



What Is Money?

Chapter 3 in Mishkin

Meaning of Money (1)

- **Money** is anything generally accepted in payments for goods or services or in the repayment of debts.
- It is not the same as **Currency**, which consists of paper money and coins. Currency is too narrow.

Meaning of Money (2)

- It is neither the same as **Wealth**, which is the total collection of properties that serve to store value. Wealth is too broad.
- It is neither the same as **Income**, which is a flow of earning in a period of time. Money is a stock concept.

Meaning of Money (3)

- Since money is anything accepted for payments, it includes:
 - Currency
 - Cheques
 - Debit cards etc.
- There are various definitions of money supply, E.g. M1, M2, M2a, M3 etc.

Functions of Money (1)

- **Medium of Exchange**

- Money is used to pay for goods and services.
- This promotes economic efficiency as:
 - It reduces transaction costs
 - It also allows specializations.
- To perform this effectively, money must be (1) standardized (2) widely accepted (3) divisible (4) easy to carry (5) not deteriorate quickly.

Functions of Money (2)

- **Unit of Account**

- Money is used to measure value in the economy.
- It reduces transaction costs by reducing the number of prices that need to be considered.

Functions of Money (3)

- **Store of Value**

- Money is used as a way to store purchasing power over time.
- This function is useful as we do not always want to spend our income immediately upon receiving it.
- It provides more *liquidity* (the relative ease with which an asset can be converted into a medium of exchange) than other assets.

Evolution of the Payments Sys. (1)

- ***Payments System*** is the method of conducting transactions in the economy.
- Recall that money should be:
 - (1) standardized
 - (2) widely accepted
 - (3) divisible
 - (4) easy to carry
 - (5) not deteriorate quickly

Evolution of the Payments Sys. (2)

- In the ancient time, we use precious metal, e.g. silver or gold, or valuable commodity as money.
- We call it ***commodity money***.
 - It is widely accepted.
 - However, it is very hard to carry.

Evolution of the Payments Sys. (3)

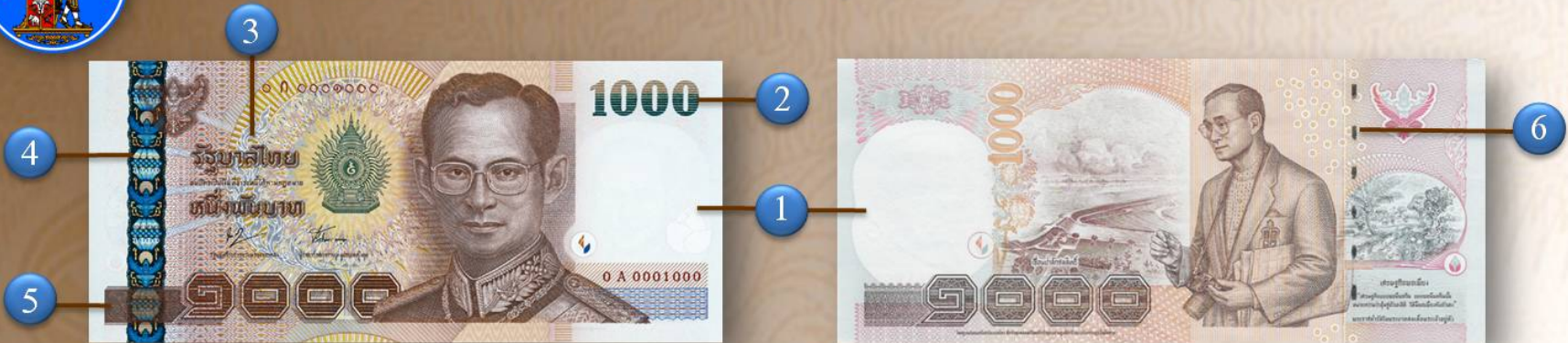
- Next, it evolves to ***fiat money***, which is paper currency authorized by the government for legal uses of exchange.
 - It solves the problem of commodity money.
 - However, since it does not have value in itself, its use is based on trust. → Has some problems with counterfeiting.
 - It can be easily stolen, and can be expensive to transport in large amount.

Thai Money Evolution

- Before the adoption of banknotes and flat coins, Thailand used *Cowrie Shells*, *Prakab* (Baked Clay Coins) and *Pot Duang* as the money.
- After that, we use paper money.
- http://www.bot.or.th/English/Banknotes/HistoryANDSeriesOfBanknotes/Pages/Evolution_of_Thai_Banknotes.aspx



1000 Baht Note (Revised Version)



1. H.M. the King's portrait watermark and the translucent remote watermark "Phum Khaw Bin" can be clearly observed by viewing the note against the light.



3. The portrait of H.M. the King, Thai words and the numerals indicating denomination, printed by intaglio process, give a tactile feel to finger touch.



2. The Arabic numerals indicating denomination "1000", printed with optically variable intaglio ink (OVI), change from greenish gold and green into green when the lower edge of the note being flipped.



4. Silver hologram foil stripe with the Royal Garuda Emblem and numbers "1000" in Thai and Arabic, which will be seen in different reflecting colors and in various dimensions when viewed at different angles as the note is flipped back and forth.



5. Intaglio latent image "1000", hidden inside the Thai art design, becomes visible when the note is viewed from the lower left corner toward the middle part of the note.



6. Vertically embedded inside the paper is the metallic color windowed security thread, which appears intermittently on the back, containing non-staggering translucent microletterings "1000" and "1000 Baht", readable by viewing the note against the light.



The special luminescent characteristics which appear under ultraviolet light;

1. The yellow background design will luminesce into yellow.
2. The red alphabetical codes and serial numbers will luminesce into orange.
3. The invisible fibers scattering in the pale blue paper will luminesce into blue, red and yellow.

Evolution of the Payments Sys. (4)

- A *cheque* is an instruction from you to your bank to transfer money from your account to someone else's account.
 - No need to carry around large amounts of currency.
 - Can partly prevent theft.
 - Prob 1: Takes time to pay in other locations.
 - Prob 2: Need time and resources to process.

Evolution of the Payments Sys. (5)

- Nowadays, we have ***electronic payment***. Banks may provide a web site to pay for any transaction.
- We also have ***e-money***, which is money in electronic form. E.g. debit cards, smart cards, e-cash.

Thailand to become a cashless society

The screenshot shows the homepage of The Nation website. At the top, there is a navigation bar with the site's logo and URL (www.nationmultimedia.com). Below the navigation bar, there are several promotional banners for mobile services: AIS 3G, dtac 3G, and true move H. The main content area features a navigation menu with categories like HOME, NATIONAL, POLITICS, BUSINESS, MY MONEY, OPINION, LIFE, TECHNOLOGY, TRAVEL, SPORTS, SUNDAY, and AEC. The current page is focused on the 'POLITICS' section. The main headline reads 'Plastic money set to become a way of life' under the 'BURNING ISSUE' category. The article is dated January 8, 2016, at 1:00 am. The text of the article discusses the potential use of plastic money in Thailand by 2020, highlighting the convenience of internet-based payment systems. On the right side of the page, there is a promotional banner for 'THE NATION News' with the tagline 'Breaking news that you can trust'. The banner includes a smartphone displaying the news app and a 'click' button.

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BURNING ISSUE

Plastic money set to become a way of life

THE NATION
sasithom@nationgroup.com January 8, 2016 1:00 am

IN 2020, we might see a lot more use of plastic money instead of cash to pay for our food, travel, daily-use products, medicare services and debts towards taxes.

Growing payment systems via the Internet will bring more convenience to people. When we pay for food or mass-transit tickets, we just put a card on a device and money for the transaction will be deducted from our account. No more need to find and wait for change.

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Measuring Money (1)

Table 1 Measures of the Monetary Aggregates

	Value as of December 2002 (\$billions)
M1 = Currency	626.5
+ Traveler's checks	7.7
+ Demand deposits	290.7
+ Other checkable deposits	281.2
Total M1	1,206.1
M2 = M1	
+ Small-denomination time deposits and repurchase agreements	1,332.3
+ Savings deposits and money market deposit accounts	2,340.4
+ Money market mutual fund shares (noninstitutional)	923.7
Total M2	5,802.5
M3 = M2	
+ Large-denomination time deposits and repurchase agreements	1,105.2
+ Money market mutual fund shares (institutional)	767.7
+ Repurchase agreements	511.7
+ Eurodollars	341.1
Total M3	8,528.2

Source: www.federalreserve.gov/releases/h6/hist.

Note: The *Travelers checks* item includes only traveler's checks issued by non-banks, while traveler's checks issued by banks are included in the *Demand deposits* item, which also includes checkable deposits to businesses and which also do not pay interest.

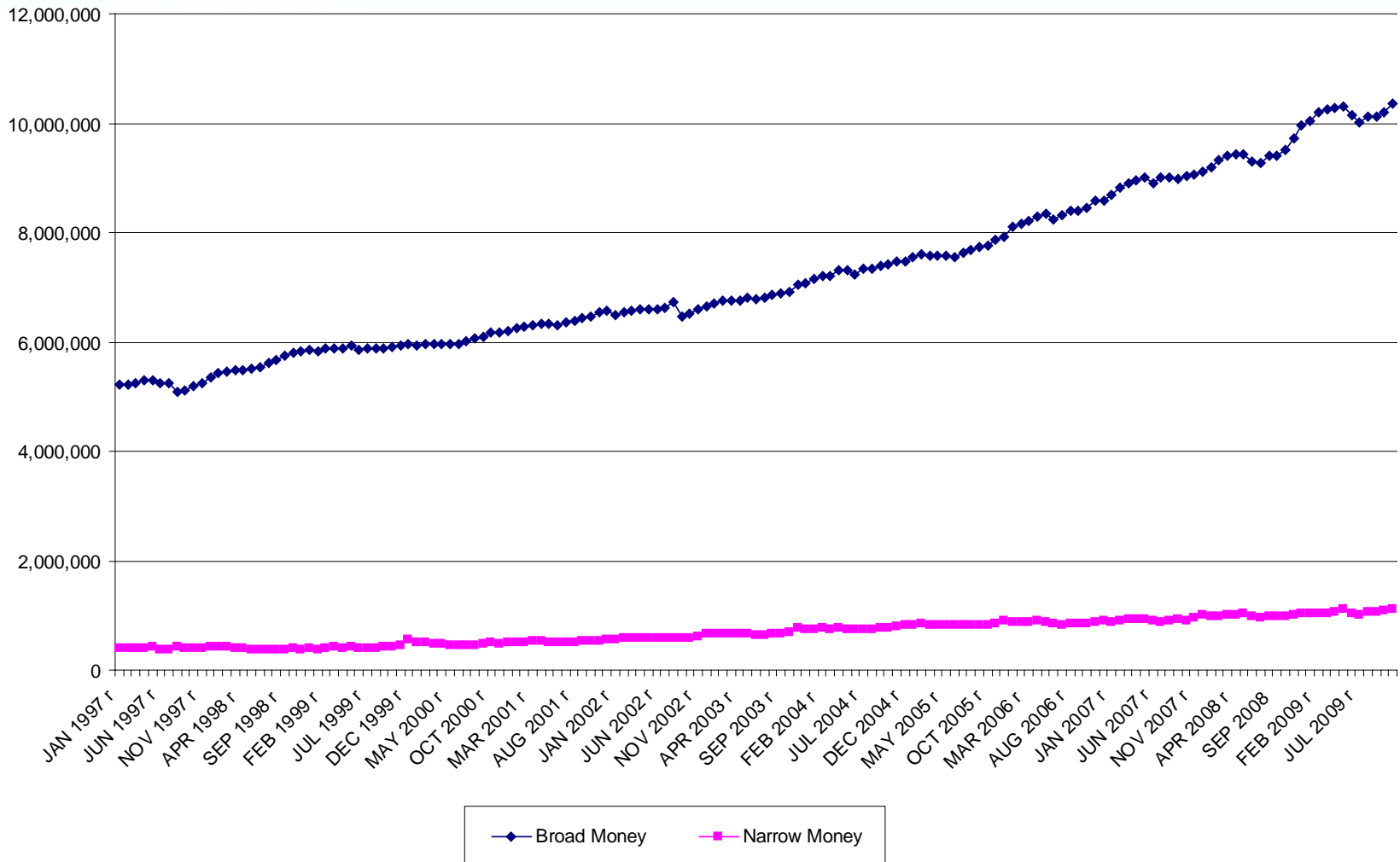
Measuring Money (2)

Source: [www.bot.or.th/...](http://www.bot.or.th/)

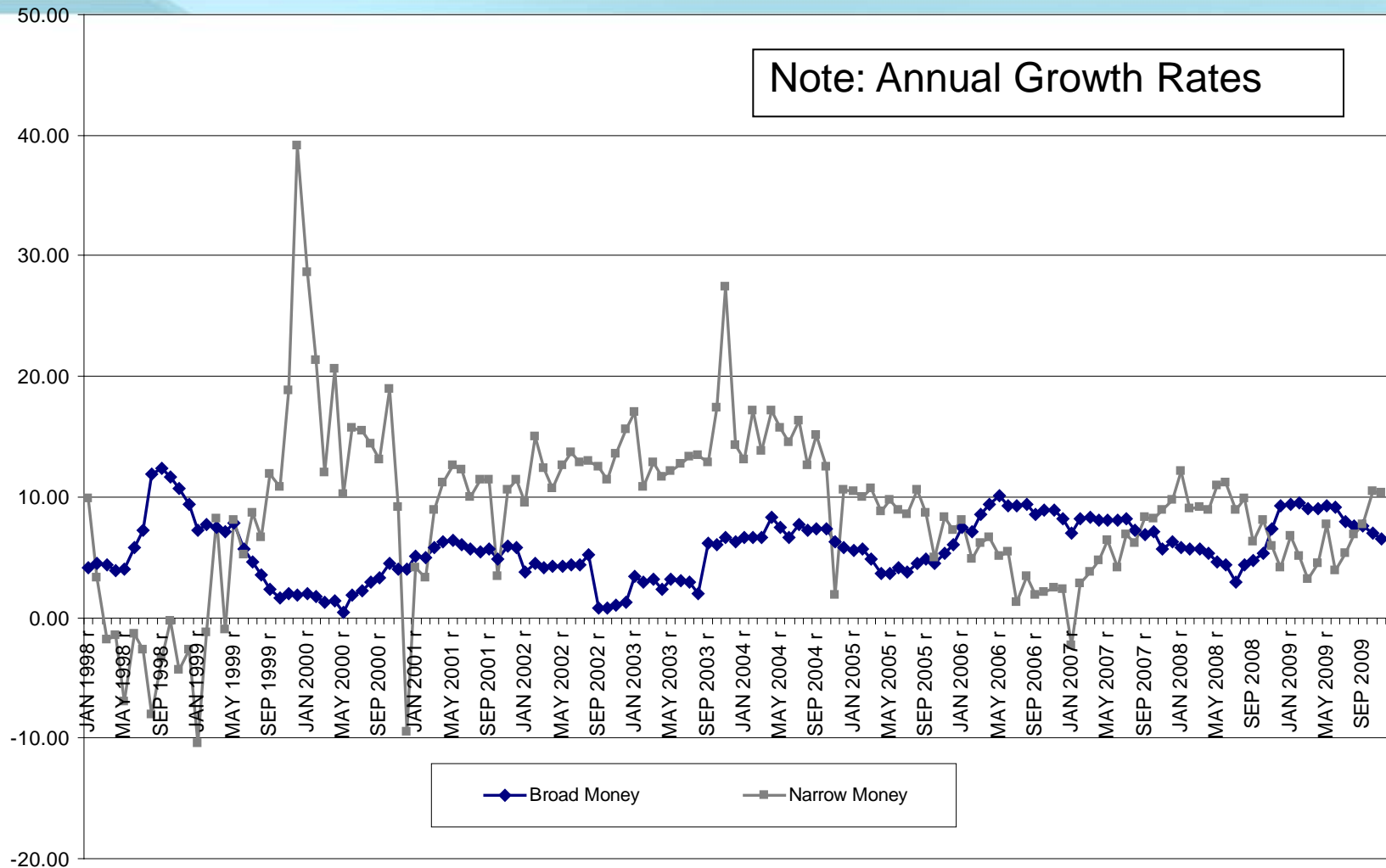
	NOV 2009 p	OCT 2009	JUL 2009 r
1 Broad Money (1+2)	10,357,533	10,187,964	10,012,694
2 1. Narrow Money (1.1+1.2)	1,115,183	1,079,498	1,013,281
3 1.1 Currency outside DCs & Central Gov.	787,152	767,326	735,236
4 Banknotes in Circulation	905,744	881,325	851,305
5 Coins in Circulation	40,551	40,332	39,850
6 Less: Currency held by Central Gov.	1,259	1,253	1,206
7 Less: Currency held by Depository Corp.	157,884	153,078	154,713
13 1.2 Transferable Deposits at Depository Corp.	328,031	312,171	278,044
14 Transferable Deposits at Bank of Thailand	3,126	3,183	3,193
15 Transferable Deposits at Commercial Banks	319,207	303,769	268,969
16 Transferable Deposit at Specialized Banks	5,698	5,219	5,883
17 2. Quasi-money (2.1+2.2)	9,242,350	9,108,466	8,999,413
18 2.1 Other Deposits at Depository Corp.	8,560,084	8,422,697	8,277,826
19 Other Deposits at Commercial Banks	6,164,706	6,099,572	6,040,314
24 Other Deposits at Finance Companies	21,636	22,848	25,636
28 Other Deposits at Specialized Banks	1,864,840	1,796,725	1,708,256
33 Other Deposits at Savings Cooperatives	359,867	354,519	337,409
37 Unit Trust of Money Market Mutual Funds	149,034	149,034	166,210
38 2.2 Securities Other Than Shares	682,266	685,769	721,587
39 Issued by Commercial Banks	669,134	661,696	693,554
42 Issued by Finance Companies	2,702	2,775	3,155
43 Issued by Specialized Banks	10,431	21,297	24,878

Broad Money included bill of exchange issued by commercial banks, deposit of saving cooperatives and net asset value of money market mutual fund.

Measuring Money (3)



Measuring Money (4)

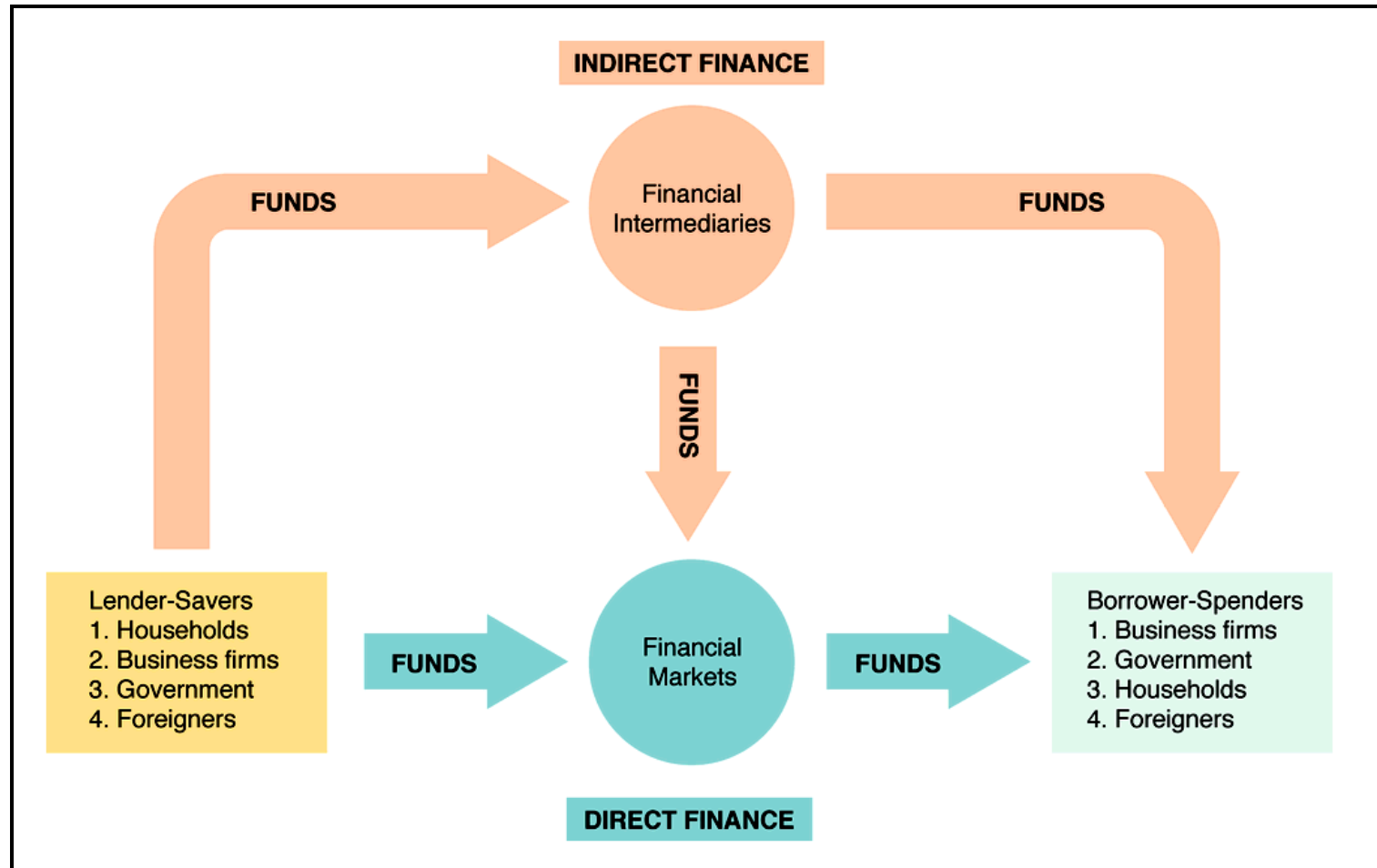




The Financial System

Chapter 2 in Mishkin

Flows of Funds Through the *Financial System*



Financial System

- The main function of financial system is to transfer funds from people who have excess to people who have shortage.



Channel 1: Direct Finance Through Financial Markets

Financial Markets: Classification 1

- Debt Market
 - Short-term (maturity < 1 year) → Money market
 - Intermediate-term (maturity 1 – 10 years) (→ Capital market)
 - Long-term (maturity > 10 years) (→ Capital market)
- Equity Market (→ Capital market)
 - Common stocks
 - Pays dividends.
 - Don't have maturity date (hence, long-term).
 - Can vote on issues related to the firm.
- Corporations must pay all its **debt** holders before it pays its **equity** holders.

Financial Markets: Classification 2 (1)

- Primary Market
 - New security issues (either debt or equity securities) sold to initial buyers (e.g. IPO of common stocks).
- Secondary Market
 - Securities previously issued are bought and sold (e.g. daily trading in stock markets).
- When a person buys a security in the secondary market, the person who has sold the security receives money in exchange for the security, but the corporation that issued the security acquires no new funds.

Financial Markets: Classification 2 (2)

- A corporation acquires new funds only when its securities are first sold in the primary market.
- Hence, secondary market may not perform the task of transferring funds from the people who have an excess to ones who have a shortage.
- However, secondary markets serve 2 important functions:
 - They make it easier and quicker to sell these instruments (more liquid).
 - They determine price of the security that the issuing firm sells in the primary market.

Financial Markets:

Classification 3

(Secondary markets only)

- Exchanges
 - Trades conducted in central locations (e.g. SET).
- Over-the-counter (OTC) markets
 - Dealers at different locations have an inventory of cash and securities to buy and sell “over the counter” to anyone (e.g. banks for bonds, foreign exchange, and mutual funds).

International Financial Markets

- A ***Eurobond*** is a bond denominated in a currency other than that of the currency in which it is sold.
- ***Eurocurrencies*** are foreign currencies deposited in banks outside the home country.



Channel 2: Indirect Finance Through Financial Intermediaries

Function of Financial Intermediaries (1)

Financial Intermediaries

- More important source of finance than securities markets
- But why do we need these intermediaries (which make profits as well)?
 - We think that this can be explained by transactions costs and asymmetric information.

Function of Financial Intermediaries (2)

Transactions Costs

- Financial intermediaries make profits by reducing transactions costs.
- They reduce transactions costs by developing expertise and taking advantage of economies of scale.
- They reduce transactions costs for the borrowers by collecting money from various people as well.

Function of Financial Intermediaries (3)

Risk Sharing

- **Risk** represents uncertainty about the returns investors will earn on assets.
- Financial intermediaries create and sell assets with low risk characteristics and then use the funds to buy assets with more risk (also called **asset transformation**).
- They can also lower risk by helping people to diversify portfolios.

Asymmetric Information (1)

A person may not know enough about the other party to make accurate decisions.

Adverse Selection

- Before transaction occurs.
- Potential borrowers most likely to produce adverse outcomes are ones most likely to seek loans and be selected.
- Hence, lenders may decide not to make any loans at all.

Asymmetric Information (2)

Moral Hazard

- After transaction occurs
- Hazard that borrower has incentives to engage in undesirable (immoral) activities making it more likely that won't pay loan back.

Asymmetric Information (3)

Financial intermediaries can alleviate both problems.

- They have more incentive to screen out bad loans (prevent adverse selection) and monitor the borrowers (prevent moral hazard).
- They can also develop expertise in doing these.

The Financial Intermediaries

Table 1 Primary Assets and Liabilities of Financial Intermediaries

Type of Intermediary	Primary Liabilities (Sources of Funds)	Primary Assets (Uses of Funds)
Depository institutions (banks)		
Commercial banks	Deposits	Business and consumer loans, mortgages, U.S. government securities and municipal bonds
Savings and loan associations	Deposits	Mortgages
Mutual savings banks	Deposits	Mortgages
Credit unions	Deposits	Consumer loans
Contractual savings institutions		
Life insurance companies	Premiums from policies	Corporate bonds and mortgages
Fire and casualty insurance companies	Premiums from policies	Municipal bonds, corporate bonds and stock, U.S. government securities
Pension funds, government retirement funds	Employer and employee contributions	Corporate bonds and stock
Investment intermediaries		
Finance companies	Commercial paper, stocks, bonds	Consumer and business loans
Mutual funds	Shares	Stocks, bonds
Money market mutual funds	Shares	Money market instruments

The Financial Intermediaries in Thailand

Table 1 Number and Asset Size of Financial Institutions as of yearend 2014

	Number	% of Total Assets of Financial Institutions
Depository Corporations	2,020	69.6
Commercial Banks	30	47.9
Specialized Financial Institutions	6	15.0
Saving Cooperatives and Credit Unions	1,943	6.0
Money Market Mutual Funds	41	0.7
Non-Depository Corporations	7,074	30.4
Mutual Funds	1,495	9.8
Insurance Companies	86	7.6
Leasing Companies	661	3.0
Credit Card and Personal Loan Companies	29	2.8
Provident Funds	418	2.3
Government Pension Fund	1	2.0
Asset Management Companies	33	0.9
Securities Companies	47	0.8
Agricultural Cooperatives	3,748	0.5
Pawn Shops	556	0.2

Source : Bank of Thailand

Commercial Banks in Thailand

Source: www.bot.or.th

		DEC 2015 p					
		Bangkok	Central	Northeast	North	South	Total
1	Bangkok Bank Public Company Ltd.	308	356	168	170	138	1,140
2	Krung Thai Bank Public Company Ltd.	292	344	227	179	173	1,215
3	Kasikornbank Public Company Ltd.	316	357	169	154	125	1,121
4	Siam Commercial Bank Public Company Ltd.	359	415	152	128	155	1,209
5	Bank of Ayudhya Public Company Ltd.	196	219	82	56	82	635
6	TMB Bank Public Company Ltd.	166	144	48	50	46	454
7	Siam City Bank Public Company Ltd. 1/	n.a.	n.a.	n.a.	n.a.	n.a.	0
8	United Overseas Bank (Thai) Company Ltd. 2/	85	39	11	9	11	155
9	Standard Chartered (Thailand) Bank Public Company Ltd. 3/	16	4	0	0	0	20
10	CIMB Thai Bank Public Company Ltd.	60	34	9	10	10	123
11	Thanachart Bank Public Company Ltd.	238	194	51	53	79	615
12	Tisco Bank Public Company Ltd.	24	17	6	3	7	57
13	Kiatnakin Bank Public Company Ltd.	26	21	6	6	6	65
14	Industrial and Commercial Bank Of China (Thai) Public Company Ltd. 4	9	3	4	1	3	20
15	Land and Houses Bank Public Company Ltd. 5/	45	37	16	13	15	126
16	Thai Credit Retail Bank Public Co., Ltd. 6/	16	31	12	5	10	74
17	AIG Retail Bank Public Co., Ltd. 7/ 8/	n.a.	n.a.	n.a.	n.a.	n.a.	0
18	Mega International Commercial Bank Public Company Ltd. 9/ 10/	2	3	0	0	0	5
19	GE Money Retail Bank Public Co.,Ltd. 11/ 12/	n.a.	n.a.	n.a.	n.a.	n.a.	0
20	Bank of China (Thai) Public Co.,Ltd. 13/	2	3	1	0	0	6
21	ANZ Bank (Thai) Public Co.,Ltd. 14/	1	0	0	0	0	1
22	Sumitomo-Mitsui-Trust-Thai-Bank-public Co.,Ltd. 15/	1	0	0	0	0	1
23	Full Branches	15	4	0	0	0	19
24	Total	2,177	2,225	962	837	860	7,061