



Department of Statistics
M A L A Y S I A

FINANCIAL INTERMEDIATION SERVICES INDIRECTLY MEASURED (FISIM)

Statistical Training Course on Banking, Insurance and Financial Statistics
National Statistics and Information Authority (NSIA) of Afghanistan
17-19 August 2021

Organized by:
Statistical, Economic and Social Research and Training Centre
for Islamic Countries (SESRIC)

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1. MEASUREMENT OF FISIM:

- Concept
- Data Sources
- Estimation of FISIM

2. ALLOCATION OF FISIM

MEASUREMENT OF FISIM



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Financial Intermediation

- includes the obtaining of funds in the form of transferable deposits, i.e. funds that are fixed in money terms, and obtained on a day-to-day basis and, apart from central banking, obtained from non-financial sources.
- Covers Commercial, Islamic, Investment, Offshore Banks and Development financial institutions

Other Financial Intermediation and Activities Auxiliary to Finance

- includes financial service activities other than those conducted by monetary institutions and includes the provision of services involved in or closely related to financial service activities, but not themselves providing financial services.
- Covers unit trusts, stock broking, credit card services, holding companies, venture capital, financial leasing, factoring companies, money lending, pawnshop etc

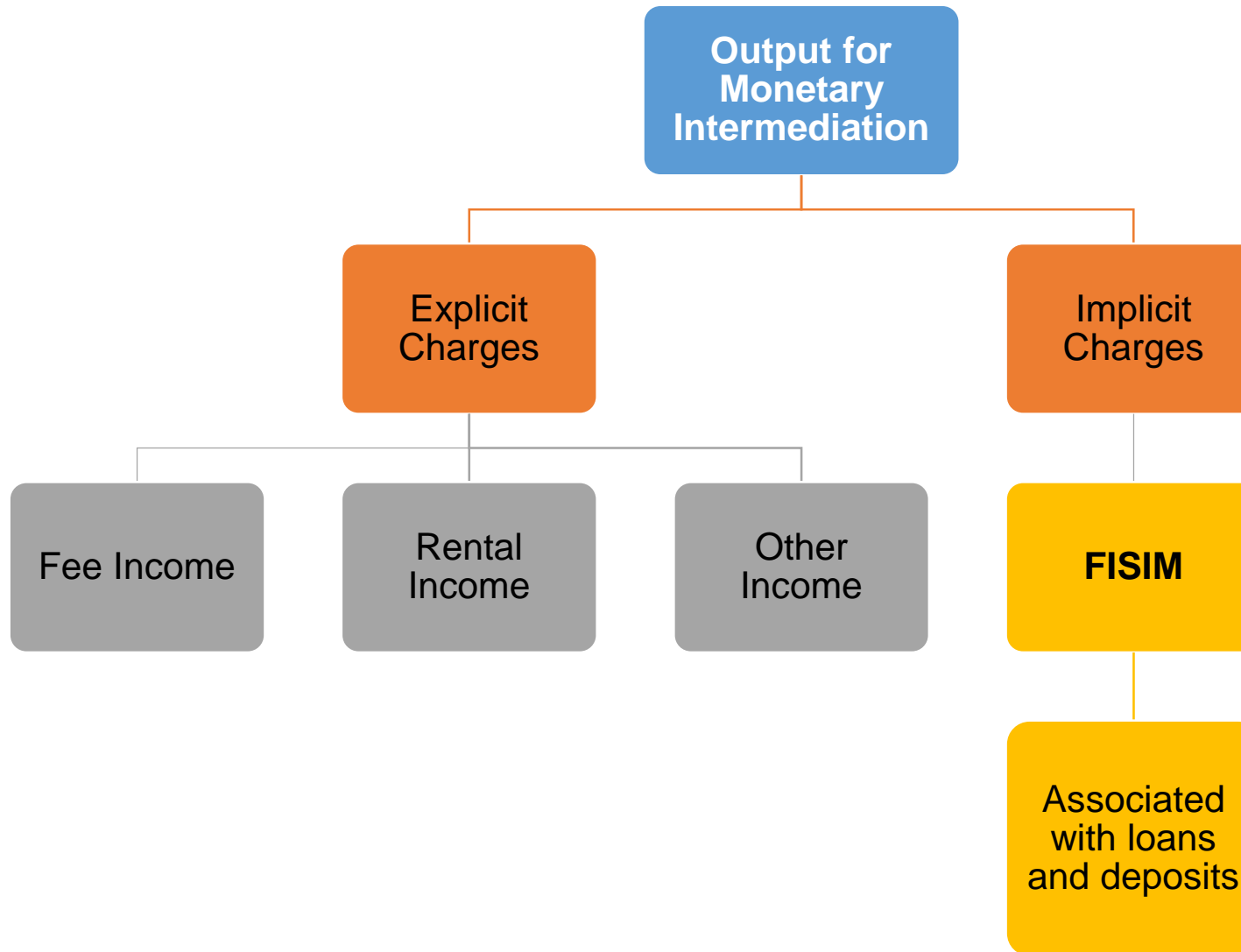
Sectors and subsectors according to the *System of National Accounts 2008* and the recommended grouping of the financial corporations subsectors according to the seven-sector approach

Sector and subsector			2008 SNA code
Total economy			S1
Non-financial corporations			S11
Financial corporations			S12
Monetary financial institutions	Central bank		S121
	Other monetary financial institutions	Deposit-taking corporations except the central bank	S122
		Money market funds	S123
Financial corporations except monetary financial institutions and ICPF	Non-MMF investment funds		S124
	Other financial intermediaries, except insurance corporations and pension funds		S125
	Financial auxiliaries		S126
	Captive financial institutions and moneylenders		S127
Insurance corporations and pension funds (ICPF)	Insurance corporations		S128
	Pension funds		S129
General government			S13
Households and non-profit institutions serving households			S14
			S15
Rest of the world			S2



FISIM

- Financial intermediaries output in the System of National Accounts 2008 (2008 SNA)
 - i. Directly measured (explicit charges)
 - ii. Indirectly measured (implicit charges) included interest and services charges
 - iii. FISIM to be allocated to institutional unit or economic sectors
- FISIM Implementation in Malaysia
 - i. Use Imputed Banking Services Charges (IBSC) until 2005 (base year 1987)
 - ii. Rebasing base year 2000, FISIM incorporated but not allocated.
 - iii. Rebasing base year 2005, FISIM allocated to economic sectors



DATA SOURCES



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Data received from Central Bank – Statement of Income and Expenditure

- Total Loans
- Interest/Finance Income from Loans/Financing and Advances
- Deposits Accepted
- Interest/Finance Expense on Deposits Accepted
- Fee Income
- Rental Income
- Other Income



STATEMENT OF ASSETS & LIABILITIES

TOTAL ASSETS
Cash and Cash Equivalents
Deposits Placed and Reverse Repurchase Agreement
Statutory Deposits with Bank Negara Malaysia
Pledged Securities under Repurchase Agreement
Financial Assets Designated as Fair Value Through Profit or Loss
Financial Assets Held for Trading
Held to Maturity Investments
Available for Sale Financial Assets
Loans/Financing and Receivables (Net of Provision)
→ Loans/Financing and Advances
Trade and Other Receivables
Amount Due from Designated Financial Institutions
Overdrawn Vostro Accounts
Nostro Accounts
Interbank Placements
Surplus in SPICK
Other Amount Due from Designated Financial Institutions
Derivatives Financial Assets
Fair Value Changes of the Hedged Items in Portfolio Hedge of Interest Rate Risk/Profit Rate Risk (Assets)
Other Assets
Investment Properties
Inventories
Prepaid Lease Payment
Investment at Cost
Investment Accounted for Using Equity Method
Property, Plant and Equipment
Land
Buildings
IT Equipment
Fixtures and Fittings
Office Equipment
Motor Vehicles
Other Property, Plant and Equipment
(-) Depreciation and Impairment of Property, Plant and Equipment
Goodwill
Intangible Assets Other Than Goodwill
Tax Assets
Non Current Assets or Disposal Groups Classified as Held for Sale

- A. Stock of Loan, yL
B. Stock of Deposits, yD

TOTAL EQUITY AND LIABILITIES
TOTAL EQUITY
TOTAL LIABILITIES
Deposits Accepted and Repurchase Agreement
→ Deposits Accepted
Repurchase Agreement
Financial Liabilities Designated as Fair Value Through Profit or Loss
Financial Liabilities Held for Trading
Amount Due to Government
Amount Due to Designated Financial Institutions
Vostro Account Balances
Overdrawn Nostro Accounts
Deficit in SPICK
Interbank Borrowings
Other Amount Due to Designated Financial Institutions
Derivatives Financial Liabilities
Fair Value Changes of the Hedged Items in Portfolio Hedge of Interest Rate Risk/Profit Rate Risk (Liabilities)
Trade and Other Payables
Staff Employment Benefits
Other Provisions
Borrowed Funds
Debt Certificates Issued/Sukuk Issued
Other Liabilities
Tax Liabilities
Liabilities Included in Disposal Groups Classified as Held for Sale
TOTAL COMMITMENTS AND CONTINGENCIES



STATEMENT OF INCOME & EXPENDITURE

Net Interest/Finance
Interest/Finance Income
Interest/Finance Income from Loans/Financing and Advances
Interest/Finance Income from Amount Due from Financial Institutions
Interest/Finance Income from Financial Assets Held for Trading
Interest/Finance Income from Held to Maturity Investments
Interest/Finance Income from Available for Sale Financial Assets
Through Profit or Loss
Other Interest/Finance Income
Accretion of Discount on Securities
Miscellaneous Other Interest/Finance Income
(-) Interest/Finance Expense
Interest/Finance Expense on Deposits Accepted
Interest/Finance Expense on Amount Due to Financial Institutions
Interest/Finance Expense on Amount Due to Government
Interest/Finance Expense on Subordinated Liabilities
Interest/Finance Expense on Financial Liabilities Designated as Fair Value
Interest/Finance Expense on Finance Expense on Converted Funds
Other Interest/Finance Expense
Net Fee and Commission
Fee and Commission Income
Fees and Commission Income Securities Issuances and Management
Underwriting Fees
Brokerage Fees
Portfolio Management Fees
Other Fees Relating to Securities Issuances and Management
Fees and Commission Income for Corporate Advisory
Fees and Commission Income Assets Management
Fees and Commission Income Credit Commitments
Commitments Fees
Processing Fees
Syndication Fees
Guarantee Fees
Service Charges & Fees
Acceptance Fees
Other Fees Relating to Credit Commitments
Fees and Commission Income Payments Services
Other Fees and Commission Income
(-) Fee and Commission Expenses
Brokerage Expenses
Other Fee and Commissions Expenses

- A. Interest receive
- B. Interest expense
- C. Explicit charges



ESTIMATION OF FISIM



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- **Estimation of FISIM - Conventional**

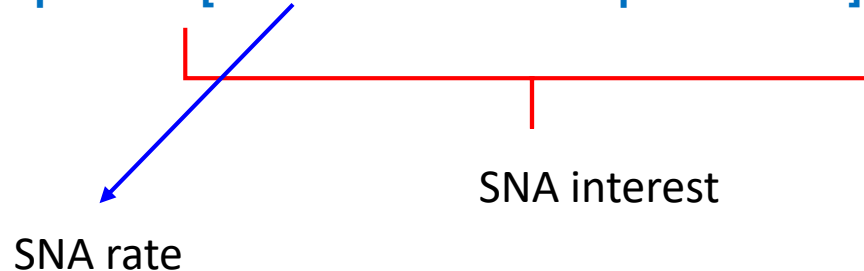
FISIM is calculated using the following formula:

$$\text{FISIM} = \text{FISIM on Loans} + \text{FISIM on Deposits}$$

Where:

FISIM on Loans = **Stock of Loans * [Lending Rate – Reference Rate]**

FISIM on Deposits = **Stock of Deposits * [Reference Rate - Deposits Rate]**



- **Reference Rate: Midpoint** between the loan and deposit rate
 - less volatile
 - FISIM values with greater transparency

FISIM – Calculation

FISIM should be calculated according to the formula

$$(rL - rr) yL + (rr - rD) yD$$

Where by:

yL- loans

yD- deposits

rr - reference rate

rL - interest rates on loans

rD - interest rates deposits

STATEMENTS OF FINANCIAL POSITION

BANK A

	2016 RM'million
Assets	
Cash and short-term funds	26,710
Deposits and placements with banks and other financial institutions	2,308
Financial investment portfolio	84,680
Loans, advances and financing	315,373
Other assets (including intangible assets)	56,696
Total assets	485,767
Liabilities	
Deposits from customers^	336,500
Deposits and placements of banks and other financial institutions	28,736
Other borrowings	9,290
Bonds, Sukuk and debentures	7,636
Subordinated obligations	13,725
Other liabilities	42,801
Total liabilities	438,688

Stock of Loans
Bank A: 315,373

Stock of Deposits
Bank A: 336,500

STATEMENTS OF FINANCIAL POSITION

BANK B

	Note	Group	Bank	2016 RM'000
Assets				
Cash and short-term funds	5			38,350,931
Deposits and placements with financial institutions	6			19,339,287
Financial assets purchased under resale agreements	7(a)			2,213,113
Financial assets at fair value through profit or loss	8			7,980,314
Financial investments available-for-sale	9			74,904,201
Financial investments held-to-maturity	10			12,582,311
Loans, advances and financing	11			295,020,136
Derivative assets	12			8,320,918
Reinsurance/retakaful assets and other insurance receivables	13			-
Other assets	14			5,603,512
Investment properties	15			-
Statutory deposits with central banks	16			7,530,325
Investment in subsidiaries	17			21,586,547
Interest in associates and joint ventures	18			451,518
Property, plant and equipment	19			1,290,761
Intangible assets	20			530,049
Deferred tax assets	28			358,687
Total assets				496,062,610
Liabilities				
Customers' funding:				
- Deposits from customers	21			331,878,295
- Investment accounts of customers*	62(q)			-
Deposits and placements from financial institutions	22			29,856,710
Obligations on financial assets sold under repurchase agreements	7(b)			2,957,951
Derivative liabilities	12			8,802,221
Financial liabilities at fair value through profit or loss	23			2,685,139
Bills and acceptances payable				1,000,777
Insurance/takaful contract liabilities and other insurance payables	24			-
Other liabilities	25			12,498,698
Recourse obligation on loans and financing sold to Cagamas	26			974,588

Stock of Loans
Bank B: 295,020,136

Stock of Deposits
Bank B: 331,878,295

OUTPUT CALCULATION:

Source	Item	Formula
Assets, Liabilities and Equities Statements	Loans/ Financing and Advances	a
Income and Expenditure Statement	Interest/ Finance Income	b
Derive	Lending/ Financing Rate	$c=b/a$
Assets, Liabilities and Equities Statements	Deposits Accepted	d
Income and Expenditure Statement	Interest/ Finance Expense	e
Derive	Deposits Rate	$f=e/d$
Derive	Reference Rate	$g=(c+f)/2$
Derive	Interest Rate Spread Current	$h=c-g$
Derive	FISIM on Loans	$i=h*a$
Derive	FISIM on Deposits	$j=h*d$
Derive	Total FISIM	$k=i+j$
Income and Expenditure Statement	Fee and Commission Income	l
	Total Output	$k + l$

Bank A	Bank B	
RM mill.	RM mill.	Remark
315,373	295,020	yL
		rL
336,500	331,878	yD
		rD
		rr
		FISIM
		Explicit Service Charges

$$\text{Output of FISIM} = (rL - rr) yL + (rr - rD) yD$$

STATEMENTS OF INCOME

BANK A		
	Note	2016 RM'000
Interest income	34	18,826,017
Interest expense	35	(9,000,091)
Net interest income		9,825,926
Income from Islamic banking operations	58	1,704,043
Net non-interest income		

BANK B		
	Note	2016 RM'000
Overheads		
Profit before allowances		
Allowance made for impairment loss		
Allowance made for impairment loss		
Allowance made for commitments and		
Allowance made for other impairment		
Operating revenue	35	26,592,229
Interest income	36	15,076,353
Interest expense	37	(7,134,624)
Net interest income		7,941,729
Income from Islamic Banking Scheme operations	62(b)	-
		7,941,729
Net earned insurance premiums	38	-
Dividends from subsidiaries and associates	39	2,400,457
Other operating income	40	4,272,439
Total operating income		14,614,625
Net insurance benefits and claims incurred, net fee and commission expenses, change in expense liabilities and taxation of life and takaful fund	41	-
Net operating income		14,614,625

Interest Income
Bank A: 18,826,017
Bank B: 15,076,353

Interest Expense
Bank A: 9,000,091
Bank B: 7,134,624

OUTPUT CALCULATION:

Source	Item	Formula
Assets, Liabilities and Equities Statements	Loans/ Financing and Advances	a
Income and Expenditure Statement	Interest/ Finance Income	b
Derive	Lending/ Financing Rate	$c=b/a$
Assets, Liabilities and Equities Statements	Deposits Accepted	d
Income and Expenditure Statement	Interest/ Finance Expense	e
Derive	Deposits Rate	$f=e/d$
Derive	Reference Rate	$g=(c+f)/2$
Derive	Interest Rate Spread Current	$h=c-g$
Derive	FISIM on Loans	$i=h*a$
Derive	FISIM on Deposits	$j=h*d$
Derive	Total FISIM	$k=i+j$
Income and Expenditure Statement	Fee and Commission Income	l
	Total Output	$k + l$

Bank A	Bank B	
RM mill.	RM mill.	Remark
315,373	295,020	yL
18,826	15,076	
0.0597	0.0511	rL
336,500	331,878	yD
9,000	7,134	
0.0267	0.0215	rD
0.0432	0.0363	rr
0.0165	0.0148	
5,196	4,367	
5,544	4,913	
10,739	9,280	FISIM
		Explicit Service Charges

$$\text{Output of FISIM} = (rL - rr) yL + (rr - rD) yD$$

STATEMENTS OF INCOME : Fee & Commission

BANK A

	Note	2016 RM'000
Interest income	34	18,826,017
Interest expense	35	(9,000,091)
Net interest income		9,825,926
Income from Islamic banking operations	58	1,704,043
Net non-interest income	36	4,535,286
Overheads	37	16,065,255 (8,651,690)
Profit before allowances		7,413,565
Allowance made for impairment losses on loans, advances and financing	38	(2,408,883)
Allowance made for impairment losses on other receivables		(87,160)
Allowance made for commitments and contingencies	24	(30,461)
Allowance made for other impairment losses	39	(118,605)
Share of results of joint ventures	14	4,236
Share of results of associates	13	111,452
Profit before taxation and zakat		4,884,144
Taxation and zakat – Company and subsidiaries	41	(1,251,187)
Profit for the year		3,632,957

36 NET NON-INTEREST INCOME

	Th 2016 RM'000
Net fee and commission income:	
Commissions	875,280
Fee on loans, advances and financing	582,133
Portfolio management fees	24,261
Service charges and fees	667,196
Corporate advisory and arrangement fees	51,198
Guarantee fees	66,553
Other fee income	283,655
Placement fees	19,002
Underwriting commission	15,226
Fee and commission income	2,584,504
Fee and commission expense	(648,159)
Net fee and commission income	1,936,345

**Fee and Commission Income:
Bank A: 2,584,504**

STATEMENTS OF INCOME : Fee & Commission

BANK B		Bank	
		2017 RM'000	2016 RM'000
	Note		
Operating revenue	35	24,841,318	26,592,229
Interest income	36	16,099,945	15,076,353
Interest expense	37	(7,306,999)	(7,134,624)
Net interest income		8,792,946	7,941,729
Income from Islamic Banking Scheme operations	62(b)	-	-
		8,792,946	7,941,729
Net earned insurance premiums	38	-	-
Dividends from subsidiaries and associates	39	1,920,144	2,400,457
Other operating income	40	3,681,248	4,272,439
Total operating income		14,394,338	14,614,625
Net insurance benefits and claims incurred, net fee and commission expenses, change in expense liabilities and taxation of life and takaful fund	41	-	-
Net operating income		14,394,338	14,614,625
Overhead expenses	42	(5,880,703)	(5,339,639)
Operating profit before impairment losses		8,513,635	9,274,986
Allowances for impairment losses on loans, advances, financing and other debts, net	44	(1,163,238)	(1,787,868)
(Allowances for)/writeback of impairment losses on financial investments, net	45	2,217	(139,851)

40. OTHER OPERATING INCOME

	Bank	
	2017 RM'000	2016 RM'000
Fee income:		
Commission	1,155,792	1,012,359
Service charges and fees	1,058,425	1,055,054
Underwriting fees	24,073	23,933
Brokerage income	-	-
Fees on loans, advances and financing	139,580	136,381
	2,377,870	2,227,727

**Fee and Commission Income:
Bank B: 2,227,727**

OUTPUT CALCULATION:

Source	Item	Formula
Assets, Liabilities and Equities Statements	Loans/ Financing and Advances	a
Income and Expenditure Statement	Interest/ Finance Income	b
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	Total Output	$k + l$

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0.0597	0.0511	rL
336,500	331,878	yD
9,000	7,134	
0.0267	0.0215	rD
0.0432	0.0363	rr
0.0165	0.0148	
5,196	4,367	
5,544	4,913	
10,739	9,280	FISIM
2,584	2,227	Explicit Service Charges
13,323	11,507	

$$\text{Output of FISIM} = (rL - rr) yL + (rr - rD) yD$$

ALLOCATION OF FISIM



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- A full allocation the use of FISIM across the relevant sectors & industries.
- Identify the purchase of these services explicitly.
- **FISIM on Loans** were allocated to industry, government and household based on Classification of **Loans by sector data (source data from Central bank)**.
- **FISIM on Deposits** were allocated based on **Deposit by holder data (source data from Central bank)**.

ALLOCATION OF FISIM: FISIM on Loan

FISIM on Loan = RM20.0 billion (a)

SECTOR	Loan (RM Bil.)	Share (%) (b)	FISIM (RM Bil.) = a*b
Primary agriculture	35.2	1.9	0.4
Mining and quarrying	11.6	0.6	0.1
Manufacturing	122.8	6.7	1.3
Electricity, gas and water supply	15.1	0.8	0.2
Wholesale, retail, restaurants and hotels	136.4	7.5	1.5
Construction	93.1	5.1	1.0
Real estate	116.4	6.4	1.3
Transport, storage and communication	40.1	2.2	0.4
Finance, insurance and business services	115.8	6.3	1.3
Education, health & others	54.7	3.0	0.6
Household sector (A)	1,069.0	58.6	11.7
Other sector	14.0	0.8	0.2
Total	1,824.1	100.0	20.0

Supply
Side

Supply +
Demand
Side

Demand Side

ALLOCATION OF FISIM: FISIM on Loan

FISIM on Loan for Household = RM11.7 billion need to allocate for HH on Demand Side and OOD on Supply side

	Loan (RM Bil.)	Share (%)	FISIM (RM Bil.)
Household sector (A)	1,069.0	100.0	11.7
Demand Side	623.5	58.3	6.8
Supply Side (OOD)	445.5	41.7	4.9

Loan by Purpose	Loan (RM Bil.)	Share (%)
Residential Loan	636.5	100.0
OOD (70%)*	445.5	70.0
Others (30%)	191.0	30.0

*70% assumptions based on Home Ownership source from Population and Housing Census 2020

ALLOCATION OF FISIM: FISIM on Deposit

FISIM on Deposit = RM25.0 billion (a)

Holder	Deposit (RM Bil.)	Share (%) (b)	FISIM (RM Bil.) = a*b	
Federal Government	39.9	1.9	0.5	Demand Side
State Government	32.3	1.6	0.4	
Statutory Agency	84.2	4.1	1.0	
Financial Institution	372.2	17.9	4.5	Supply Side
Business Enterprises (A)	642.7	31.0	7.7	
Individuals	788.6	38.0	9.5	Demand Side
Others (B)	116.6	5.6	1.4	Supply Side
Total	2,076.6	100.0	25.0	

FISIM on Deposit for Business Enterprises and Others needs to allocate by sector/industries other than Finance

ALLOCATION OF FISIM: FISIM on Deposit

$$\text{Business Enterprises (A) + Others (B) = RM 7.7 billion + RM1.4 billion = RM9.1 billion (C)}$$

SECTOR	Value Added (RM Bil.)	Share (%) (D)	FISIM (RM Bil.) = C*D
Primary agriculture	26.6	11.2	1.0
Mining and quarrying	20.8	8.7	0.8
Manufacturing	66.1	27.8	2.5
Electricity, gas and water supply	9.3	3.9	0.4
Wholesale, retail, restaurants and hotels	54.9	23.1	2.1
Construction	9.6	4.0	0.4
Real estate	4.1	1.7	0.2
Transport, storage and communication	30.6	12.9	1.2
Business services	9.6	4.0	0.4
Education, health & others	6.1	2.6	0.2
Total	237.8	100.0	9.1

ALLOCATION OF FISIM: FISIM on Supply

FISIM for Supply Side = FISIM on Loan (Supply) + FISIM on Deposit (Supply)

RM Bil.

SECTOR	FISIM on Loan (Supply)	FISIM on Deposit (Supply)	Total FISIM on Supply
Primary agriculture	0.4	1.0	1.4
Mining and quarrying	0.1	0.8	0.9
Manufacturing	1.3	2.5	3.8
Electricity, gas and water supply	0.2	0.4	0.6
Wholesale, retail, restaurants and hotels	1.5	2.1	3.6
Construction	1.0	0.4	1.4
Real estate	1.3	0.2	1.5
Transport, storage and communication	0.4	1.2	1.6
Finance, insurance and business services	1.3	4.5+0.4=4.9	6.2
Education, health & others	0.6	0.2	0.8
OOD	4.9		4.9
Total	13.0	13.6	26.6

ALLOCATION OF FISIM: FISIM on Demand

FISIM for Demand Side = FISIM on Loan + FISIM on Deposit

Demand Side	FISIM on Loan	FISIM on Deposit	FISIM (RM Bil.)
Household	0.2+6.8=7.0	9.5	16.5
Government		0.5+0.4+1.0=1.9	1.9
Total	7.0	11.4	18.4

FISIM	FISIM (RM Bil.)	Share (%)
Supply Side	26.6	59.1
Demand Side	18.4	40.9
Total	45.0	100.0

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