerability of households would reach

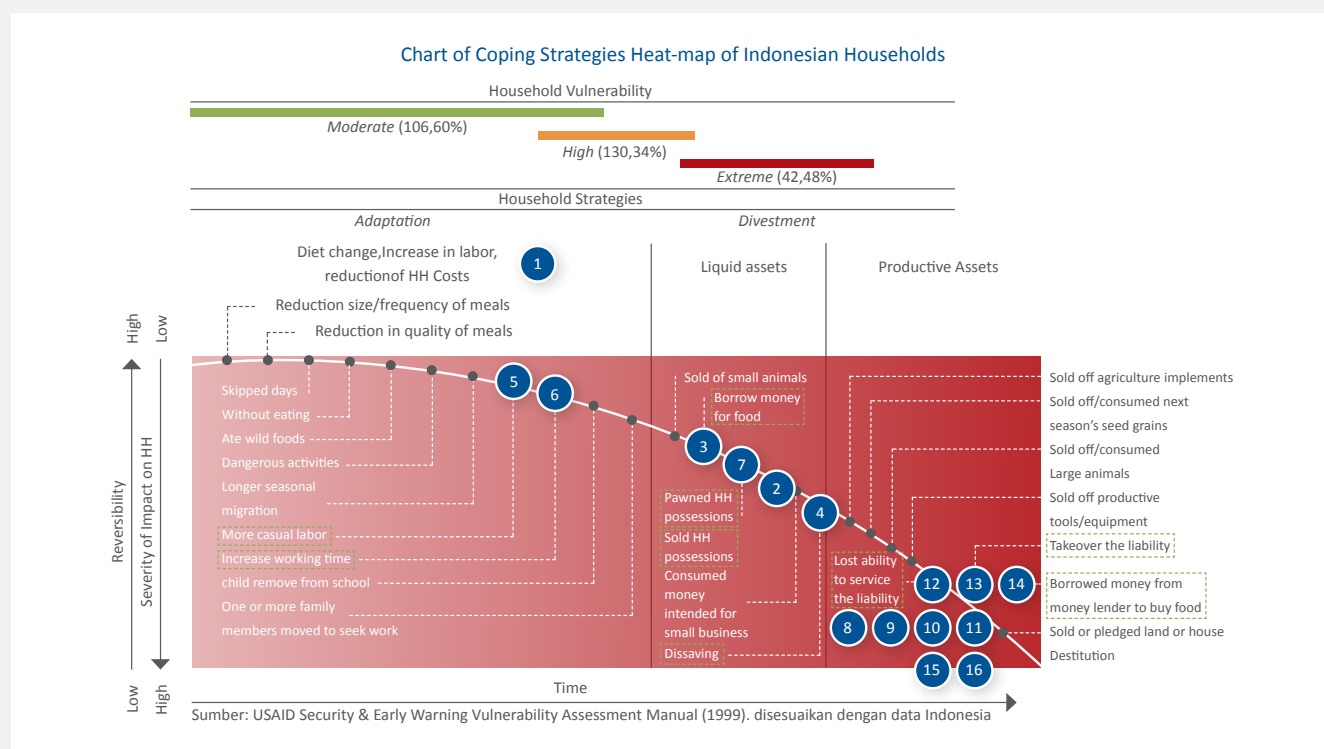
the extreme level and plausibly lead to the build-up of imbalances on the financial institutions and financial system as a whole.

With regard to income group context, the indebted households that encountered adversity in fulfilling life necessities over the past year were dominated by high-income households. Meanwhile, the difficult households in meeting their liabilities were majority came from middle-income households.

The most preferred coping strategies of Indonesia's households both from the group of high income, middle income and low income are adaptive strategies by reducing expenses. As an alternative, the high-income households also had a tendency to withdraw

Chart of Share of Households with Basic Needs Fulfillment and Debt Payment Difficulties





their deposits that might influence banks' liquidity, so as banks are supposed to raise their awareness in preventing liquidity risk as an impact of massive drawing from households. The detail of preferred households' coping strategies toward financial difficulties by income group are as follows:

8. Conclusion

The analysis result of balance sheet risk indicators reveals that household sector in Indonesia is considered quite solvent and sound, both in terms of solvency and liquidity adequacy. Nevertheless, there is a high financial interconnection between household sector and corporations as well as household sector and the banking sector. As an implication, the banking sector is exposed to the withdrawal risk when households encountering financial deficit in term of fulfilling their liquidity needs. Meanwhile, household sector is exposed to risks from equity holdings particularly

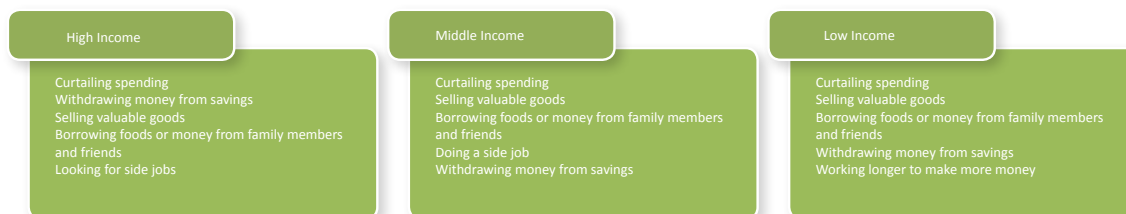
when corporations facing default risk. In aggregate, household sector is the sector with the largest financial surplus as indicated by household financial net asset value amounting to 39.68% of GDP. Aside from that, the large household financial asset also describes the important role of household sector in the economy as the substantial source of domestic financing.

The analysis through financial margin approach by applying income approach was inclined to overestimate compared to the expenditure approach. However, the analysis result based on both approaches direct towards the similar conclusion, i.e. the relatively high default risk potential from the household group with family head who are in the productive age range (26-59 years old), high school graduates, married and headed by male. Furthermore, the heatmap coping strategies analysis result showed that the household vulnerability still lies in the moderate zone, in which

Chart of Household Share with Financial Difficulties by Income Group



Chart of Household Coping Strategies by Income Groups



61% of indebted households tended to choose adaptation strategies. However, close monitoring is highly needed because the vulnerability of households

in cumulative probably rise to a higher level (high and extreme level) which would lead to the build-up the financial system imbalances.

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