



Bachelor of Economics
THAMMASAT UNIVERSITY

FN 211 Financial Markets

Class 7: Commercial Banks

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Today's Outline

- Balance Sheets and Recent Trends
- Impact of Rising Interest Rates
- The Banking Industry
- How to Measure Bank's Performance
- Financial Master Plan
- Deposit Insurance Scheme

I start my small bank

Cash \$1,000,000

Loans \$9,000,000
(8% interest rate)

Deposits \$10,000,000
(3% interest rate)



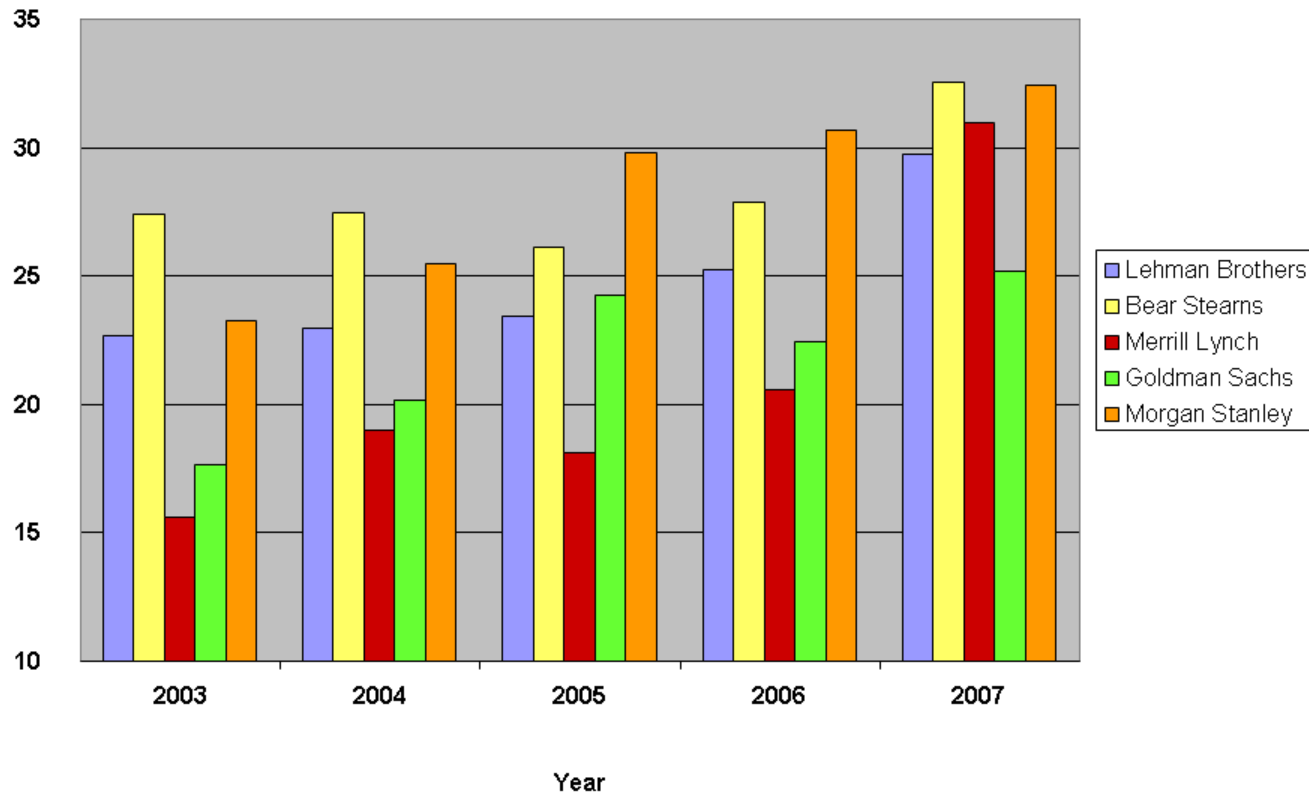
\$1,000,000

My equity \$1,000,000

When banks are overleveraged ...

Leverage Ratios For Major Investment Banks

The leverage ratio is a measure of the risk taken by a firm; a higher ratio indicates more risk. It is calculated as total debt divided by stockholders equity. Each firm's ratio increased between 2003-2007.



Source Data: Company Annual Reports (SEC Form 10K)



Balance Sheets and Recent Trends

Assets

Cash

Investments

Loans

Other assets

Liabilities

Deposits

Borrowings

Equity

Balance Sheets and Recent Trends

Assets

- **Primary reserves** consist of cash and deposits held with other banks.
 - These reserves are the banker's first line of defense against withdrawals by depositors and customer demand for loans.
 - Banks generally hold no more cash than is absolutely required to meet short-term contingencies, however, because the yield on cash assets is minimal.

Balance Sheets and Recent Trends

Assets

- **Secondary reserves** consist of investments in (mostly) short-term government securities.
 - Commercial banks hold securities acquired in the open market as a long-term investment and as a secondary reserve to help meet short-term cash needs.
 - Banks generally favor short-term government securities (T-bills, BOT bonds and short-term government bonds) because these securities can be marketed readily to cover short-term cash needs and are free of default risk.

Balance Sheets and Recent Trends

Assets

● Loans

- Banks make loans of reserves to other banks through the interbank market (e.g. at BIBOR rate) and to central bank through repurchase agreement (*securities purchased under reverse repo/resale agreements*).
- However, the principal business of commercial banks is to make loans to qualified borrowers. These loans arise from negotiation between the bank and its customer and result in a written agreement designed to meet the specific credit needs of both parties.
- Loans are among the **highest yielding assets** a bank can add to its portfolio, and they often provide the largest portion of traditional banks' operating revenue.

Balance Sheets and Recent Trends

Assets

- **Loans** can be in many forms...
 - Short-term loans to businesses to support purchase of inventory
 - Long-term loans to businesses to finance purchase of buildings, machinery, equipment, construction of residential and commercial structures, etc.
 - Loans to individuals to finance the purchase of residential properties, automobiles, education, etc.

Balance Sheets and Recent Trends

Liabilities

- **Deposits** are primary sources of funding. There are 3 main types of deposits.
 - **Demand or checking deposits** are means of making payments because they are safer than cash and are widely accepted.
 - **Savings deposits** bear relatively low interest rate (*0.75% at the moment*) but may be withdrawn conveniently through ATM machines by the depositor with no notice.
 - **Time deposits** carry a fixed maturity (3-, 6-, or 12-month) and usually offer higher interest rates (*2.00-3.00% at the moment*).

Balance Sheets and Recent Trends

Liabilities

- **Nondeposits funds** or **borrowings** include
 - **Borrowing from other banks** in the interbank market and **from the central bank** through repurchase agreement (*securities sold under repurchase agreements*)
 - **Issuance of subordinated or hybrid bonds** which are bonds that pay coupon interest but can be classified as 'Tier I' or 'Tier II' capital for the purpose of meeting the capital adequacy requirements.
 - *Examples are Stapled Limited Interest Preferred Securities (SLIPS), and Capital Augmented Preferred Securities (CAPS), issued by Thai commercial banks after the Financial Crisis of 1997.*

Balance Sheets and Recent Trends

Stockholders' Equity

- Very small portion, meaning banks are highly leveraged (a relatively small amount of loan defaults can wipe out equity, leaving it insolvent)
- Regulators require banks to hold a minimum level of equity to act as a buffer

Balance Sheets and Recent Trends

Balance Sheet of Thai Commercial Banks as of Dec 2011		
	Million Baht	%
Cash	233,908	1.80%
Due from Financial Institutions and Money Market	1,589,804	12.25%
Investments in Securities (Net)	1,900,741	14.64%
Credits (Net)	8,199,592	63.16%
Premises and Equipment (Net)	170,977	1.32%
Other Assets (Net)	886,715	6.83%
Total Assets	12,981,737	100.00%
Deposits	7,864,597	60.58%
Due to Financial Institutions and Money Market	716,545	5.52%
Borrowings	2,004,532	15.44%
Other Liabilities	805,420	6.20%
Stockholders' Equity	1,590,643	12.25%
Total Liabilities and Equities	12,981,737	100.00%

Balance Sheets and Recent Trends

Off-Balance-Sheet activities are not recorded on a bank's balance sheet and using up little of no bank capital but help banks provide services to their customers and **earn fee income**.

- **Off-balance-sheet asset** - when an event occurs, this item moves onto the asset side of the balance sheet or income is realized on the income statement
- **Off-balance-sheet liability** - when an event occurs, this item moves onto the liability side of the balance sheet or an expense is realized on the income statement

Balance Sheets and Recent Trends

Off-Balance-Sheet activities: Examples

- **Issue standby letters of credit (LC)** on behalf of their customers who borrow from another lender. LCs contain the bank's pledge to pay or guarantee if its customer cannot pay the third party.
- **Securitized assets** which have included packages of auto, credit-card, and home mortgage loans. These packaged loans generate interest and principal payments which are passed through to investors who purchased the securities backed by these loans.

Balance Sheets and Recent Trends

Sources of Income

Interest Spread – is the difference between interest earned on loans and interest paid for deposits

- MLR = 7.00%, 1-year Deposit Rate = 2.00%, Gross spread is 5.00%

Investment Income – profit from trading or investing in bonds, stocks, and money market securities, normally ‘non-recurring’

Fee Income – from services such as issuing letters of credits, money transfer, foreign exchange, issuing new ATM card or credit cards, custodian (or trustee)

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Impact of Rising Interest Rates

Economic Surplus can be defined as

$$MV_{\text{assets}} - MV_{\text{liabilities}}$$

- A bank with longer asset duration relative to the duration of its liabilities will experience a decline in its economic surplus if interest rate **rises**, because the longer duration of the assets will cause their market value to fall more than the market value of the liabilities fall.

Impact of Rising Interest Rates

Example: Assume that Primo Bank has a balance sheet with the market value of its asset portfolio equal to \$50 billion and the present value of its liabilities equal to \$40 billion. Calculate Primo's economic surplus.

$$\begin{aligned}\text{Economic surplus} &= MV_{\text{assets}} - MV_{\text{liabilities}} \\ &= 50 - 40 \\ &= 10 \text{ billion}\end{aligned}$$

Impact of Rising Interest Rates

Example: Now assume

- Interest rates rise by 100 basis points.
- Modified Duration of Primo's assets is 5.0
- Convexity of Primo's assets is 22.5
- Modified Duration of Primo's liabilities is 3.0
- Convexity of Primo's liabilities is 45

Calculate Primo's economic surplus after the interest rate change.

Impact of Rising Interest Rates

Answer:

$$\% \text{ change} = (-)(MD)(\Delta y) + (\text{convexity}) (\Delta y)^2$$

$$\text{For assets:} = (-)(5)(0.01) + (22.5)(0.01)^2 = -4.775\%$$

$$\text{For liabilities} = (-)(3)(0.01) + (45)(0.01)^2 = -2.55\%$$

$$\text{Asset value} = 50,000(1-0.04775) = 47,612.5 \text{ million}$$

$$\text{Liabilities value} = 40,000(1-0.0255) = \underline{-38,980} \text{ million}$$

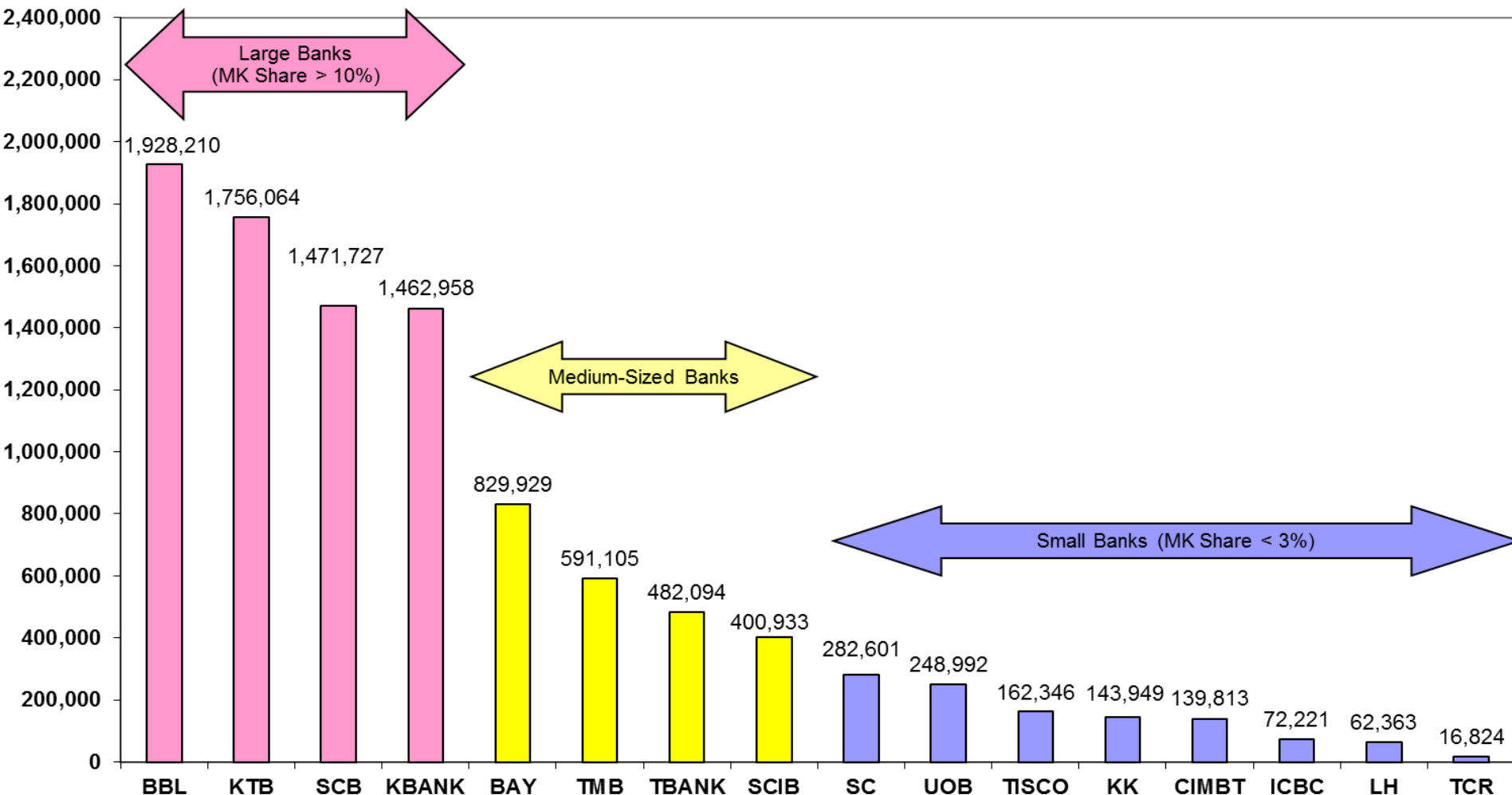
$$\text{Economic surplus} = 8,632.5 \text{ million}$$

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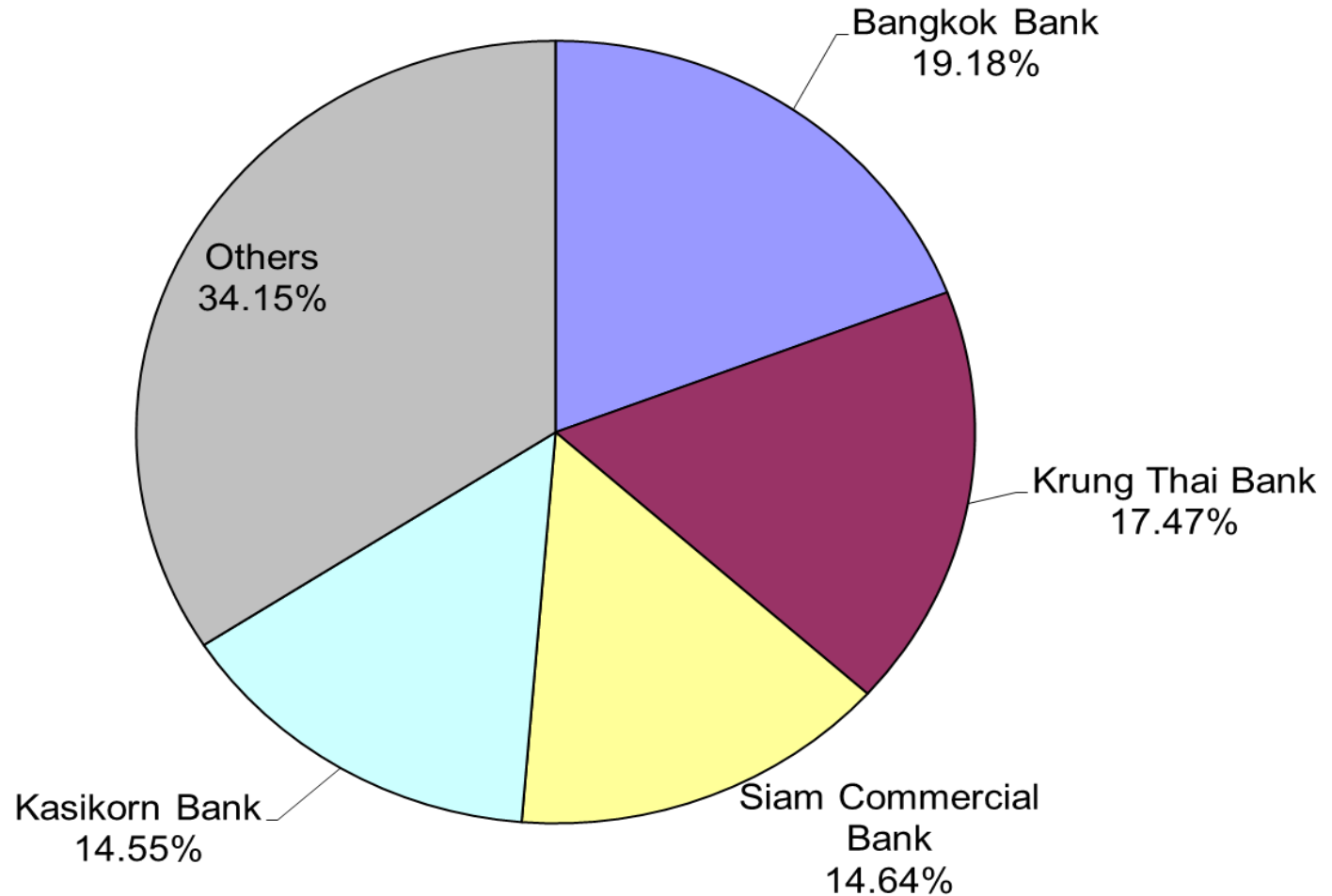
The Banking Industry

Ranking of Thai Banks by Assets as of 31 Dec 2010



The Banking Industry

Market Share of Thai Banks by Assets as of 31 Dec 2010
Total = 10 trillion Baht



The Banking Industry

Current Trends

- **Fee-based Income** – banks are now selling insurance, mutual funds, personal loans, credit cards, money transfer, payment services, etc.
- **Private Banking and Wealth Management** – providing complete and customized services for high net worth individuals, with assets of at least 3 million baht. It is estimated that there are 160,000 of them in Thailand.
- **Loans for SMEs** – given matured lending business for large companies, banks are going after SME sector with higher yield and more room to grow.



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How to measure bank's performance

Capital adequacy

- Tier 1 Ratio
- Total Capital Ratio

Profitability

- Return on Assets (ROA)
- Net interest margin (NIM)

Risky assets

Asset quality

- NPL Ratio
- Allowance Ratio

Retained earnings

Margins

Provision Expense

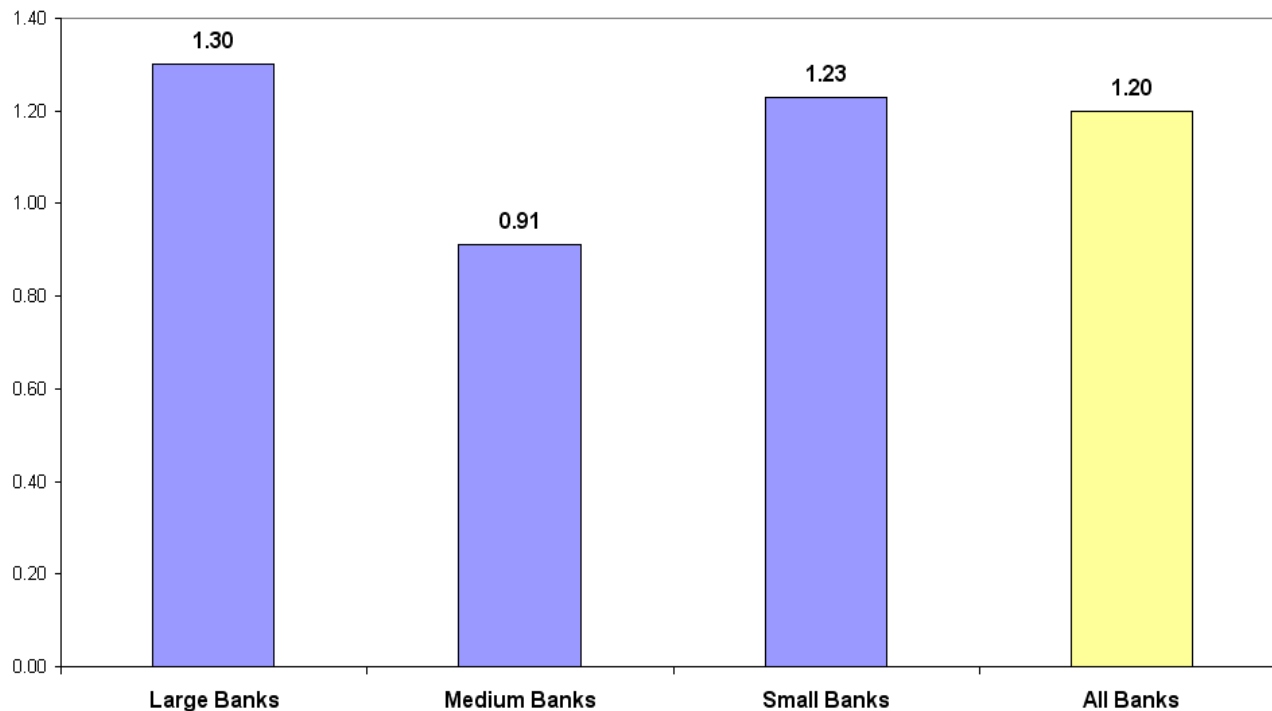
Efficiency

- Loan to Deposit Ratio
- Net Profit per Employee
- Net Profit per Branch

1. Profitability

$$\text{Return on Assets (ROA)} = \frac{\text{Net Profit}}{\text{Average Net Assets}}$$

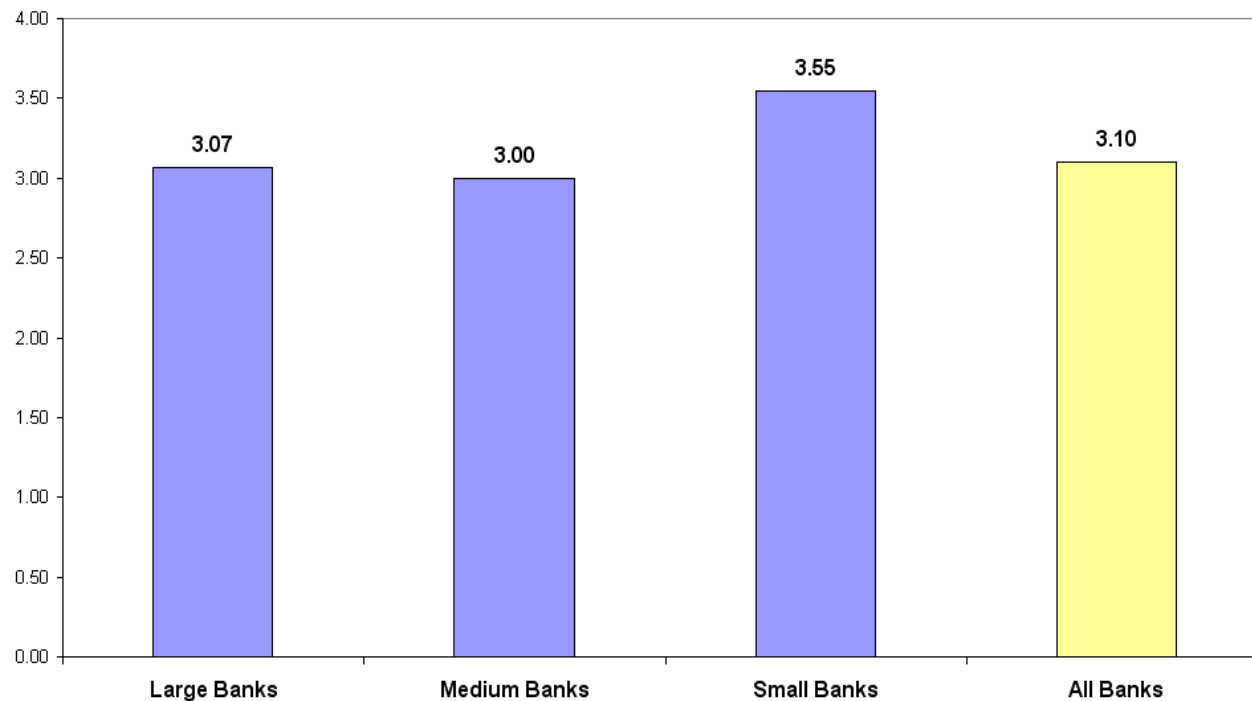
ROA of Thai Banks as of Sep 2010



1. Profitability

$$\text{Net Interest Margin (NIM)} = \frac{\text{Interest Income} - \text{Interest Expense}}{\text{Average Net Assets}}$$

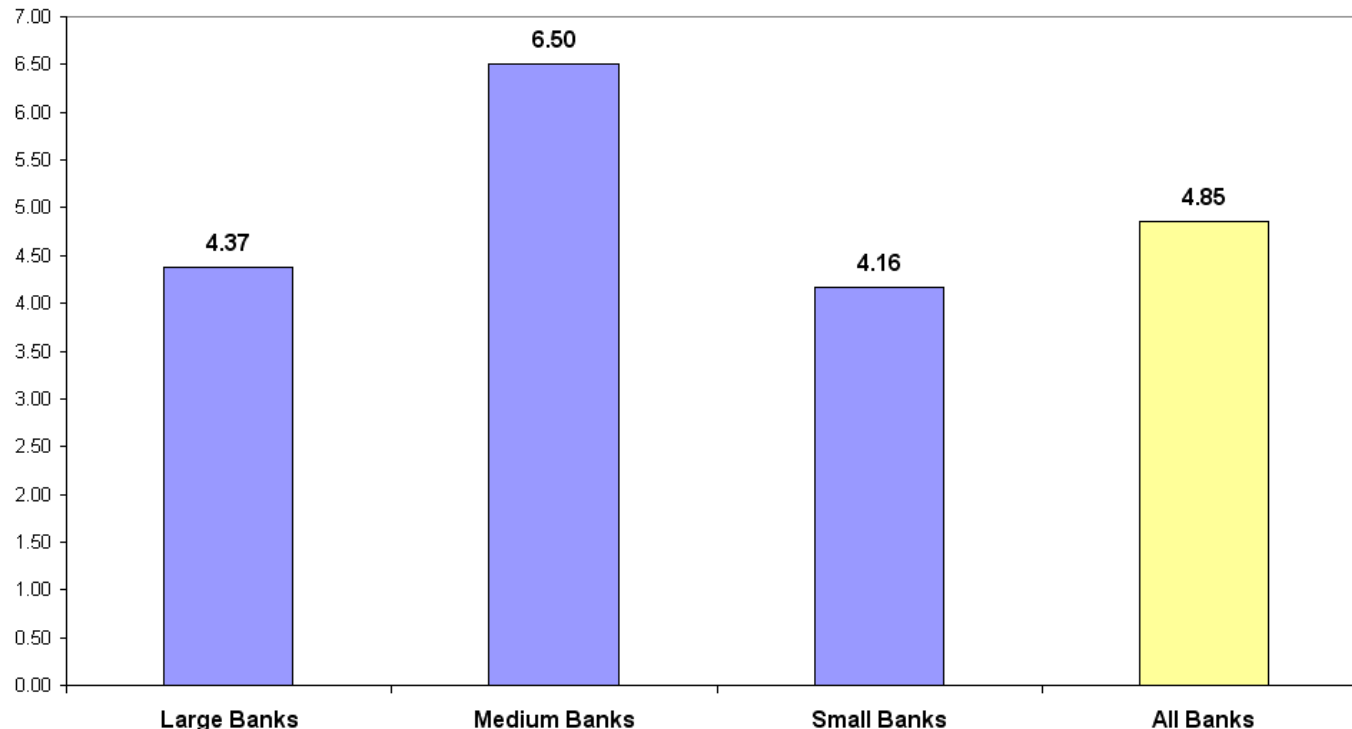
NIM of Thai Banks as of Sep 2010



2. Asset Quality

$$\text{NPL Ratio} = \frac{\text{Non - performing Loans (NPL)}}{\text{Total Loans}}$$

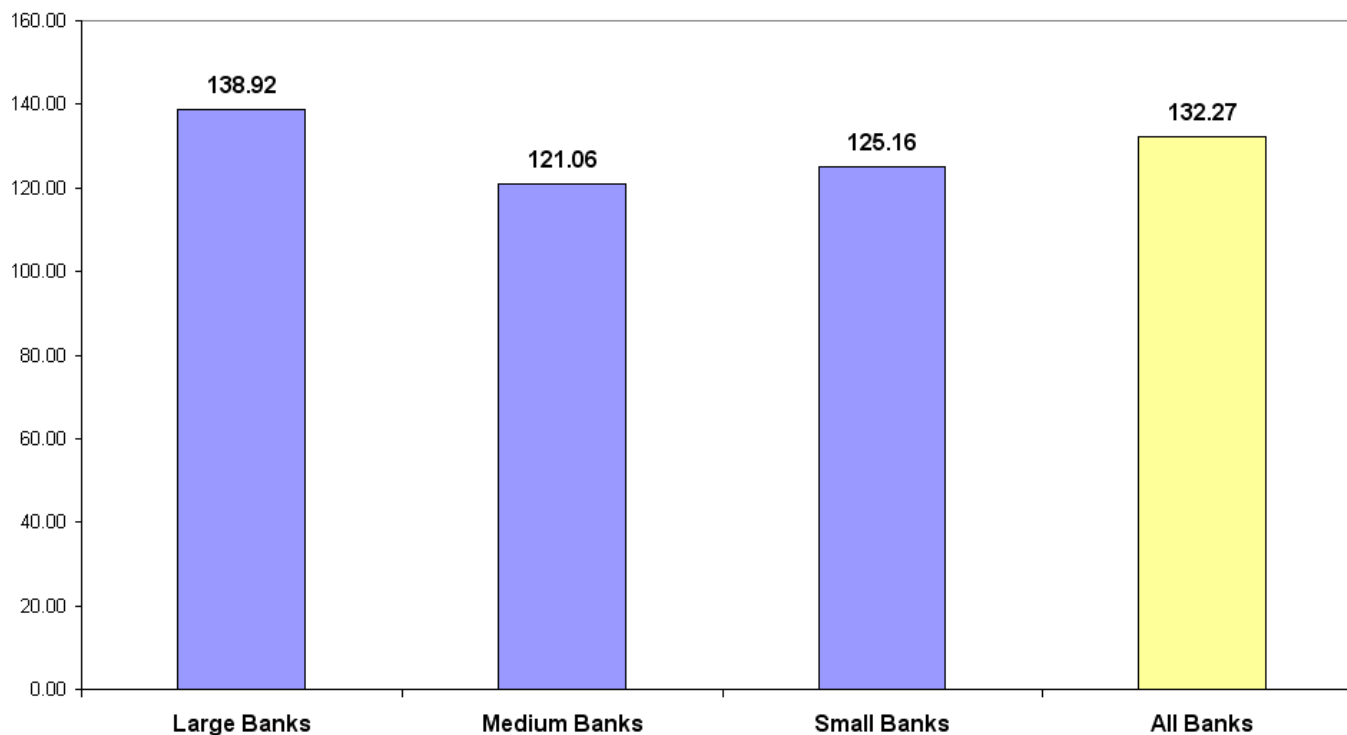
NPL Ratio of Thai Banks as of Sep 2010



2. Asset Quality

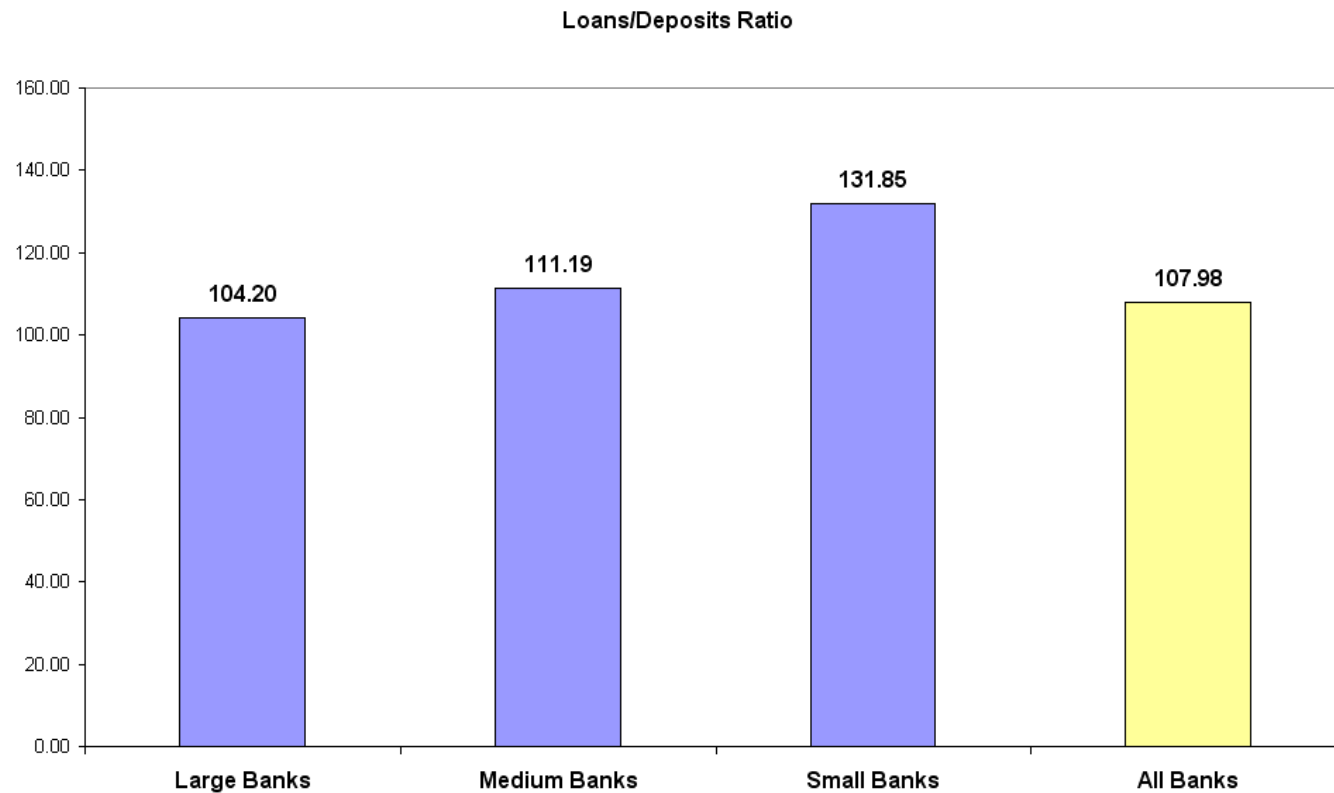
$$\text{Allowance Ratio} = \frac{\text{Actual Allowance}}{\text{Required Allowance}}$$

Allowance Ratio of Thai Banks as of Sep 2010



3. Efficiency

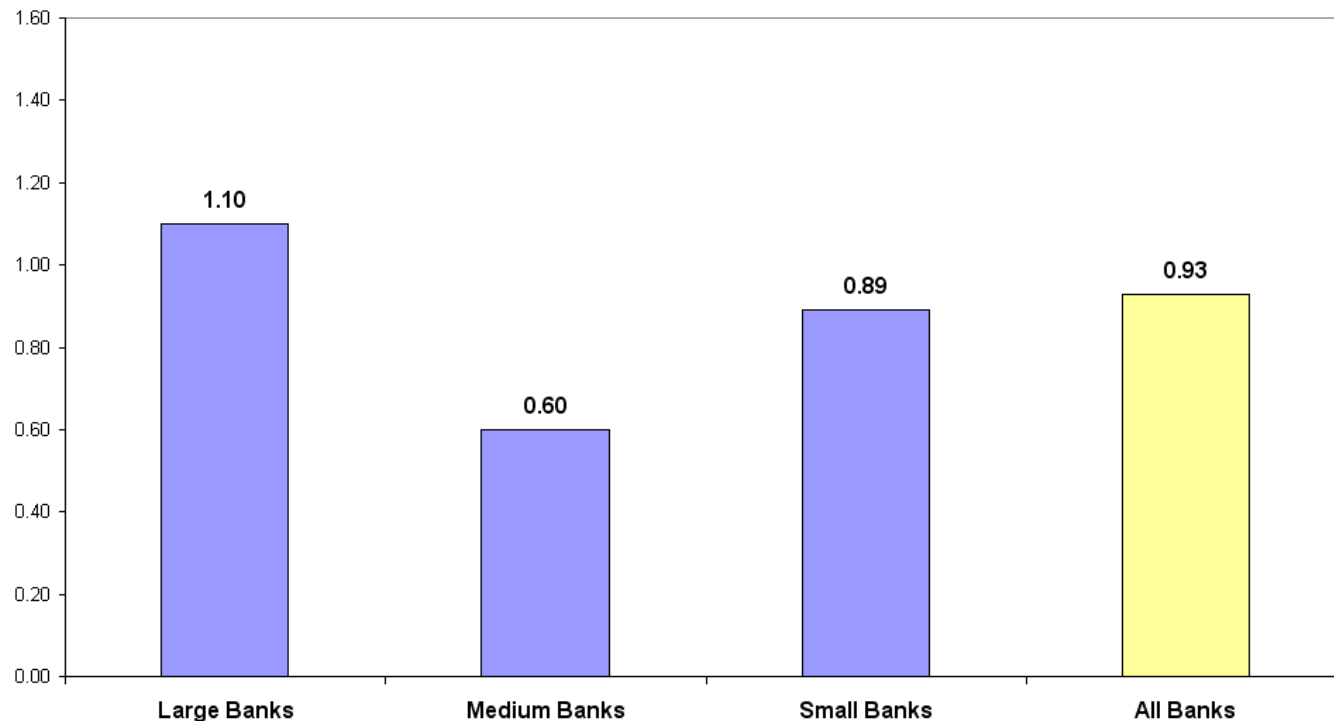
$$\text{Loans/Deposits Ratio} = \frac{\text{Loans}}{\text{Deposits}}$$



3. Efficiency

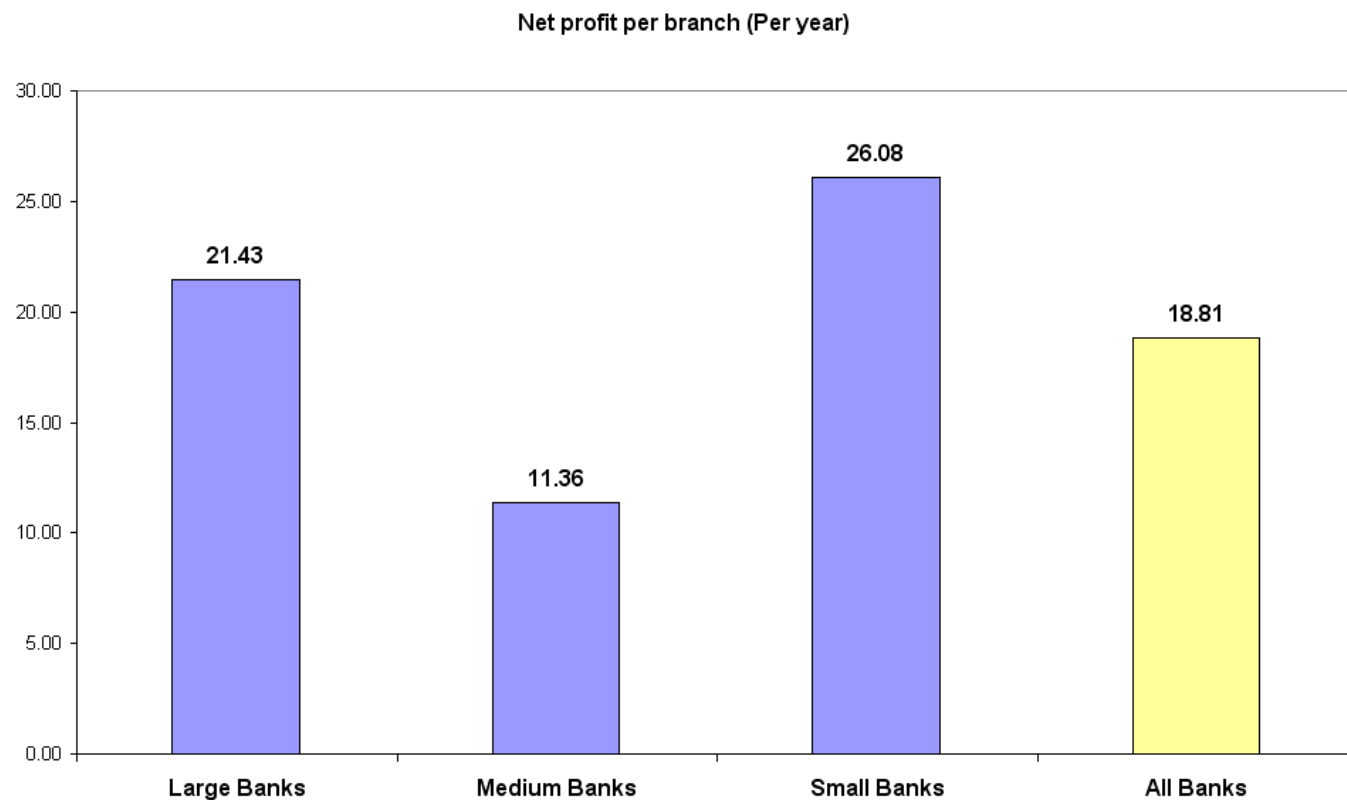
$$\text{Net Profit/Emp loyee} = \frac{\text{Net Profit}}{\text{No. of Employees}}$$

Net profit per employee (Per year)



3. Efficiency

$$\text{Net Profit/Branch} = \frac{\text{Net Profit}}{\text{No. of Branches}}$$



4. Capital Adequacy

$$\text{Tier 1 Ratio} = \frac{\text{Tier 1}}{\text{Risk Adjusted Assets}} \geq 4.25\%^*$$

$$\text{Total Capital Ratio} = \frac{\text{Total Capital (Tier 1 + Tier 2)}}{\text{Risk Adjusted Assets}} \geq 8.50\%^*$$

Tier 1 - core capital, mainly stockholders' equity, hybrid instruments (SLIPS, CAPS)

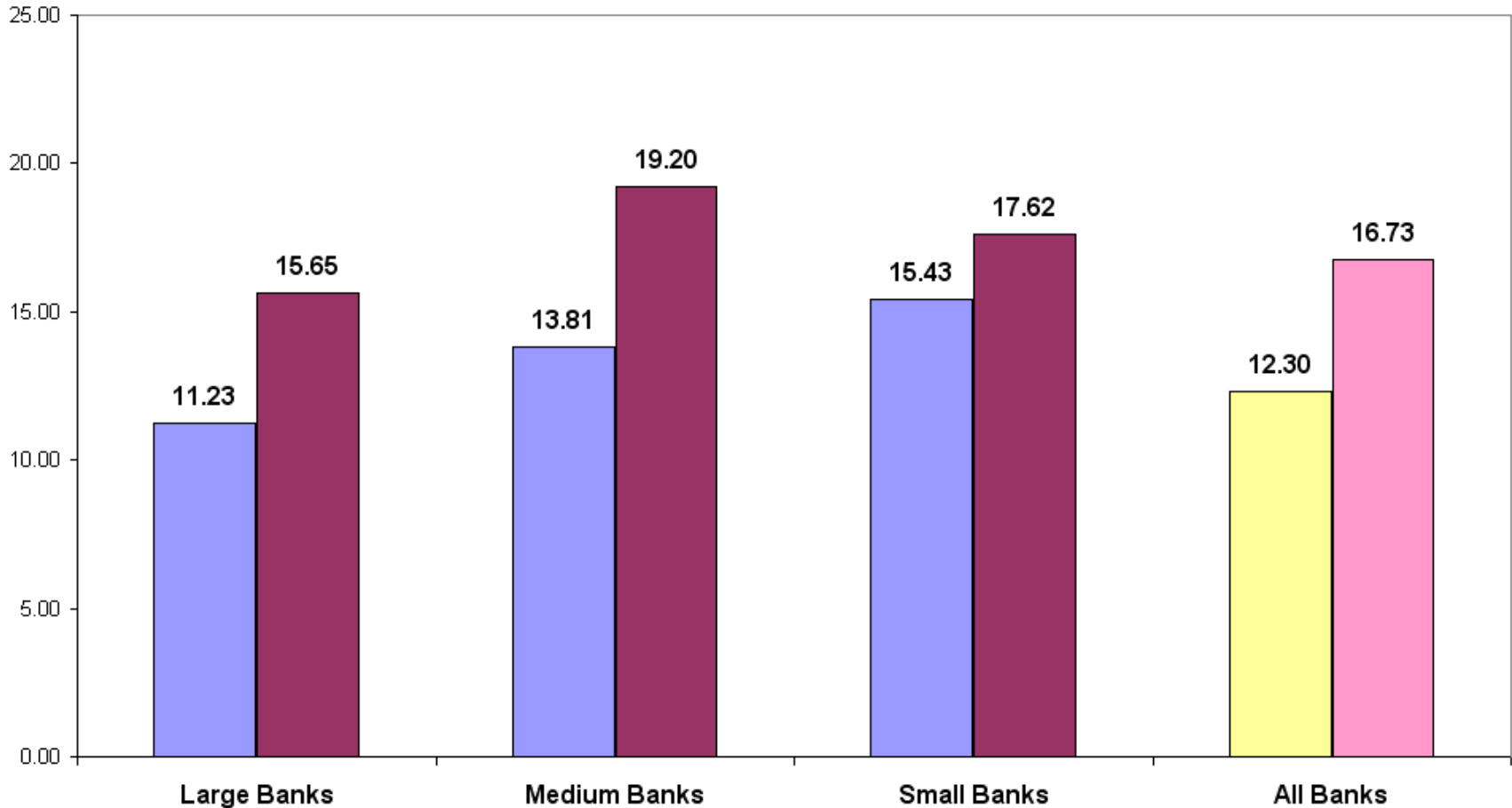
Tier 2 – subordinated debt, allowance for loan loss

Risk-adjusted Assets – On- and off-balance-sheet assets whose value is adjusted for credit risk

**Minimum requirement set by the Bank of Thailand, according to the standards of the Bank for International Settlement (BIS)*

4. Capital Adequacy

Tier 1 Ratio (Left) and Total Capital Ratio (Right) of Thai Banks as of Sep 2010



How to measure bank's performance



What is 'Bank Run'?

- A bank run occurs when a large number of bank customers withdraw their deposits because they believe the bank is, or might become, insolvent.
- As a bank run progresses, it generates its own momentum, in a kind of self-fulfilling prophecy; as more people withdraw their deposits, the likelihood of default increases, and this encourages further withdrawals.
- Several techniques can help to prevent bank runs.
 - temporary suspension of withdrawals
 - central banks act as a lender of last resort
 - the protection of deposit insurance systems

How to measure bank's performance



video

**Northern Rock
Panic** by
BBC News



How to measure bank's performance

Thai vs. Foreign banks

- Thai banks are traditional banks while many foreign banks have become universal banks.
 - Thai banks' main income is interest income.
 - Foreign banks rely more on borrowings as source of fund.
- Thai banks' leverage is lower.

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Objectives

1. Broadening access to financial services

- provide services to underserved customers
- Community savings and micro-finance

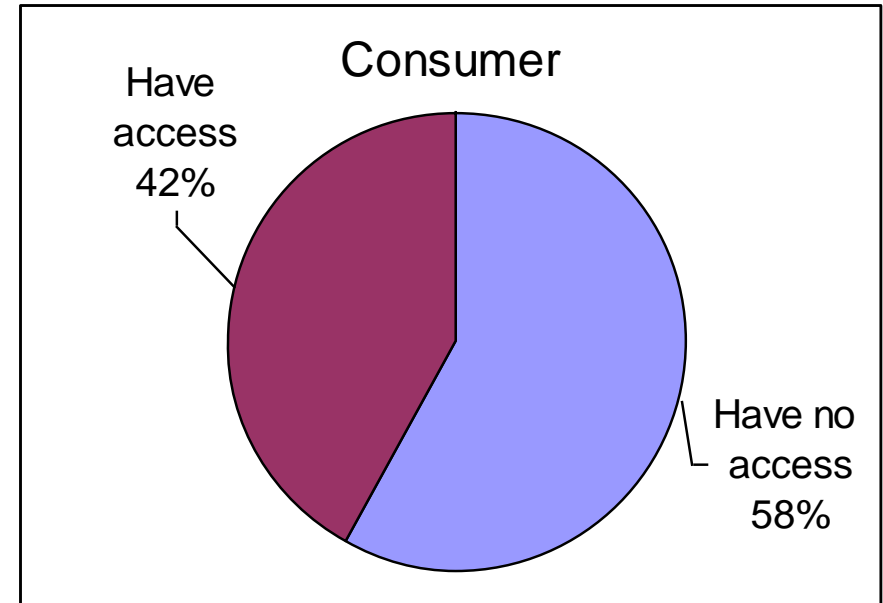
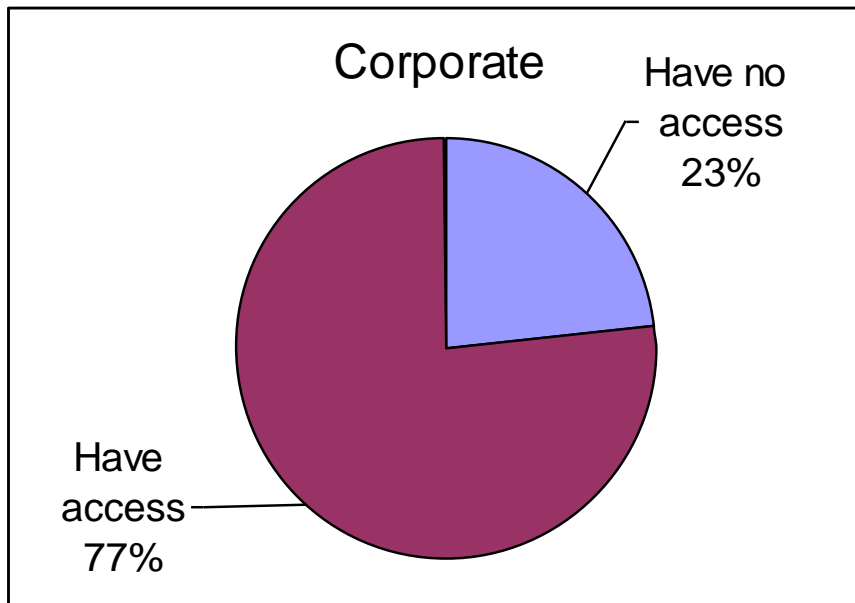
2. Increasing efficiency of the financial sector

- Strengthening regulations on risk management
- Consolidation of existing financial institutions

3. Improving consumer protection

- Procedure for handling customer complaints
- Transparent disclosure of information

Financial Sector Master Plan Phase I (2004 – 2008)

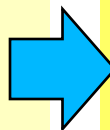


A survey revealed that 57.7% of consumers, mostly low-income with income less than 100,000 baht annually, do not have access to formal credit channels, while 23.4% of corporations, mostly SMEs, faced similar problems.

Financial Sector Master Plan Phase I (2004 – 2008)

FSMP I Measures

- Strengthen FIs by promoting **voluntary mergers**
- Introduce **“One Presence”** policy to reduce duplication and increase economy of scale
- Widen commercial bank business scope to **“Universal Banking”**
- New licenses for retail banks and foreign bank subsidiaries



Results

- Mergers of small FIs
 - Stronger capital base
 - Improved operational management
 - Better risk management
 - Increased economy of scale
- Formation of **Financial Conglomerates** (*i.e. the Kasikorn Bank Group*)
- Establishment of retail banks and foreign bank subsidiaries

Financial Sector Master Plan Phase I (2004 – 2008)

Commercial banks, finance companies and credit fonciers have been transformed to either...

1. **Commercial banks** for qualified and well capitalized financial institutions, may provide financial services to every group of customers and to carry out virtually all types of financial transactions, except insurance underwriting as well as brokering, trading and underwriting of equity securities.
2. **Retail banks** - with smaller capital requirement (> 250 million of tier-1), may offer basic financial services everyone but may provide credit only to retail customers and SMEs.
 - *Retail banks are allowed to accept public deposit and need not be restricted to raising funds via promissory notes (P/N) like finance companies in the old days.*

Financial Sector Master Plan Phase I (2004 – 2008)

Prior to FSMP I

Commercial Banks

- Client group: All
- Scope of services: All except
 - *Hire Purchase*
 - *Insurance Underwriting*
 - *Brokering, trading, and underwriting of equities*

Finance Companies/Credit Fonciers

- Client group: All
- Scope of services: All except
 - *Current & saving deposit accounts*
 - *Check clearing*
 - *Insurance Underwriting*
 - *Brokering, trading, and underwriting of equities*
 - *FX and Derivatives products*

Under FSMP I

Commercial Banks

- Client group: All
- **Tier-1 Capital: > 5 billion Baht**
- Scope of services: All except
 - *Insurance Underwriting*
 - *Brokering, trading, and underwriting of equities*

Retail Banks

- Client group: Retail and SMEs
- **Tier-1 Capital: >250 million Baht**
- Scope of services: All except
 - *Insurance Underwriting*
 - *Brokering, trading, and underwriting of equities*
 - *FX and Derivatives products*



Financial Sector Master Plan Phase I (2004 – 2008)

Foreign banks can be operated under 2 choices of licenses instead of one.

1. **Full Branch** enjoying the same scope of business as Thai commercial bank but with only one branch. Must maintain assets in Thailand no less than 3 billion baht.

- *Now there are 15 banks with full branch license.*

2. **Subsidiary** - enjoying the same scope of business as Thai commercial bank and are allowed to open four branches in addition to one head office. Must have paid-up capital of no less than 4 billion baht. Subsidiary establishment is a new concept and is a direct response to pressures for further financial liberalization.

- *Now there is one bank with subsidiary license.*



Financial Sector Master Plan Phase I (2004 – 2008)

Implications

- **Voluntary Mergers** – banks are encouraged to merge with each other in order to gain scale, while finance companies and credit fonciers are also encourage to merge with each other to upgrade to commercial or retail banks.
- **New Businesses**
 - Commercial banks can do **hire purchase** (higher yield than other loans)
 - Retail banks (formerly finance companies) can **accept public deposits** (lower cost of borrowing than P/N)
- **Finance companies and credit fonciers will vanish** from the financial system – Large players (TISCO, NFS, KK, GE Money, AIG Finance) have been upgraded to banks while Small players became M&A targets.
- In the future, **qualified retail banks may upgrade** themselves to full commercial bank status without being constrained by their existing license.

Financial Sector Master Plan Phase I (2004 – 2008)

New Commercial Banks upgraded from finance companies

- Tisco Fin. + Thai Permsap Finance
- Kiatnakin Fin. + Radhanatun Fin.
- Asia Credit + Bualuang Finance



New Retail Banks upgraded from finance/credit fonciers

- Land and House Credit Foncier + Book Club Finance
- Thai Keha Credit Foncier



Financial Sector Master Plan Phase I (2004 – 2008)

Mergers and Acquisitions

November 2008

- CIMB *Acquired* Bank Thai => CIMB Thai



March 2009

- Bank of Ayudhya *Acquired* AIG Retail Bank



April 2010

- Thanachart Bank *Acquired* SCIB



April 2010

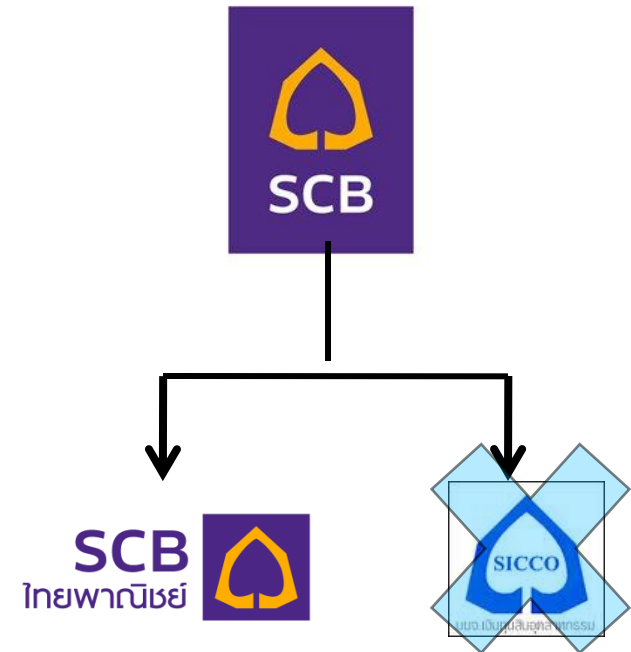
- ICBC Bank *Acquired* ACL Bank



Financial Sector Master Plan Phase I (2004 – 2008)

Implications

- **One Presence' Policy** – reduce number of deposit-taking FIs under one conglomerate. They will either be divested or acquired a full stake.
 - SCB Group *cannot* have a bank (SCB Bank) and a finance company (SICCO) under its umbrella.
 - SICCO will be divested soon.



Financial Sector Master Plan Phase I (2004 – 2008)

*Note: This is not to be confused with a **Financial Conglomerate**; consisting of a bank, an asset management company, an insurance company, etc. Notice that, under each group, there is only one deposit-taking institution (which is a bank)*




SCB
ไทยพาณิชย์



SCB
Asset Management



SCB
Securities



SCB
Samaggi Insurance



SCB
Life Assurance



ธนาคารกสิกรไทย
KASIKORNBANK 泰华农民银行



หลักทรัพย์จัดการกองทุนกสิกรไทย
KASIKORN ASSET MANAGEMENT 泰华农基金



ศูนย์วิจัยกสิกรไทย
KASIKORN RESEARCH CENTER 泰华农研究中心











หลักทรัพย์กสิกรไทย
KASIKORN SECURITIES 泰华农证券



ลีสซิ่งกสิกรไทย
KASIKORN LEASING 泰华农租赁



แฟคตอรี แอนด์ อีควิปเมนท์ กสิกรไทย
KASIKORN FACTORY AND EQUIPMENT 泰华工厂和设备

บริษัทในเครือกรุงศรีอยุธยา	
	AYUDHYA ASSET MANAGEMENT
	AYUDHYA FACTURING
	AYUDHYA CAPITAL AUTO LEASE
	AYUDHYA DEVELOPMENT LEASING
	AYUDHYA CARD SERVICES
	AYUDHYA TOTAL SOLUTIONS
	AYUDHYA SECURITIES
	AYUDHYA CARD COMPANY

Financial Sector Master Plan Phase I (2004 – 2008)

Before Implementing the
Financial Master Plan
(as of Dec 2003)

13 commercial banks

18 finance companies

5 credit fonciers

18 foreign bank branches

29 IBFs

Total = 83



Today (Nov 2011)

14 commercial banks

2 retail banks

15 foreign bank branches

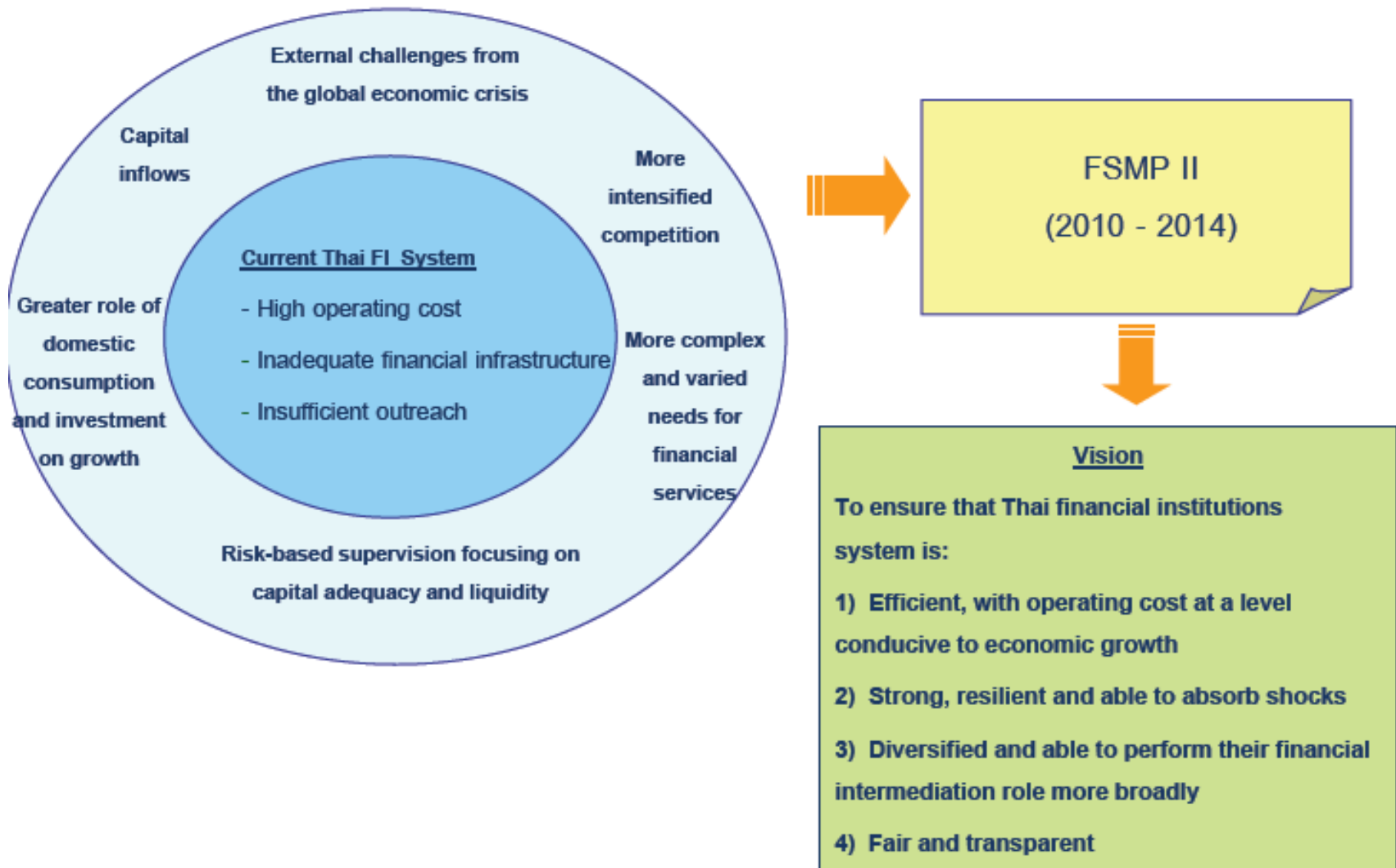
1 foreign bank subsidiary

3 credit fonciers

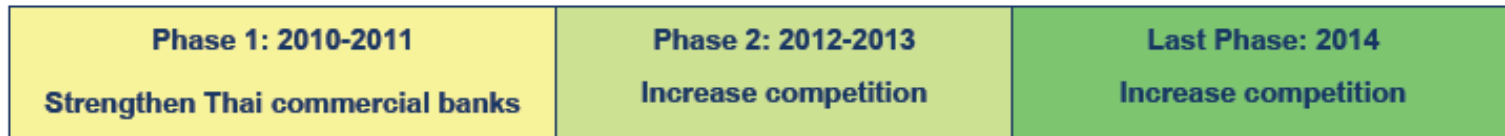
3 finance companies

Total = 38

Financial Sector Master Plan Phase II (2010 – 2014)



Financial Sector Master Plan Phase II (2010 – 2014)



- **Strengthen Thai commercial banks**
 - Mergers / Orderly Exit
 - Liberalization of branch network (Condition : Good rating according to BOT guidelines and good management)
 - Widen business scope including mutual fund management and venture capital fund management
 - Reduce system-wide operating cost as per Pillar I and strengthen financial infrastructure as per Pillar III
- **Increase competition**
 - Maximum 2 additional branches for foreign bank branches
 - Upgrade retail banks to commercial banks (Condition : Tier 1 capital \geq 10 billion baht with good operational and risk management)
 - Begin to reduce government ownership in commercial banks
- **Promote financial access**
 - Promote microfinance business in commercial banks

New entry to fill gaps and create value-added

e.g. Microfinance, Trust bank, Islamic bank, Investment bank

Foreign bank branches and subsidiaries can apply to upgrade to subsidiaries which can have max. 20 branches + 20 ATMs (Condition : Tier 1 capital \geq 10 billion baht with good rating according to BOT guidelines and good risk management)

Efficiency assessment in line with trends in trade and investment growth with possibility of new licenses

(Back)

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Deposit Insurance Scheme

Previous System: Blanket Deposit Guarantee

- Bank deposits are guaranteed by the Thai Government.
- Each bank pays a fixed rate of 0.40% of total deposits for 'deposit insurance premium', regardless of its credit risk.
- The system led to a market distortion where weak banks and strong banks pay equal insurance premium, and therefore offer the same deposit rates.

Deposit Insurance Scheme

Rank	Banks	12m Fixed Deposit Rate
1	Bangkok Bank	1.25%
2	Krung Thai Bank	1.10%
3	Kasikorn Bank	1.15%
4	Siam Commercial Bank	1.15%
5	Bank of Ayudhya	1.35%
6	TMB Bank	1.20%
7	Thanachart Bank	1.35%
8	Siam City Bank	1.35%
9	Standard Chartered Bank	1.00%
10	UOB Bank	1.25%
11	Tisco Bank	1.75%
12	Kiatnakin Bank	1.80%
13	CIMB Thai	1.50%
14	LH Retail Bank	1.55%
15	The Thai Credit Retail Bank	1.80%

Deposit Insurance Scheme



New System: Deposit Insurance Scheme

- Set up the new 'Deposit Protection Agency'
- Maximum guarantee amount of 1 million baht per account or name
- Each bank pays different 'deposit insurance premium', depends on its credit risk. (i.e. weak banks pay higher rate than strong banks)
- The system should result in...
 - **different deposit rates:** weak banks offer higher rates to reflect their weak financial position.
 - **consolidation:** weak and small banks will be affected. They will be encouraged to merge with each other.

Deposit Insurance Scheme



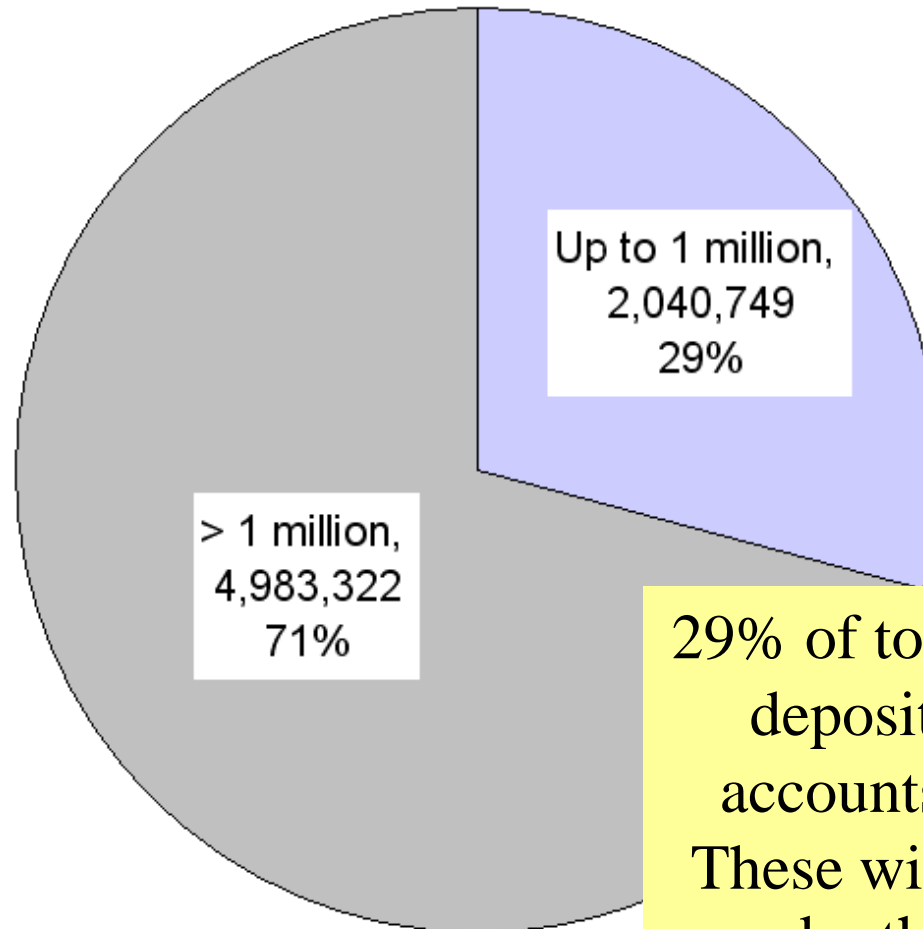
The coverage amount specified by law are as follows:

Year	Period	Coverage Amount
1	11 Aug 2008 - 10 Aug 2009	Full amount
2	11 Aug 2009 - 10 Aug 2010	Full amount
3	11 Aug 2010 - 10 Aug 2011	Full amount
4	11 Aug 2011 - 10 Aug 2012	not exceed Baht 50 million
5	11 Aug 2012 onwards	not exceed Baht 1 million

For more detail please click [FAQ](#).

Deposit Breakdown by amount

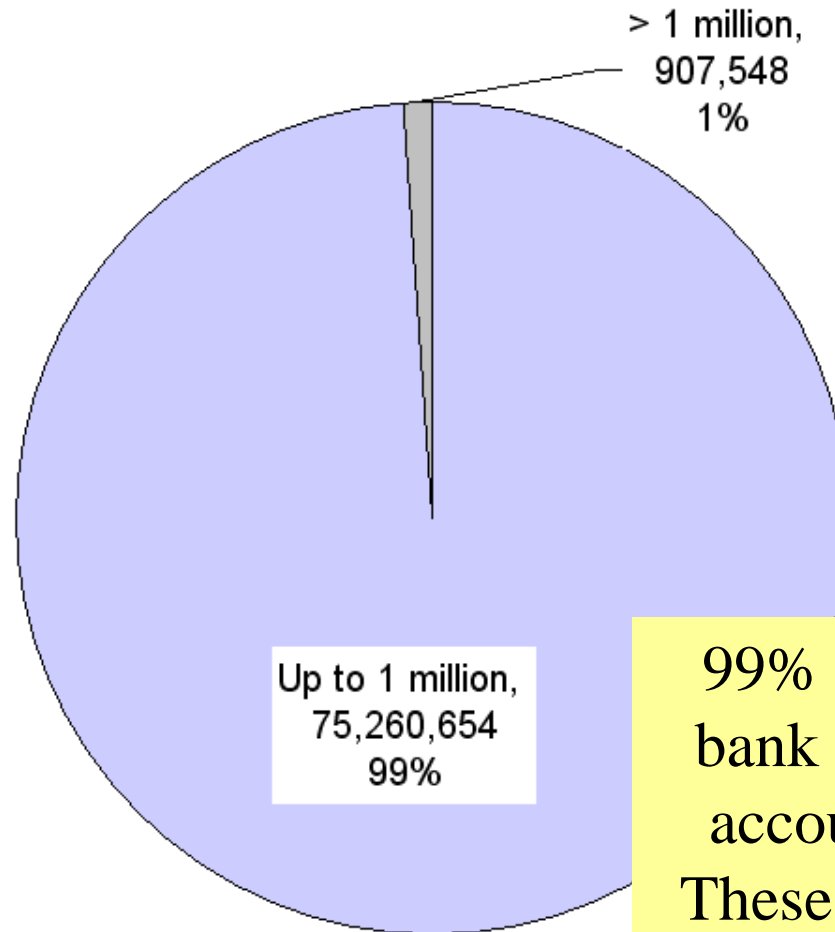
Amount of Bank Deposits classified by Account Size



29% of total 7 trillion baht deposits are in small accounts (< 1 million). These will be guaranteed under the new scheme.

Deposit Breakdown

Number of Bank Accounts classified by Account Size



99% of total 76 million bank accounts are small accounts (< 1 million). These will be guaranteed under the new scheme.

Deposit Insurance Scheme

Implication:

1. The majority of Thai people (about 75 million accounts) who have deposit less than 1 million baht will not have an impact from the new scheme.
2. The rich people (about 0.9 million accounts) who have deposit more than 1 million will be guaranteed up to 1 million Baht. They will have to face higher risk or find other sources of savings.
3. The burden on Thai government to guarantee bank deposit will reduce from 7 trillion to about 2-3 trillion Baht.