Equity Analysis FN 451

-Role of an equity analyst

Fundamental analysis:

- Approach of fundamental analysis & assets allocation

-Economic, industry and firm analysis and financial forecast

Valuation Technique:

- Fundamental of assets valuation

- Dividend discount model

- Discounted cash flow model

- Market multiples

- Workshop: Equity research report writing and analyst presentation technique

- **Banking sector analysis**

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Banking sector analysis

Course lecturer: Sirinattha Techasiriwan

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Agenda

- **Balance sheet & Profit & Loss**
- Loans growth forecast
- NIM forecast
- Non-interest income forecast
- Non-interest expense forecast
- Risk Analysis
- Forecast & Valuation

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Balance Sheet Structure

Balance Sheet

Assets	=	**Liabilities**	+ **Equity**
Interbank lending		Interbank borrowing	
Loans		Deposits	
Investments		Borrowing*	

* Banks prefer to issues subordinated debentures as the subordinated debentures with years to maturity of over 5 years can be counted as Tier-2 capital.

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Balance Sheet Structure

Balance Sheet

⇨ **BBL case study: Calculate 1) average earnings assets**

2) average interest-bearing sources of funds.

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Profit & Loss

Interest Income

Interest Expense

Net Interest Income

Non-Interest Income

Non Interest Expenses

Pre-provisioning Operating Profit (PPOP)

Provisioning

Profit before taxes

Taxes

Net Profit

Total revenue = Net interest income + Non-interest income

⇨ **BBL case study: Calculate 1) total revenue**

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Key P&L ratios

Interest Spread

= Interest yield – Interest cost

Net Interest Margin (NIM)

$$\text{NIM} = \frac{\text{Interest income} - \text{Interest expense}}{\text{(Average earning assets)}}$$

⇨ **BBL case study: Calculate 1) Interest spread**

2) NIM

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Key P&L ratios

Credit Cost

= Provision expense / Average loans

⇨ **BBL case study: Calculate 1) Credit cost**

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NIM & Credit cost

Case study:

Bank A's NIM was 3.50% and its normalized credit cost to loans in 2011 was 50bps.

Bank B's NIM was 4.25% and its normalized credit cost to loans in 2011 was 155bps.

Which bank's lending business is more profitable?

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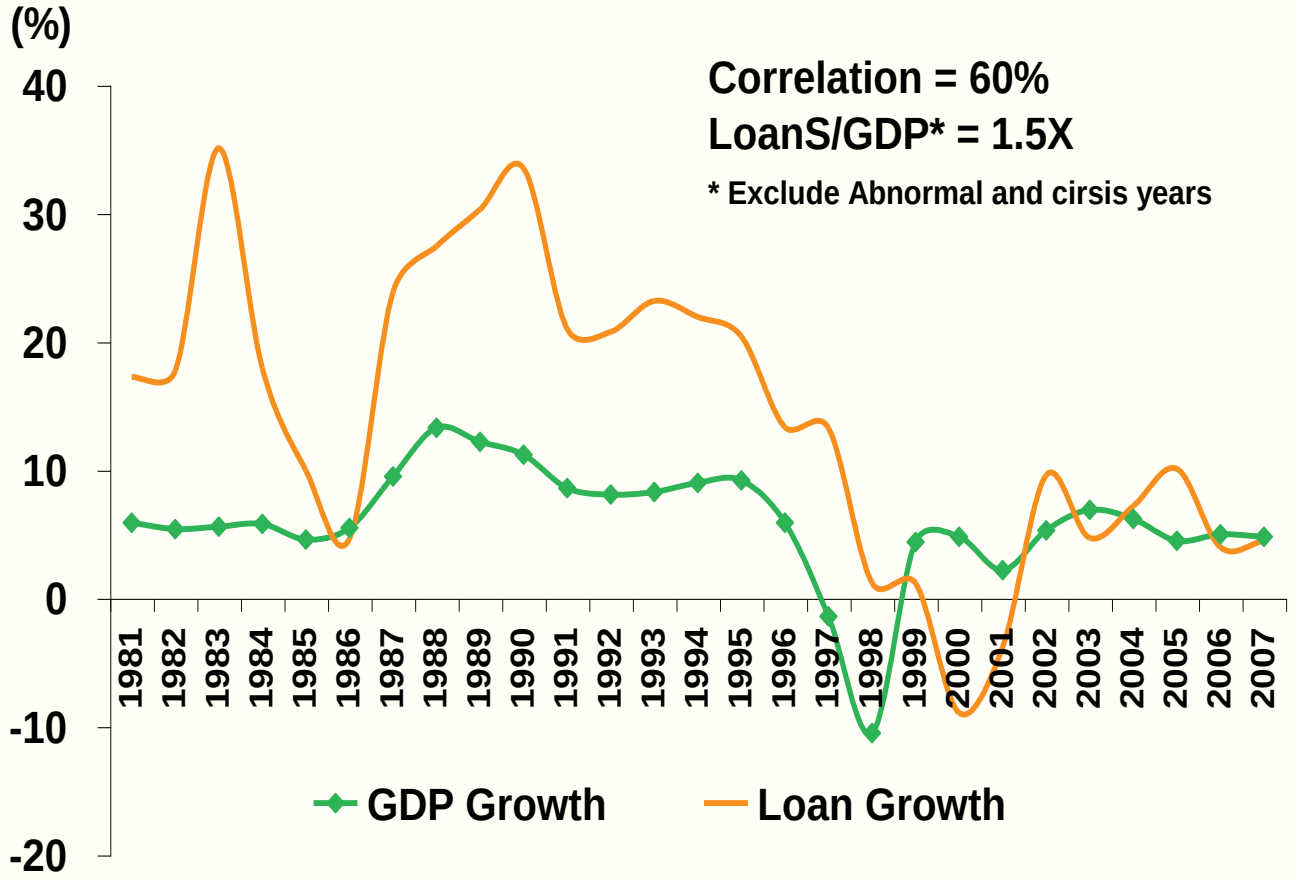
Loans Growth Forecast

Correlation between Loan growth VS nominal GDP growth



Source: BoT, NESDB

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Loans Growth Forecast

GDP = private consumption + gross investment +

government spending + (exports - imports)

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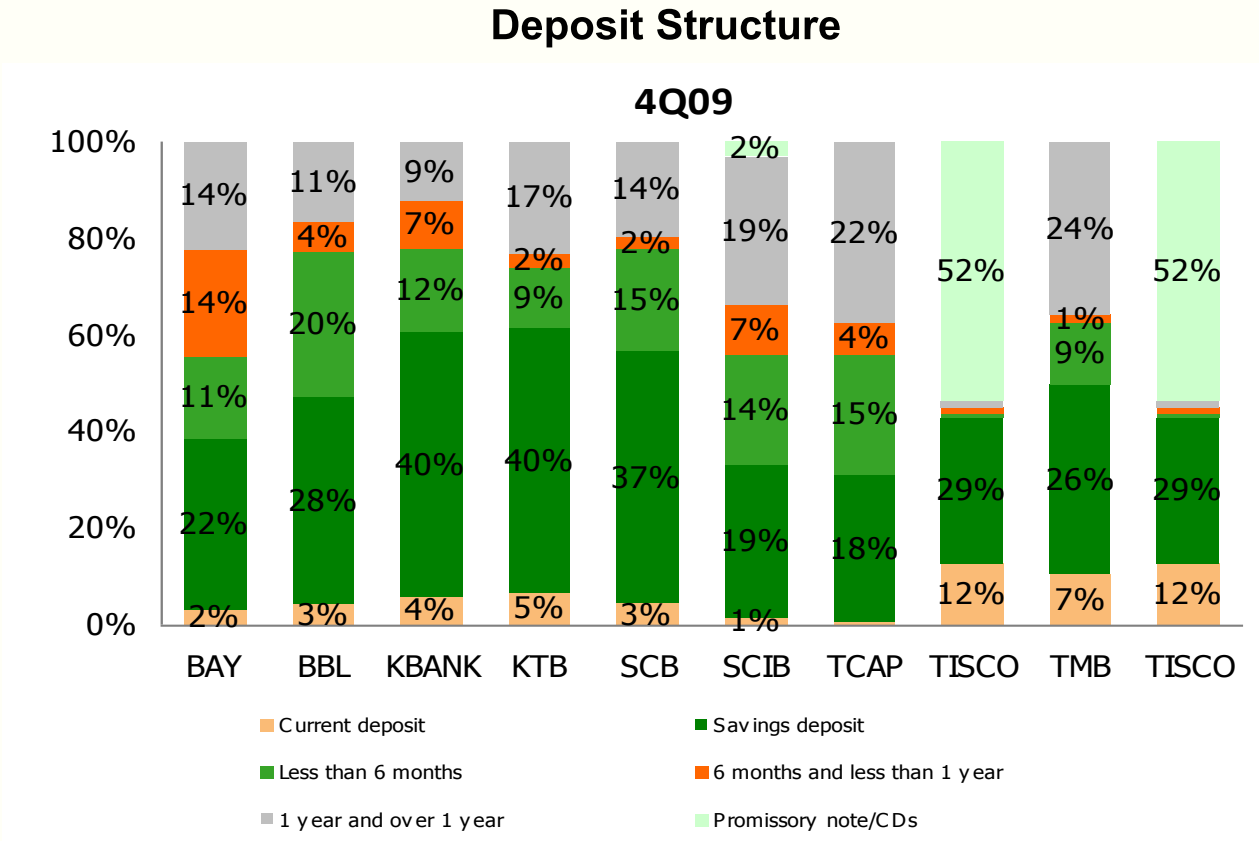
NIM Forecast



Source: Financial statements

⇨ **Which bank(s) should have the lowest cost of fund?**

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NIM Forecast

Bank: Interest rate sensitivity (Gap analysis)

	BAY					
(Bt mn, as of end-09)	**0-3 months**	**>3-12 months**	**1 – 5 years**	**> 5 years**	**Saving deposits**	**Total**
Rate sensitive assets (RSA):						
Interbank, money market items, repos	44,810	608	-	-		45,418
Investments	17,662	10,204	30,740	2,309		60,915
Loans	404,100	59,545	84,223	3,560		551,428
Total RSA	**466,572**	**70,357**	**114,963**	**5,869**	**-**	**657,761**
Rate sensitive liabilities (RSL):						
Deposits	143,167	143,782	34,322	-	184,405	505,676
Interbank, money market items, repos	29,671	5,715	10,123	67		45,576
Borrowings	13,654	25,433	45,581	-		84,668
Total RSL	**186,492**	**174,930**	**90,026**	**67**	**184,405**	**635,920**
Gap measures:						
Interval gap (RSA - RSL)	280,080	-104,573	24,937	5,802	-184,405	21,841
Cumulative gap	280,080	175,507	200,444	206,246	21,841	

Assets & liabilities mismatch = Assets duration - Liability duration

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Non-interest income

Non interest income structure

(System)

	Bt mn	
5. Non-interest income	117,063	100.0%
5.1 Profit (loss) from investment	3,051	**2.6%**
5.2 Share of profit (loss) from investment account for under equ	0	0.0%
5.3 Fee and services	83,544	**71.4%**
5.3.1 Acceptances, aval, and guarantees	4,616	3.9%
5.3.2 Credit cards	13,451	11.5%
5.3.3 ATM cards and other e-banking services	16,539	14.1%
5.3.4 Money transfer and collection	15,148	12.9%
5.3.5 Consultance	492	0.4%
5.3.6 Management fee	2,631	2.2%
5.3.7 Underwriting	3,205	2.7%
5.3.8 Securities custodian	815	0.7%
5.3.9 Cheque-related fee	2,128	1.8%
5.3.10 Letters of credits	1,487	1.3%
5.3.11 Commissions	0	0.0%
5.3.12 Other fee and services	23,032	19.7%
5.4 Gain (Loss) on foreign exchanges	16,818	**14.4%**
5.5 Other non-interest income	13,650	11.7%

Source: BoT

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Gain from Investment

	Bond Investment		Classified by Purpose			Classified by Maturity		
Dec-07	Bt MN	% to Assets	Trading	Available for sale	Held to Maturity	<1 Year	>1-5 Years	> 5 Years
BBL	267,265	17%	0%	66%	34%	49%	43%	8%
KTB	64,705	5%	0%	36%	64%	25%	58%	16%
KBANK	87,992	9%	0%	88%	12%	39%	41%	19%
SCB	95,786	8%	0%	34%	66%	29%	46%	26%
BAY	40,340	6%	0%	83%	17%	41%	58%	1%
SCIB	98,222	24%	0%	90%	10%	21%	57%	22%
TMB	77,845	13%	0%	53%	47%	29%	54%	17%
BT	59,907	29%	0%	36%	64%	20%	24%	57%
TCAP	20,409	6%	2%	25%	73%	25%	59%	16%
TISCO	1,871	2%	0%	82%	18%	41%	59%	0%
KK	3,615	4%	0%	27%	73%	72%	9%	19%
Total	**817,957**	**11%**	**0%**	**61%**	**38%**	**35%**	**47%**	**18%**

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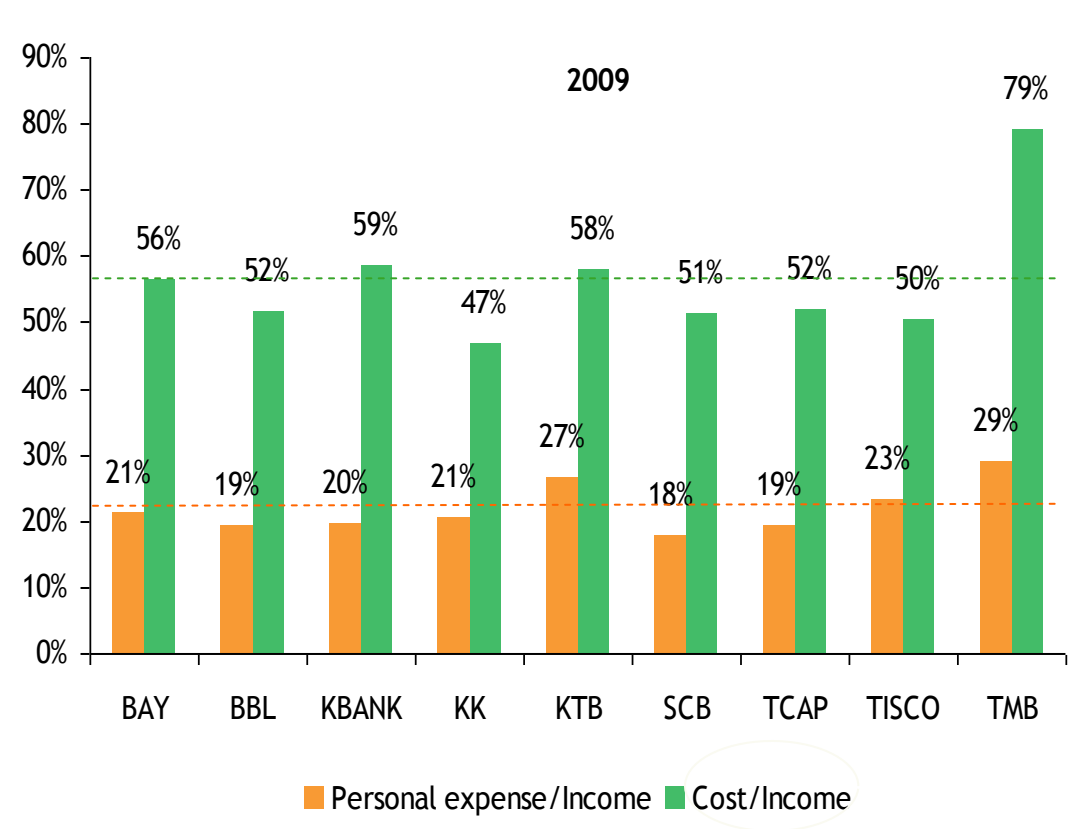
Non-interest expense



Source: Financial Statement

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Credit Risk

NPL = Non-performing loans

<u>Asset quality ratios:</u>

Credit cost = Provision expense / Average loans

NPL / Total loans

LLR / NPL

LLR / Total loans

LLR / BoT's loans minimum requirement

Collateral / NPL

⇨ **BBL case study: Calculation of asset quality ratios**

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Credit Risk

Classified loans

	Loans & accrued Interest receivables	Outstanding debt after deduction of collateral value / NPV o f cash flow from debtors or sales of collateral		Allowance for Doubtful account
Pass	918,078	312,391	1	3,124
Special Mention	19,235	4,315	2	86
Sub-Standard	4,673	1,693	100	1,693
Doubtful	7,407	2,562	100	2,562
Doubtful of Loss	23,004	13,234	100	13,234
Total	972,397	334,195		20,699
Allowance established in excess of BoT's regulations	-			10,298
Credit balance transaction	2,078			-
Loan from Life Insurance business	5,291			122
Total	979,766			31,119

Source: Footnote to financial statement

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Liquidity Risk

Liquidity Risk = Risk of unable to meet financial obligations due to lacks of liquidity

Liquidity risk ratios:

Loans to deposits Ratio = Total loans / Total deposits

Loans to deposits & borrowings ratio = Total loans / (Total deposits + Total borrowings)

Net excess liquidity = Cash + Interbank assets – Interbank liabilities

⇨ **BBL case study: Calculation of liquidity ratios**

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Liquidity reserve requirement

The BoT requires banks to maintain **liquidity reserve** of at least 6% of deposit plus BEs plus foreign borrowings due within one year.

Assets that can be counted as liquidity reserve:

Cash deposited at the BoT at least 0.8%

Cash at Central Bank Cash Center at least 1%

Deposits at other banks, combined with cash at Central Bank Center no higher than 2.5%

Government bonds, the BoT bonds, SoE bonds, bonds guaranteed by the BoT

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Case study: Liquidity Risk

⇨ **Case study:**

Bank A's loan to deposit and borrowing ratio is 85%.

Bank B's loan to deposit and borrowing ratio is 95%.

- Which bank is more conservative in liquidity management?

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Liquidity Risk

Liquidity analysis measure by duration gap

> The Gap analysis worksheet shows the maturity and repricing schedules for all of the earning assets and interest-bearing liabilities.

>Comparing the value of assets that mature or repriced at each point in time with the value of the liabilities that mature or reprice reveals the exposure of earnings to changes in interest rates.

	0-3 months	3-6 months	6-12 months	1-2 years	2-5 years	Over 5 years	Total
Earning Assets							
Fed funds sold							
Securities							
Mortgages							
Commercial Loans							
Credit-card loans							
Other loans							
Total Earning Assets							
Interest-Bearing Liabilities							
NOW accounts							
MMDAs							
Savings deposits							
Small time deposits							
Large time deposits							
Fed funds purchased							
FHLB advances							
Other liabilities							
Total IB Liabilities							
Gap Measures							
Interval Gap							
Cumulative Gap							
RSA / RSL							
Gap / Earning assets (%)							

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Market Risk

Market risk = the risk of losses in positions arising from movements in market prices.

Types of market risk: Interest rate risk, Currency risk

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Interest rate risk: GAP analysis

Bank: Interest rate sensitivity (Gap analysis)

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$$\Delta NII_{exp} = GAP \times \Delta i_{exp}$$

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Capital Risk

Capital Risk = Risk of having insufficient capital to pay for liabilities.

Capital risk is measured by Capital Adequacy Ratio (CAR) CAR = Capital / Risk-weighted assets

<u>BoT's requirement for CAR:</u>

Minimum Tier-1 CAR = 4.25%

Minimum Total CAR = 8.50%

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Capital Risk

Tier 1 Capital: paid-up capital, share premium, warrants, legal reserve, other reserves, retained earnings, hybrid capital

Tier 2 Capital: revaluation, reserve for normal loans, subordinated debentures with maturity over 5 years

Risk-weighted assets: Pool of banks' assets weighted by given risk factors.

⇨ BBL case study: Calculation of capital ratios

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