

# EE432 Monetary Theory and Policy



Lecture 7 Financial Industry Structure  
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# Outline

- Banking Industry Structure
- The Sources and Consequences of Runs, Panics, and Crises
- The Government Safety Net
- Regulation and Supervision of the Financial System
- Macro-Prudential Regulation

# Chapter 13



## Financial Industry Structure

# Banking Industry Structure

# Financial Innovation and the Decline of Traditional Banking

- **Low-cost source of funds; *checkable deposits*, declined**
- *Information technology* has **reduced** need for banks to finance **short-term credit needs**
- *Information technology* has **lowered transaction costs for other financial institutions**, *increasing competition*

# Financial Innovation and the Decline of Traditional Banking

- Banks' Responses
  - Expand into new and riskier areas of lending
    - *Commercial real estate loans*
    - *Corporate takeovers and leveraged buyouts*
  - Pursue off-balance-sheet activities
    - *Non-interest income*

# Are Bank Consolidation Good Things?

- **Benefits**

- *Driving inefficient banks out of business*
- Also, increased efficiency from *economies of scale and scope*
- *Lower probability of bank failure from **more diversified portfolios***

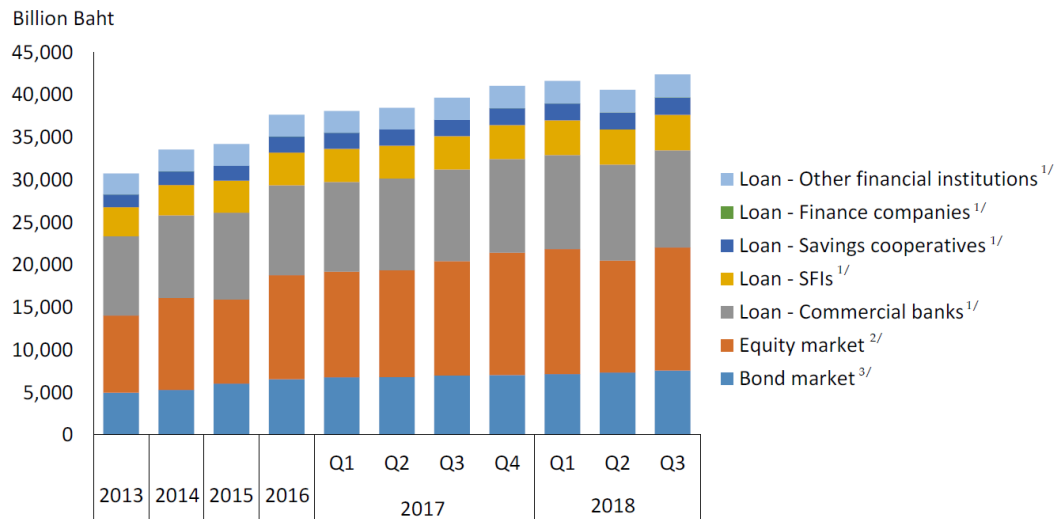
# Are Bank Consolidation Good Things?

- **Costs**
  - *Elimination of small banks* may lead to **less lending to small business**
  - Banks *expanding into new areas* may **take increased risks and fail**

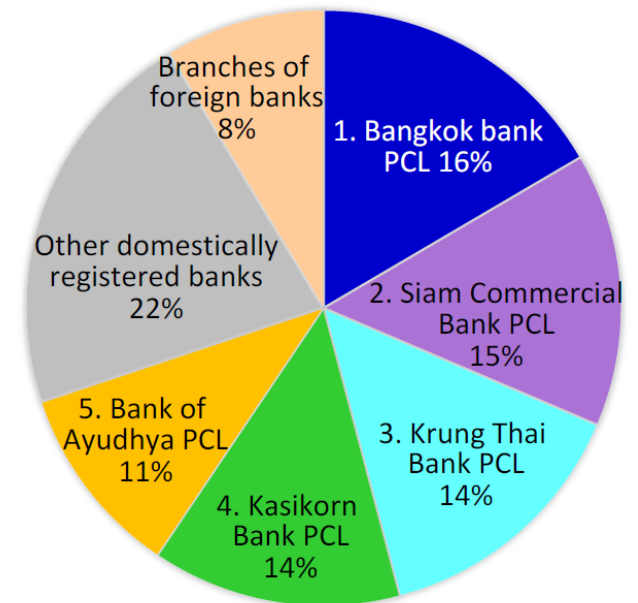
# Thailand Financial Industry

# Thailand Financial Industry

## 1. Thai financial system: Types of funding



## Share of commercial banks by asset size



<sup>1/</sup> Loans given to households and non-financial corporations.

<sup>2/</sup> Market values of equities listed in SET and mai, excluding equities issued by issuers in the financial sector.

<sup>3/</sup> Par values of bonds issued in Thailand, excluding bonds issued by issuers in the financial sector and non-residents.

# Shadow Banking



- **Financial intermediaries or activities *involved in credit intermediation outside the regular banking system***

Percentage of customers who use channels at least weekly



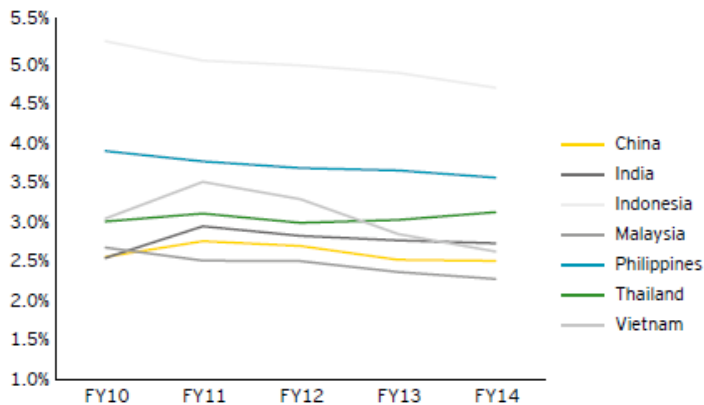
Source: EY, Winning through customer experience: EY Global Consumer Banking Survey, 2014

- Digital channels have strong penetration in APAC, with both individual and corporate customers rapidly adopting digital and mobile banking.**

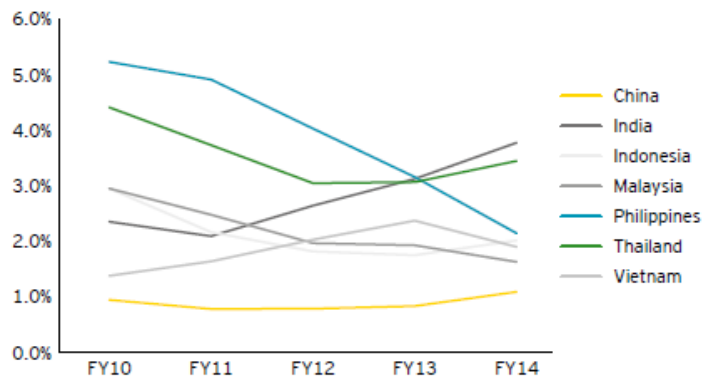
# Bank Performance

## Emerging markets

Average net interest margin (NIM)



Average non-performing loan ratio



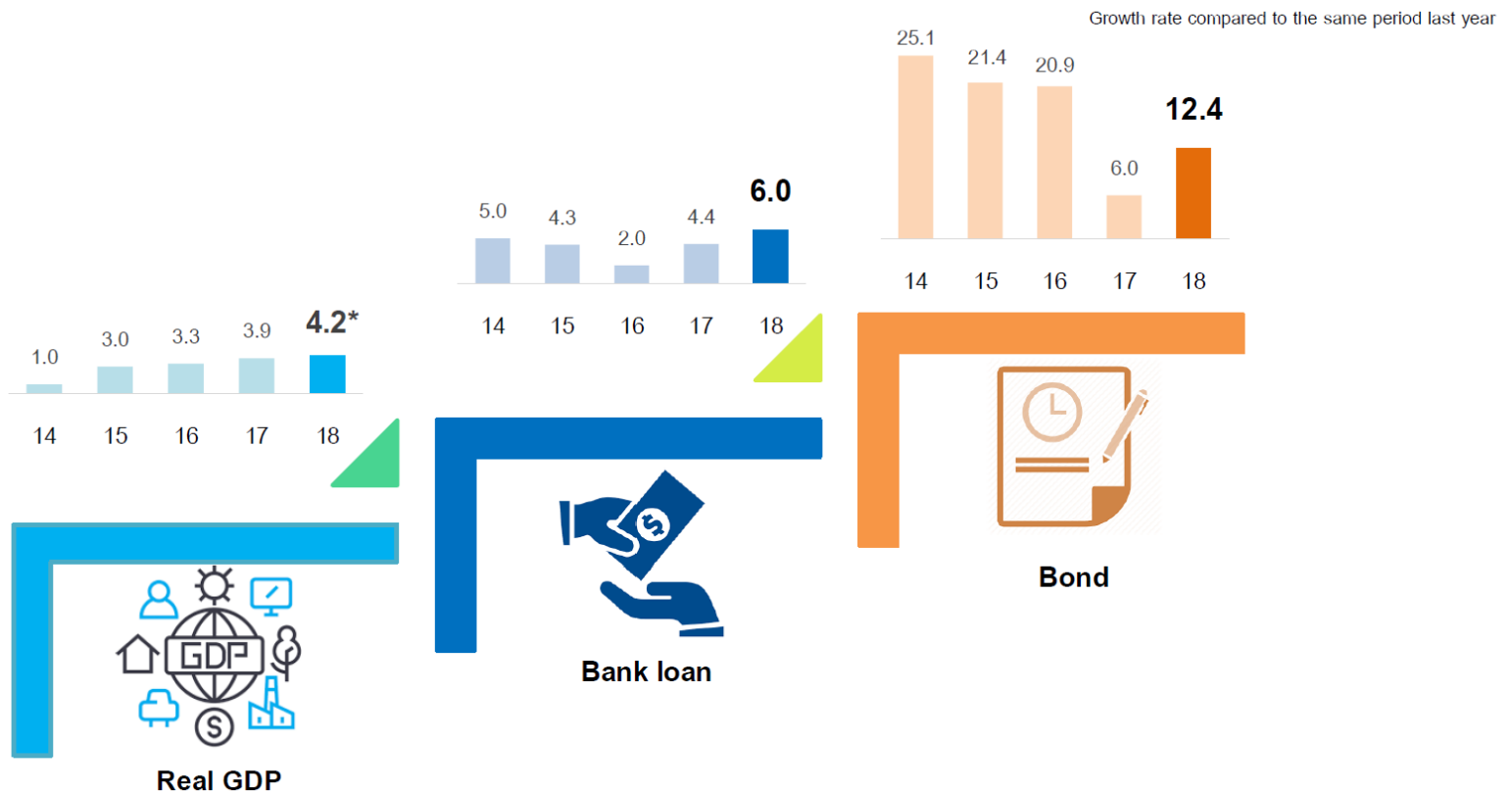
- Thai banks face a **slight rising asset quality risk** due to political uncertainties and **increasing leverage in the household segment**.
- With high **loan to deposit ratios**, *competition for deposits is likely to intensify*. This will lead to **rising funding costs** and **falling interest margins**.

# Performance of the Thai Banking System in 2018



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Overall financing through bank loans and debt securities increased  
in line with economic growth.



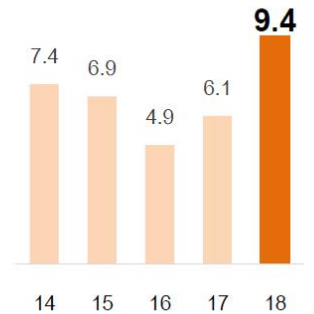
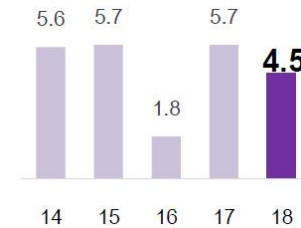
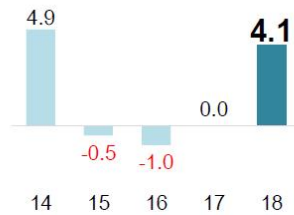
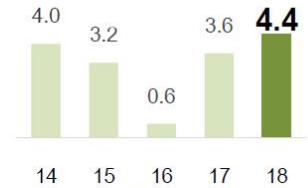
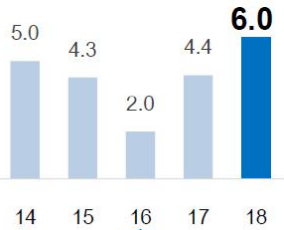
# Performance of the Thai Banking System in 2018



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Growth rate compared to the same period last year

Bank loans continued to expand  
from both consumer and corporate loans.



Total Loan



Corporate Loan  
(65.9%)



Large Corporate Loan\*  
(23.7%)



SME Loan\*  
(33.3%)



Consumer Loan  
(34.1%)

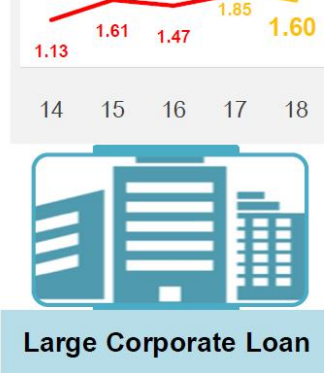
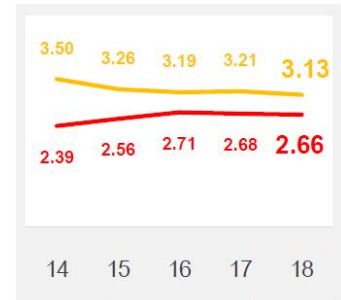
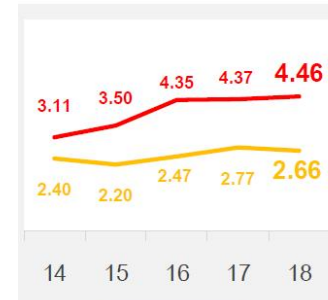
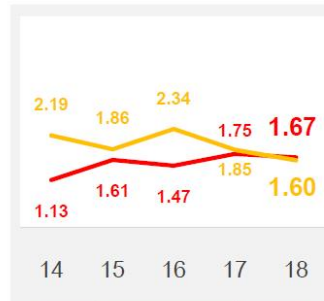
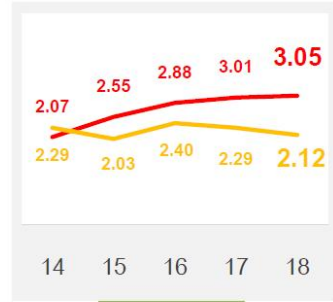
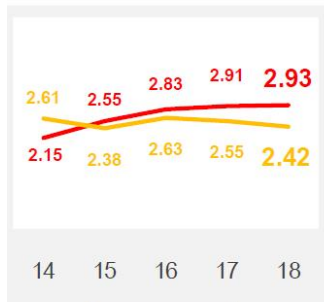
# Performance of the Thai Banking System in 2018



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— %NPL  
— %SM

Overall NPL remained stable,  
whereas NPL of SME loan continued to increase.



- The special mentioned loans SM —30 days past due
- Non-performing loans (NPL—90 days past due)

# Performance of the Thai Banking System in 2018

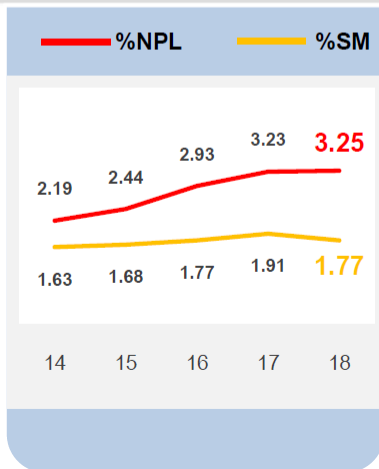


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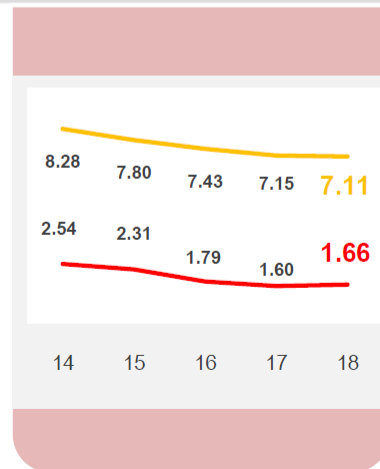
Overall NPL of consumer loan remained stable.

However, an increase in NPL of housing and auto loans should be monitored.

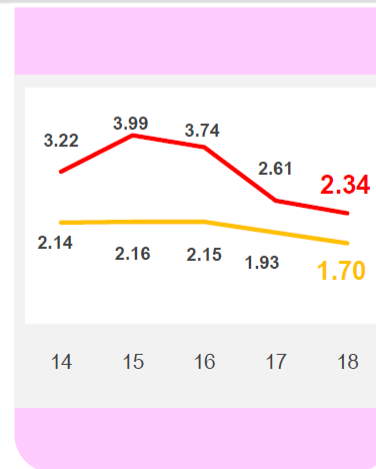
## Housing



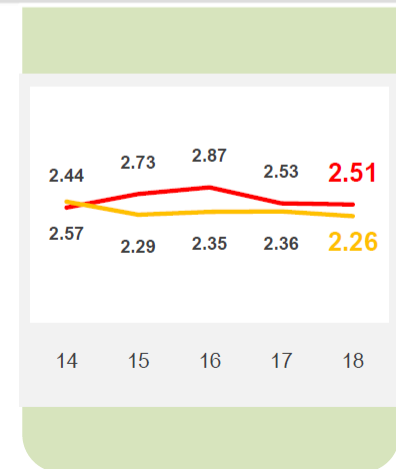
## Auto



## Credit Card



## Personal



- The special mentioned loans SM —30 days past due
- Non-performing loans (NPL—90 days past due)

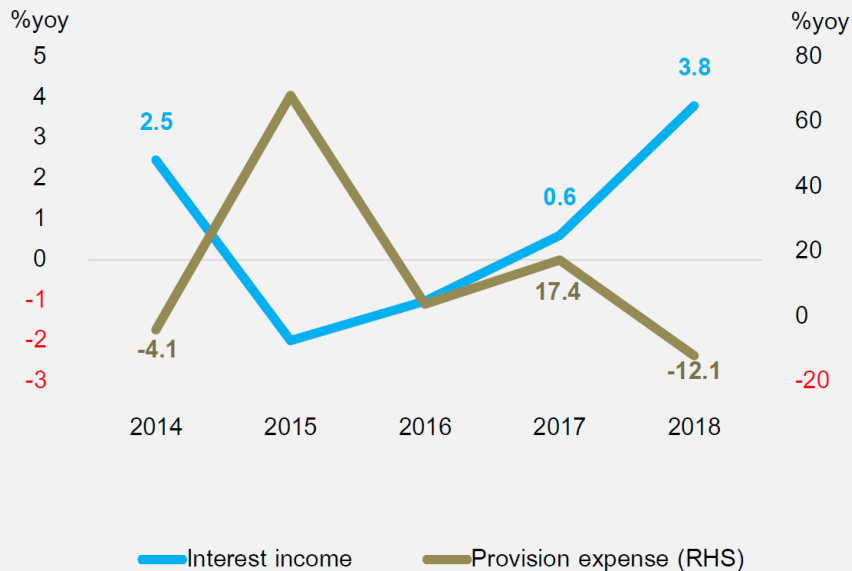
# Performance of the Thai Banking System in 2018



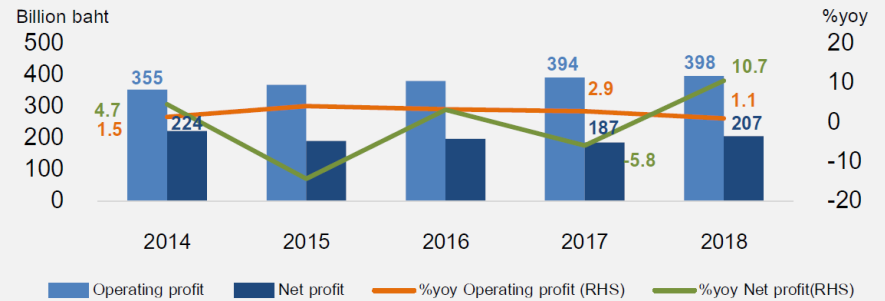
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Net profit increased due to higher interest income from loan expansion and lower provisioning expenses, resulting in improved profitability ratios.

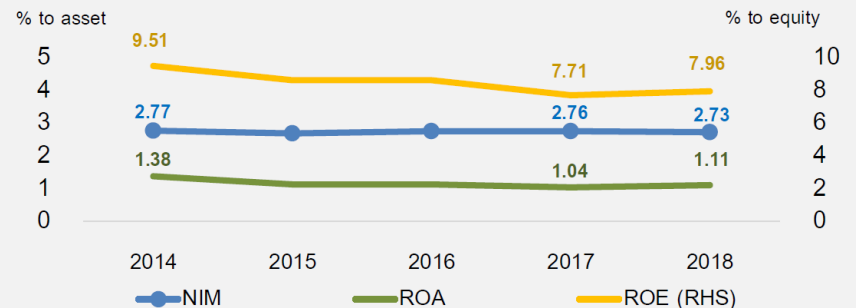
## Growth rate of interest income and provisioning expenses



## Profits

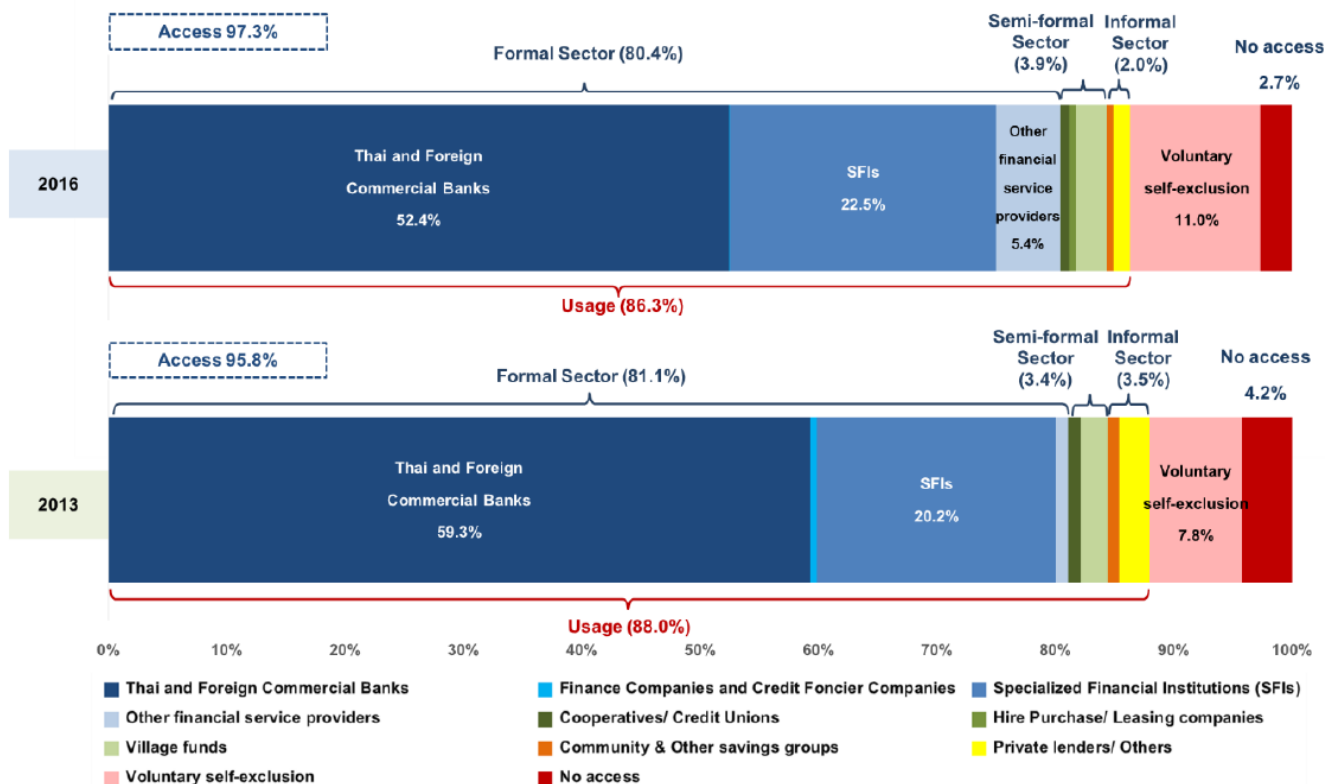


## Profitability ratio



# Household Financial Access Survey 2016

Figure 1: Overview of financial access (eleven financial services)



Overall, Thai households had ***better access to financial services*** with access level at **97.3%** in 2016 compared to 95.8% in 2013. Among these households, **86.3%** used financial services while **11.0%** chose not to use financial services (***voluntarily self-excluded***).

# FinTech

- FinTech describes the *intersection between software and technology* to deliver financial services.
- May refer to *technical innovation applied in a financial services context*.



# Thailand FinTech Landscape



# Thailand FinTech Landscape

‘PromptPay’ – Thailand’s new national digital payment system expected to save commercial banks \$2 bn over next 10 years

## PromptPay

**Secure**

- International standards of security
- Same levels of bank customer care
- Continually monitored by the Bank of Thailand

PromptPay is a **great new** alternative to conventional money transfer services such as Internet banking, mobile banking or ATM to receive or transfer funds with convenience, **speed, safety and, yes, economically.**

**Rapid**

- Register to the PromptPay service to easily send and receive money
- Just let us know your National ID number or mobile phone number

Please see additional information at:  
[www.epayment.go.th](http://www.epayment.go.th)

| Amount                       | Transfer fee                 |
|------------------------------|------------------------------|
| Up to ฿5,000 per transaction | Free                         |
| ฿5,000 – 30,000              | Not over ฿2 per transaction  |
| ฿30,000 – 100,000            | Not over ฿5 per transaction  |
| Over ฿100,000                | Not over ฿10 per transaction |

**Being Fiscal and Economic Pillar for Sustainable Development**

- ◆ While the value of transactions via mobile and Internet banking in Thailand stand at around 3.2 trillion baht, cash remains the dominant medium. Fees for money transfers and payments account for just 2.5% of Thai banking industry revenue.
- ◆ To boost e-payments, Thailand launched ‘PromptPay’ in Q1 2017, a national digital-payment system. Over 30 million registrations for PromptPay are expected by the end of 2017, thus massively curbing the use of cash and saving an estimated \$2.2 bn for commercial banks over 10 years.
- ◆ While in near term, PromptPay would weigh on banks’ fee income, the lower cash transactions will benefit banks in long term given falling costs of transportation and insurance.
- ◆ PromptPay users are able to transfer funds using mobile phone or national ID numbers linked to bank accounts.

Get your tax refund quickly with Bangkok Bank PromptPay!

✔ FAST ✔ EASY  
✔ NO NEED TO WAIT FOR THE CHEQUE

Simply register for Bangkok Bank PromptPay and link your Citizen ID with your bank account\* via our 6 channels before filing your tax return.

\* Your tax refund will be credited to the account you registered with PromptPay with your Citizen ID after the Revenue Department receives your completed tax file and documents.

# Thailand FinTech Landscape

## Relative comparison of digital landscape across ASEAN

|   | Indonesia | Malaysia | Philippines | Singapore | Thailand | Vietnam |
|---|-----------|----------|-------------|-----------|----------|---------|
| Population (mn)                               | 258       | 30.2     | 100.1       | 5.5       | 62.2     | 92.5    |
| Online Population (mn)                        | 93.4      | 21.4     | 42.0        | 4.1       | 21.1     | 44.7    |
| % of Population Online                        | 36%       | 70.9%    | 46.5%       | 74.5%     | 33.9%    | 48.3%   |
| Broadband Subscriptions (per 100 inhabitants) | 17.1      | 10       | 4.8         | 26.4      | 9.2      | 8.1     |
| Bank Account Penetration                      | 36%       | 81%      | 28%         | 96.3%     | 78%      | 30.8%   |
| Credit Card Penetration                       | 1.6%      | 20.2%    | 3.2%        | 35.4%     | 5.5%     | 1.9%    |
| Smartphone Penetration                        | 24.0%     | 35.0%    | 15.0%       | 85.0%     | 37.7%    | 36.0%   |

# Chapter 14



## Regulating the Financial System

The Sources and  
Consequences of Runs, Panics,  
and Crises

# The Sources and Consequences of Runs, Panics, and Crises

- ***Banks' fragility arises*** from the fact that they *provide liquidity to depositors, allowing depositors to withdraw* their balances on demand.
- Banks also **promise to satisfy depositors' withdrawal requests** on a *first-come, first-served basis*.

# The Sources and Consequences of Runs, Panics, and Crises

- Reports that a **bank has become insolvent** can *spread fear that it will run out of cash* and close its doors.
- Such a **bank run** can *cause a bank to fail*.

# The Sources and Consequences of Runs, Panics, and Crises

- This phenomenon of **spreading panic** *on the part of depositors in banks* is called **contagion**.
- **Information asymmetries** are the reason that *a run on a single bank can turn into a bank panic*
- Depositors **cannot tell the difference between a good bank and a bad bank.**

# The Government Safety Net

# The Government Safety Net

There are three reasons for the **government to get involved in the financial system:**

1. To **protect investors.**
2. To **protect bank customers** *from monopolistic exploitation.*
3. To **safeguard the stability** of the *financial system.*

# The Government Safety Net

1. The government is **obligated to protect small investors**.
  - Many are ***unable to judge the soundness of their financial institution***.
  - Only the ***force of law*** can ensure a bank's **honesty**.

# The Government Safety Net

2. The growing tendency for *small firms to merge into large ones* reduces competition.
  - **Monopolies** are *inefficient*, so the government intervenes to *prevent the firms in an industry from becoming too large*.

# The Government Safety Net

3. The mix of **liquidity risk and information asymmetries** means that the financial system is *inherently unstable*.
  - *A single firm's failure can bring down the entire system.*

# The Government Safety Net

- Government officials **protect investors** and **ensure stability** of the financial system.
  - ***lender of last resort**, making loans to banks that face sudden deposit outflows.*
  - ***deposit insurance**, guaranteeing that depositors receive the full value of their accounts if the institution fails.*
- However, the safety net causes bank managers to take on too much risk.

# Problems Created by the Government Safety Net

- Government officials are worried about the **largest institutions** because they can *pose a threat to the entire financial system* if they fail.
- Some intermediaries are treated as *too big to fail* or *too interconnected to fail*.
  - *too complex to shut down*
  - *too big to resolve*
  - special legal definition to such a firm: **systemically important financial institution (SIFI)**.

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# *Systemically important financial institution (SIFI)*



BANK OF THAILAND

**BOT Press Release**

Communications and Relations Office, Corporate Communications Department  
Tel. 0-2283-5016-7 Fax. 0-2281-5648 [www.bot.or.th](http://www.bot.or.th)

No. 47/2017

## Regulations on Supervision of Domestic Systemically Important Banks

Mr. Somboon Chitphentom, Assistant Governor, Financial Institutions Policy Group, added that, BOT uses 4 main indicators to identify D-SIBs i.e. (1) the size of the financial institution, (2) the interconnectedness between financial institutions as measured by interbank transactions, (3.) the role as provider of financial infrastructure, and (4.) the complexity of financial products or business/operational structure. These indicators are widely adopted by other foreign regulators.

Based on the above indicators, 5 commercial banks are identified as D-SIBs, namely Bangkok Bank, Krung Thai Bank, Bank of Ayudhya, Kasikornbank, and the Siam Commercial Bank.

# Problems Created by the Government Safety Net

- Whenever the government *provides a safety net without charging an appropriate fee in advance of the protection*, they create an **incentive** for financial institutions **to take risks** that can **threaten the system as a whole**.
- It compounds the problem of moral hazard.

# Government Deposit Insurance

- When a banks fails, the **Government Deposit Insurance** resolves the insolvency either by *(i) closing the institution* or *(ii) finding a buyer*.
- **Closing the bank** is called the payoff method.
  - *pay all the bank's depositors*, then *sell all the bank's assets*.
- The more commonly applied, is called the purchase-and-assumption method.
  - *finds a firm willing to take over* the failed bank.

# Government Deposit Insurance

- Depositors *prefer* the *purchase-and-assumption method*.
  - The transition is typically *seamless*.
  - *No depositors suffer a loss*.
- Deposit insurance *clearly helped* to **prevent runs** on commercial banks.
- Nonetheless, most economic historians *believe government insurance led to rise in risk*.

# Government Deposit Insurance

- Insurance only covers **depository institutions**.
- However, as the system developed, **shadow banks** *gained importance*.
  - They face the *risk of runs* by their *short-term creditors*
  - Nonetheless, these nonbanks **lack the benefits of deposit insurance**.

# Problems Created by the Government Safety Net

- In the aftermath of the crisis, *limiting the unintended consequences of the **government safety net** is the leading problem facing regulators.*
  - Some argue that **too big to fail institutions** are *just too big* and *need to be broken up*.
  - This does *not eliminate the bad incentives* from *deposit insurance* and *government guarantees to smaller institutions*.

# Problems Created by the Government Safety Net

- The conflict between crisis prevention and crisis mitigation exemplifies the problem of ***time consistency***.
  - *In good times*, governments and central banks say ***they will not bail out financial intermediaries***
  - The intermediaries know that *in a time of crisis*, policymakers will have an ***incentive to bail them out***.
  - Promises in the good times ***lack credibility***.

# Regulation and Supervision of the Financial System

# Regulation and Supervision of the Financial System

- Government officials employ *three strategies to ensure that the **risks created by the safety net are contained.***
  - **Regulation** establishes a set of specific rules for intermediaries to follow.
  - **Supervision** provides general oversight of financial institutions.
  - **Examination** of an institution's books by specialists provides detailed information on the firms' operation.

# Regulation and Supervision of the Financial System

**Regulatory requirements** designed to minimize the cost of failures to the public:

1. *New banks must obtain a charter (license).*
2. Once open, **regulations**
  - **Restricts competition**
  - Specifies what **assets the bank cannot hold**
  - Requires the bank to **hold a minimum level of capital**
  - Makes **public information** about the bank's balance sheet

# Minimum level of capital

Bank of Thailand

1 February 2017

To Managers

All finance companies

Circular No. BOT.RPD. (21) C.186/2560 Regulations on Supervision of finance companies

Finance companies shall hold capital, at the end of the day<sup>1</sup>, at least equal to the ratios in the following table as from 1 July 2017 onwards:

| Capital ratio                          | (Percent) |
|--|-----------|
| Common equity tier 1 ratio: CET1 ratio | 4.5       |
| Tier 1 ratio                           | 6.0       |
| Total capital ratio                    | 8.5       |

The **tier 1 capital ratio** measures a bank's **core equity capital against its total risk-weighted assets** – *which include all the assets the bank holds that are systematically weighted for credit risk*. For example, mortgage loans would be assigned a 50% weighting.

# Restrictions on Competition

- ***Bank mergers require government approval.***
- One long-standing goal of financial regulators has been ***to prevent banks from growing too big and too powerful.***
- Before *granting a merger, officials must be convinced* on two points.
  1. The new bank must **not constitute a monopoly.**
  2. The *small bank's customers* must be **well served by the merger.**

# Restrictions on Competition

- *Competition reduces the prices* customers must pay.
- **Lower interest margins and reduced fee income** cause bankers to *look for other ways to turn a profit*.
  - Some may be tempted to assume *more risk* than advisable, to **increase leverage**, or to rely **excessively on short term funding**.
- Thus, government officials can explicitly **restrict competition**.

# Asset Holding Restrictions and Minimum Capital Requirements

- One way to prevent bankers from exploiting their safety net is **to restrict banks' balance sheets.**
- Minimum capital requirements complement those limitations on bank assets.
- Capital requirements take two basic forms:
  1. Most banks are required to keep their ***ratio of capital to assets above some minimum level***, regardless of the structure of their balance sheets.
  2. Banks are required to ***hold capital*** in proportion to the ***riskiness of their operations.***

# Supervision and Examination

- The government enforces *banking rules and regulations* through an elaborate **oversight** process called **supervision**.
  - This relies on a combination of **monitoring** and **inspection**.
  - It is done both **remotely** and through **on-site examination**.

# Supervision and Examination

- The most important part of bank examination is the **evaluation of past-due loans**.
- The examiner's job is to make sure that ***when borrowers stop making payments, loans are written off and the bank's balance sheet properly reflects the losses***.

# Supervision and Examination

- Supervisors use what is called the **CAMELS criteria** to *evaluate the health of the banks* they monitor.
  - **C**apital adequacy
  - **A**sset quality
  - **M**anagement
  - **E**arnings
  - **L**iquidity
  - **S**ensitivity to risk

# Macro-Prudential Regulation

# Micro-Prudential Versus Macro-Prudential Regulation

- The government official's job is not to stabilize the profits of an *individual bank* or *insurance company*.
- The regulator's goal should be to **prevent large-scale catastrophes**.

# Micro-Prudential Versus Macro-Prudential Regulation

- Regulators are *broadening their focus beyond **micro-prudential oversight** to encompass **macro-prudential regulation**.*
- Micro-prudential regulation aims at **limiting the risks *within* intermediaries** in order to **reduce the possibility of an individual institution's failure**.

# Micro-Prudential Versus Macro-Prudential Regulation

- *Micro-prudential oversight is insufficient to prevent **systemic risks**.*
- **Macro-prudential regulation** treats ***systemic risk** taking by an intermediary as a kind of **pollution** that **spills over** to other financial institutions and markets.*

# Micro-Prudential Versus Macro-Prudential Regulation

- **Common Exposure**
  - When *many institutions* have an *exposure to the same specific risk factor*, it can make the **system vulnerable to a shock to that factor**.
  - Intermediaries may be **directly exposed** to a *fragile institution through financial contracts*.

# Micro-Prudential Versus Macro-Prudential Regulation

- **Common Exposure**
  - They may be **exposed *indirectly*** and unknowingly *through their counterparties*, who are themselves *directly exposed to a fragile institution*.
  - *All institutions may be vulnerable* to the same underlying risks.

# Micro-Prudential Versus Macro-Prudential Regulation

- **Pro-Cyclical**
  - *Financial activity* is prone to *vicious cycles*.
  - The interaction between **financial** and **economic** activity can be *mutually reinforcing* leading to *unsustainable booms and busts*.

# Micro-Prudential Versus Macro-Prudential Regulation

- **Macro-Prudential Policy**
  - This aims to **make intermediaries bear, or *internalize*, the costs that their behavior imposes on others.**
    - *To be effective in limiting systemic threats, a **systemic capital surcharge** probably would be disproportionately ***larger for firms that contribute the most to systemic risk****
    - Intermediaries would have an *incentive to limit the systemic risks* they create.

# Micro-Prudential Versus Macro-Prudential Regulation

- Macro-prudential regulators *could also make capital requirements vary with the business cycle.*
- In good times, **capital requirements would rise** *above the long-run average to create a capital buffer against adverse shocks and to discourage euphoria.*

# Micro-Prudential Versus Macro-Prudential Regulation

- Regulators could *require banks* to buy **catastrophe insurance**.
- Could also have banks issue so-called **contingent convertible bonds** that *convert to equity in the event of a capital shortfall*.

# Micro-Prudential Versus Macro-Prudential Regulation

Ultimately, addressing *systemic risk* will require a *broad framework* of **macro-prudential supervision** that includes

1. Rules and mechanisms that *promote better risk management* on the part of intermediaries, and
2. Reforms that *reduce the vulnerability of the financial system* to the liquidation of any single financial firm.

End of lecture