



Market Risk Management in Bank Mandiri

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INDONESIA a far away country



Location	Southeastern Asia, archipelago between the Indian Ocean and the Pacific Ocean
Area	total: 1,919,440 sq km
Coastline	54,716 km
Climate	tropical; hot, humid.
Elevation extremes	lowest point: Indian Ocean 0 m highest point: Puncak Jaya 5,030 m
Geography	archipelago of 17,508 islands (6,000 inhabited)
Natural resources	petroleum, tin, natural gas, nickel, timber, bauxite, copper, fertile soils, coal, gold, silver

INDONESIA a far away country (cont'd)

Capital	Jakarta
Population	245,452,739 (July 2006 est.)
Ethnic groups	Javanese 45%, Sundanese 14%, Madurese 7.5%, coastal Malays 7.5%, other 26%
Independence	17 August 1945
Currency (code)	Indonesian rupiah (IDR), at 9,072/USD
Places of interest	Bali, Lombok, Bromo (Java), Bunaken (Sulawesi), Jakarta, Banda (Ambon)



BANK MANDIRI at a glance



1999

Bank Mandiri was established on 2 October 1998, and Bank Bumi Daya, Bank Dagang Negara, Bank Ekspor Impor Indonesia and Bank Pembangunan Indonesia were formally merged into Bank Mandiri on 31 July 1999.

The Government recapitalized the Bank in 1999 through the injection of Rp178 trillion in Recapitalization Bonds.

2003

The Government of the Republic of Indonesia divested 20% of its shareholding in Bank Mandiri through an IPO on 14 July 2003.

In April, Bank Mandiri issued a five-year US\$300 million MTN listed on the Singapore Stock Exchange.

In August, we completed the implementation of eMAS (Enterprise Mandiri Advance System), our new core banking system.

2004

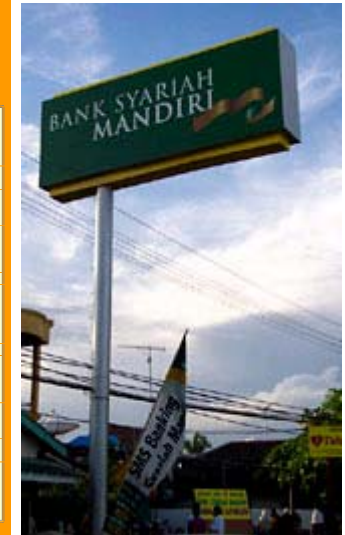
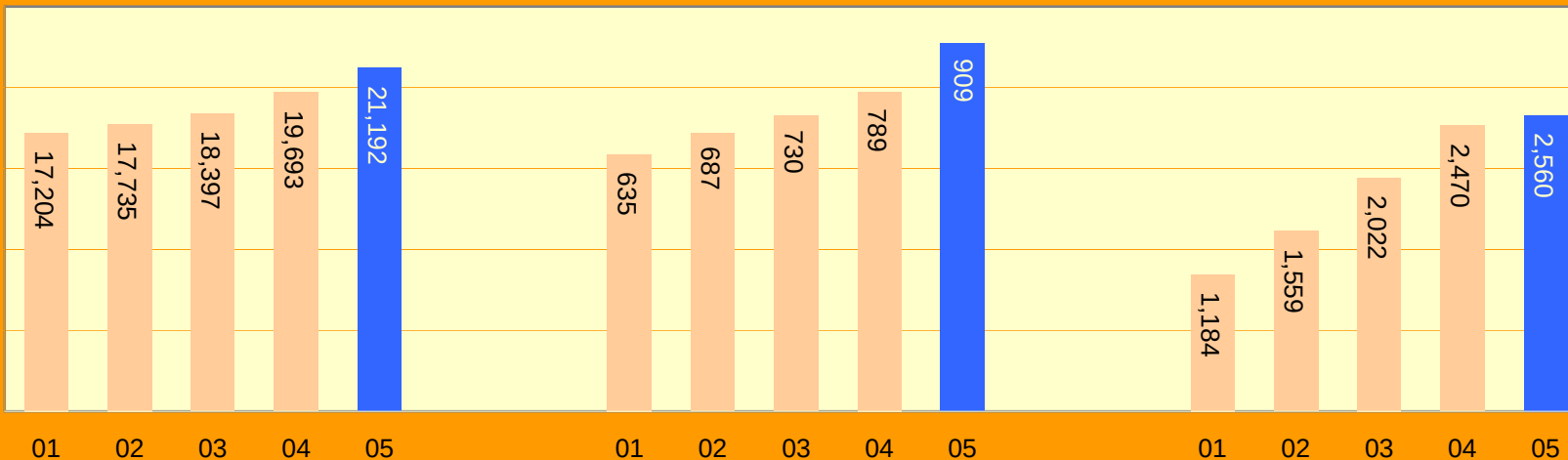
On 11 March 2004, the Government of the Republic of Indonesia divested an additional 10% of its shareholding in Bank Mandiri through a secondary offering.

By the end of 2004, we had achieved a loan portfolio evenly balanced between corporate and non-corporate lending for the first time. This laid the foundation for the next phase of our transformation in becoming a regional champion bank.

NUMBER OF EMPLOYEES

NUMBER OF BRANCHES

NUMBER OF ATMs



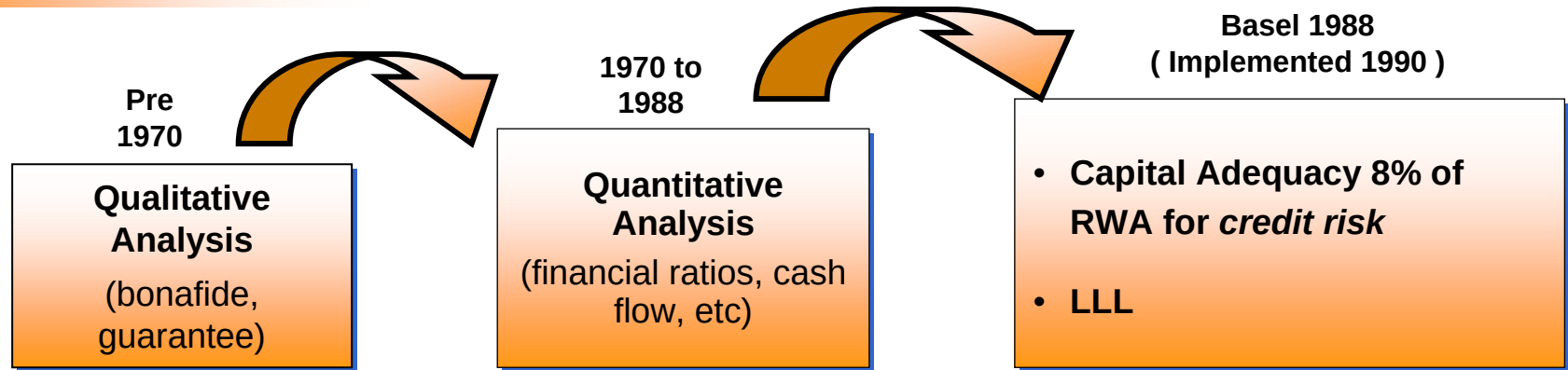
BANK MANDIRI at a glance (cont'd)

BALANCE SHEET	1999		2002		2005	
	IDR billion	USD million	IDR billion	USD million	IDR billion	USD million
Total Assets	248,358	34,980	250,395	27,977	263,383	26,794
Earning Assets	239,860	33,783	237,668	26,555	244,147	24,837
Total Loans	44,013	6,199	65,417	7,309	106,853	10,870
Total Deposits	146,411	20,621	184,114	20,571	206,289	20,986
Total Liabilities	232,710	32,776	235,957	26,364	240,169	24,432
Total Shareholder's Equity	15,638	2,203	14,435	1,613	23,215	2,362
USD/IDR exchange rate		7,100		8,950		9,830



PRE-CRISIS (Reactive / Not Proactive)

◆ CREDIT RISK

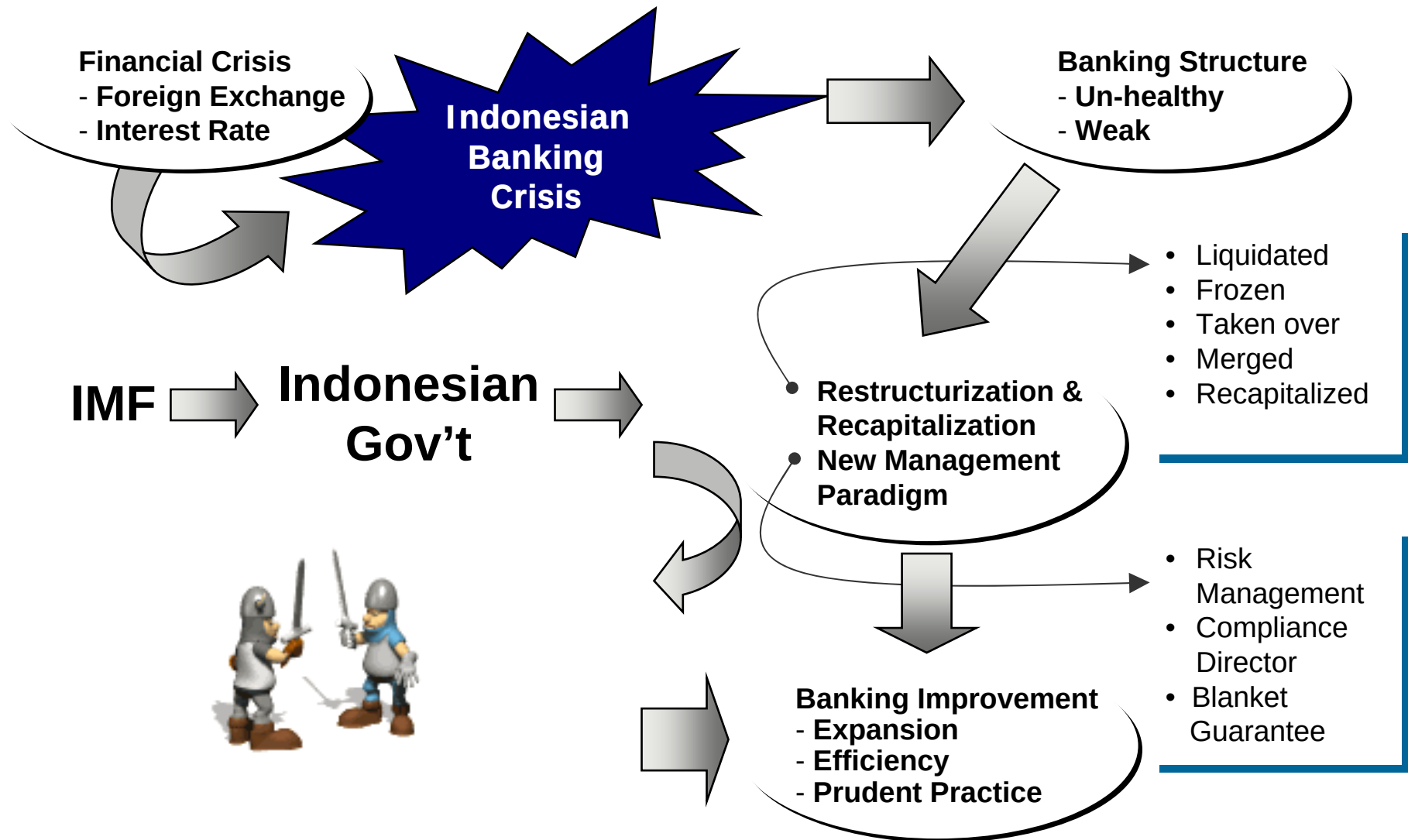


◆ MARKET RISK

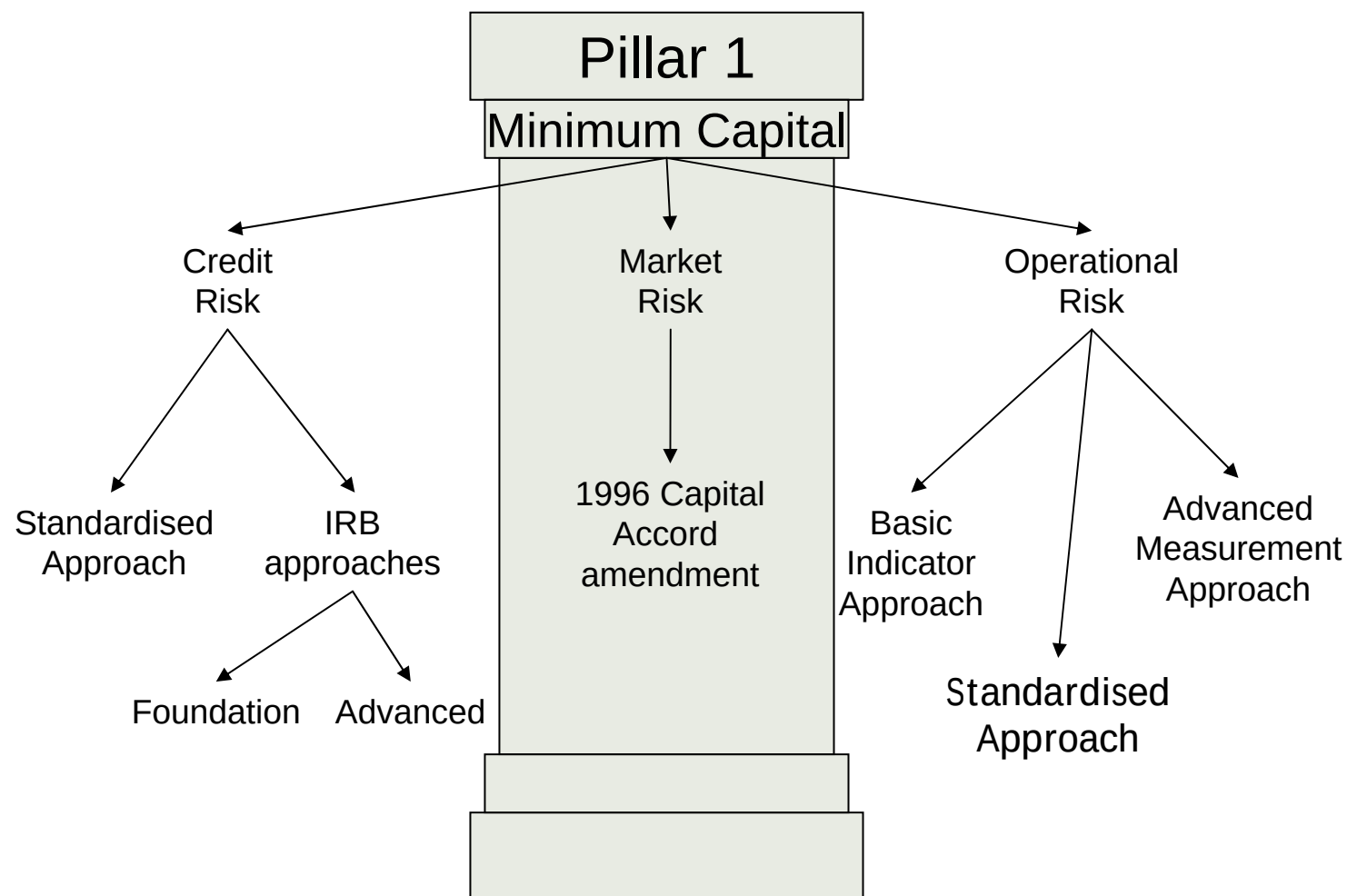
- ◆ Nominal Limit System
- ◆ Pricing strategy based on only competition
- ◆ Net Open Position for foreign currency

◆ OPERATIONAL RISK

- ◆ Rely on internal audit (control) system
- ◆ Operation losses often hide in in-transparent cost items

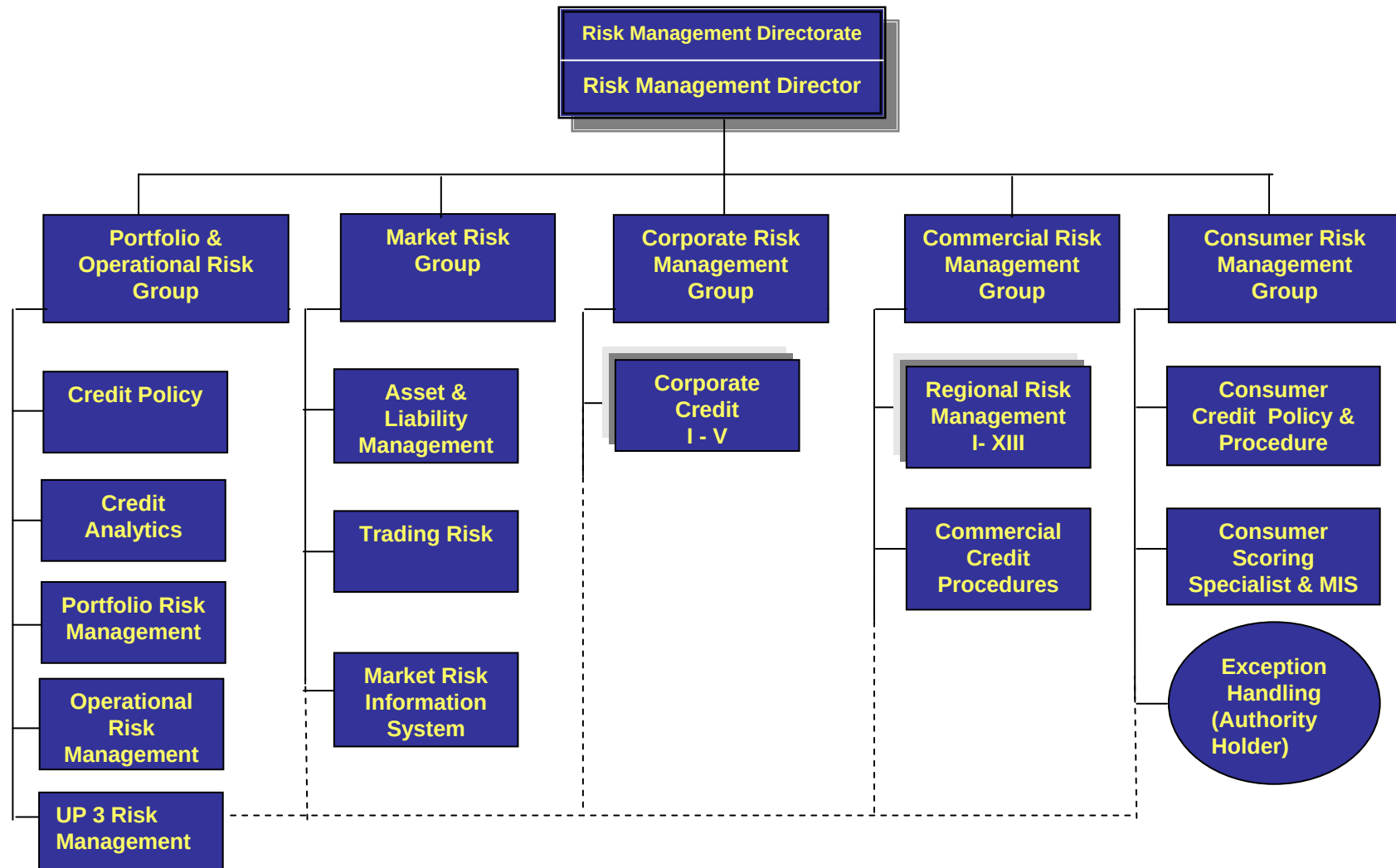


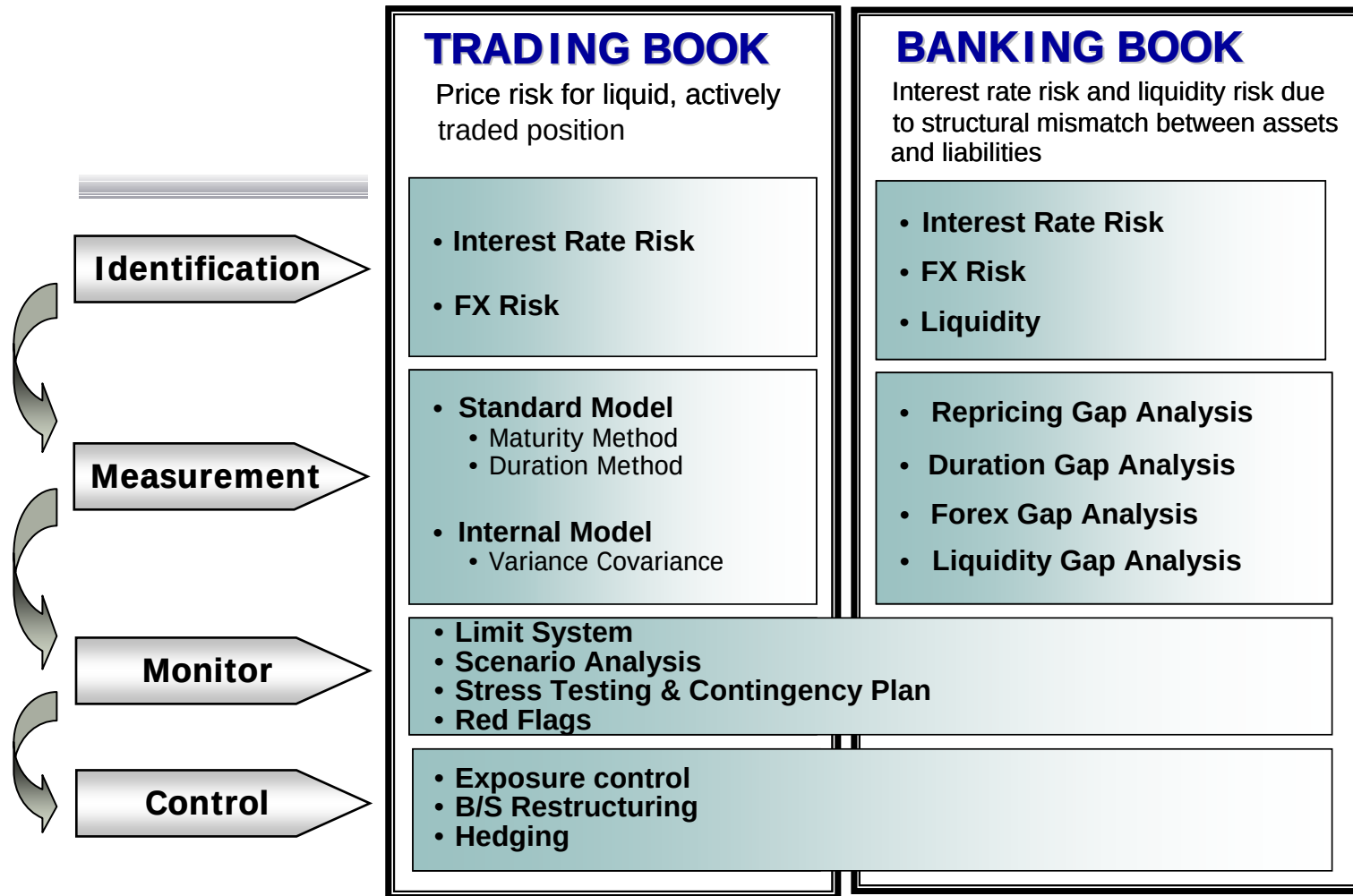
Basel II structure of regulation



Bank Indonesia regulation

- 1 **Credit Risk**
- 2 **Market Risk**
- 3 **Liquidity Risk**
- 4 **Operational Risk**
- 5 **Legal Risk**
- 6 **Reputation Risk**
- 7 **Strategic Risk**
- 8 **Compliance Risk**





- ❑ **INTERNAL REPORTS**

- VALUE AT RISK

- ❑ **EXTERNAL REPORTS**

- CAPITAL CHARGE – STANDARD MODEL

SAMPLE REPORTS – VALUE AT RISK

In IDR Billion

Activity	Apr 06	May 06	Limit
FX/MM Trading	10	135	50
Sales	-	-	8
Liquidity	28	70	140
Fixed Income	29	55	
Derivative	10	8	
Others	6	130	
Total	45	90	160

ASSUMPTIONS

Variance Covariance method.
 VaR is calculated daily.
 Based on 250 working days of market prices.
 Normal distribution.
 99% confidence level.
 VaR horizon is 1 day.

ANALYSIS

- The pick up in VaR value is due to 175% increase of USD/IDR volatility from 0.87% (April '06) to 2.40% (May '06).
- USD/IDR exposure is also significantly higher than previously, increasing from IDR 750 billion to IDR 3.5 trillion.

STRATEGY

- Due to the increase in volatility of USD/IDR exchange rate and IDR interest rate, precautions must be taken in Treasury trading activities especially in USD/IDR portfolio.

CAPITAL ADEQUACY RATIO (CAR) – STANDARD MODEL

In IDR million

Interest Rate Risk	<u>April</u>	<u>May</u>
+ Specific Risk	26,850	27,050
+ General Risk	349,100	368,325
Foreign Exchange Risk	144,900	170,650
Capital Charge	520,850	566,025
Capital	27,905,000	27,695,000
Risk Weighted Asset – Credit Risk	109,655,000	110,725,000
Risk Weight Asset – Market Risk	6,510,625	7,075,313
CAR (credit risk only)	25.48%	25.01%
CAR (credit risk + market risk)	24.02%	23.51%

ALMA REPORTS:

❑ INTERNAL REPORTS

- LIQUIDITY RISK
 - LIQUIDITY GAP
 - LIQUIDITY RED FLAG
- INTEREST RATE RISK
 - REPRICING GAP
 - INTEREST RATE RED FLAG
- FOREX RISK
 - NET OPEN POSITION (FX)

❑ EXTERNAL REPORTS

- BANKING HEALTHINES MEASURE
- RISK PROFILE
- MATURITY PROFILE

SAMPLE REPORTS – LIQUIDITY GAP

A sample report of bank's liquidity gap, comprising of :

- Static gap
- Dynamic gap (= static gap + business expansion)

BANK X

STATIC RUPIAH

Rp. Miliar

KOMPONEN	D/N - 30 day	>1 - 3 bulan		>3 - 6 bulan			>6 - 12 bulan					
	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06
Aktiva	6,550	450	400	300	350	350	150	150	150	550	100	100
On Balance Sheet	6,050	400	350	300	350	300	150	150	150	550	100	100
Off Balance Sheet	500	50	50	0	0	50	0	0	0	0	0	0
Pasiva	1,300	250	350	300	200	250	150	150	150	150	150	250
On Balance Sheet	600	100	250	200	100	150	50	50	50	50	50	150
Off Balance Sheet	700	150	100	100	100	100	100	100	100	100	100	100
PERIODIC GAP	5,250	200	50	0	150	100	0	0	0	400	- 50	- 150
CUMULATIVE GAP	5,250	5,450	5,500	5,500	5,650	5,750	5,750	5,750	5,750	6,150	6,100	5,950

DYNAMIC RUPIAH

Rp. Miliar

KOMPONEN	D/N - 30 day	>1 - 3 bulan		>3 - 6 bulan			>6 - 12 bulan					
	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06
Aktiva	4,950	400	600	150	350	300	450	250	- 100	750	250	- 800
On Balance Sheet	4,450	350	550	150	350	250	450	250	- 100	750	250	- 800
Off Balance Sheet	500	50	50	0	0	50	0	0	0	0	0	0
Pasiva	2,250	100	250	200	100	150	50	50	50	2,450	50	150
On Balance Sheet	1,650	100	250	200	100	150	50	50	50	2,450	50	150
Off Balance Sheet	600	0	0	0	0	0	0	0	0	0	0	0
PERIODIC GAP	2,700	300	350	- 50	250	150	400	200	- 150	- 1,700	200	- 950
CUMULATIVE GAP	2,700	3,000	3,350	3,300	3,550	3,700	4,100	4,300	4,150	2,450	2,650	1,700

INDICATOR

RESERVE REQUIREMENT

SECONDARY RESERVE

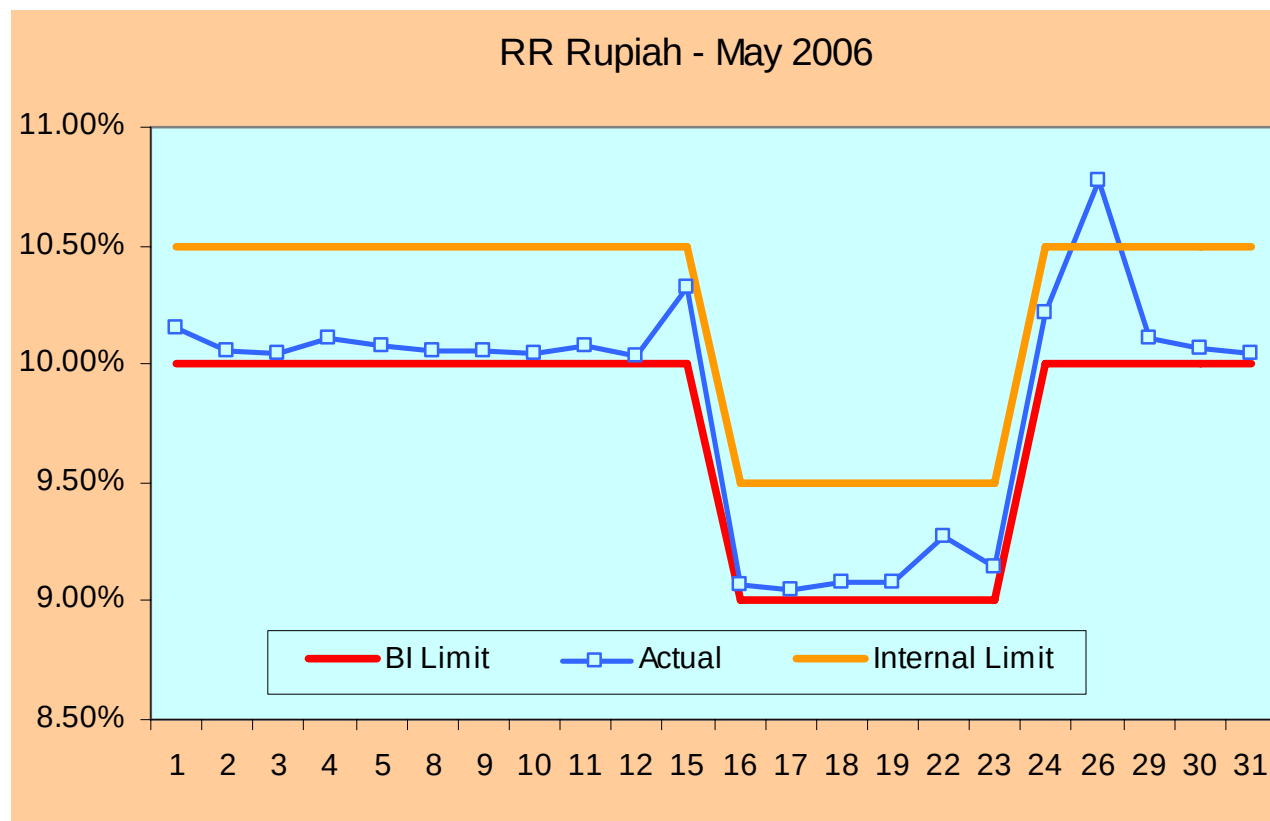
LOAN TO DEPOSIT RATIO (LDR)

DEPOSITS CONCENTRATION

MAXIMUM CUMULATIVE
OUTFLOW (MCO)

OVERNIGHT BORROWING (O/N)

RESERVE REQUIREMENT



Actual RR for Rupiah during May '06 ranges between 9.05% to 10.78%. Once, there was an over limit on May 26, due to excess funds from branches that could not be placed with BI as the result of the closing of BI deposit facility.

REPRICING GAP SAMPLE REPORT

(Rp. Miliar)

KOMPONEN	REPRICING GAP							
	O/N-30days	>1 - 3 bulan	>3 - 6 bulan	>6 - 12 bulan	> 1 - 3 tahun	> 3 - 5 tahun	> 5 - 7 tahun	> 7 tahun
A. STATIC GAP ¹⁾								
1. Gap (RSA - RSL)	(16,900)	15,300	(400)	(4,100)	7,500	200	100	4,400
2. Cumulative Gap	(16,900)	(1,600)	(2,000)	(6,100)	1,400	1,600	1,700	6,100
3. Cumulative NII Impact ³⁾	(7)	(22)	(27)	(47)				
B. DYNAMIC GAP ²⁾								
1. Gap (RSA - RSL)	(14,600)	20,600	(800)	(3,800)	7,500	100	-	4,700
2. Cumulative Gap	(14,600)	6,000	5,200	1,400	8,900	9,000	9,000	13,700
3. Cumulative NII Impact ³⁾	(6)	(13)	1	17				
C. VARIANCE (B-A)								
1. Gap (RSA - RSL)	2,300	5,300	(400)	300	-	(100)	(100)	300
2. Cumulative Gap	2,300	7,600	7,200	7,500	7,500	7,400	7,300	7,600
3. Cumulative NII Impact ³⁾	1	9	28	64				

Keterangan :

¹⁾ Posisi per 31-May-06

²⁾ Perubahan RSA dan RSL sesuai proyeksi RKAP s.d Dec 2006

³⁾ Asumsi proyeksi suku bunga naik 1%

SAMPLE REPORTS – INTEREST RATE RISK RED FLAGS

INDICATOR

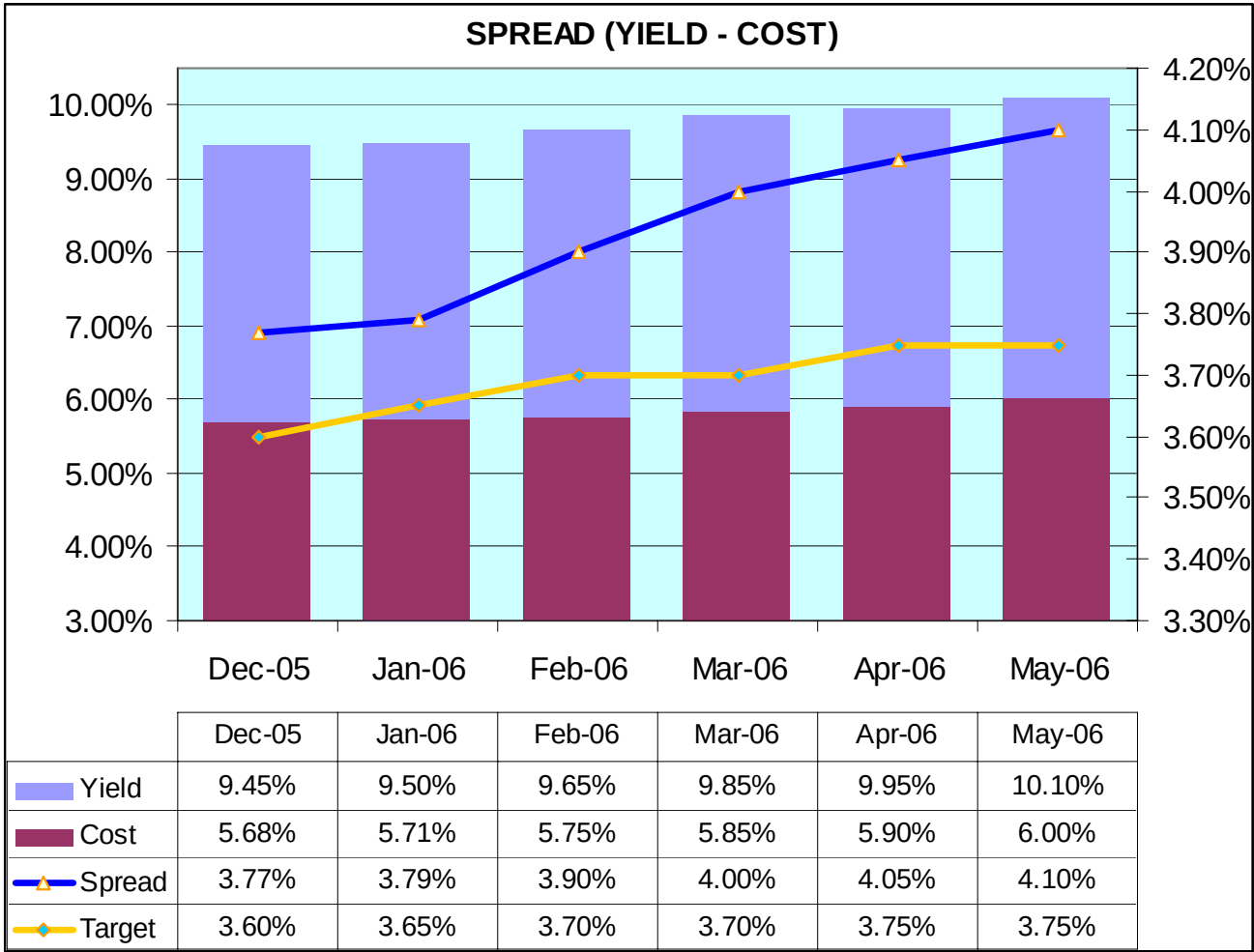
SPREAD

NET INTEREST INCOME

NII CHANGE

ECONOMIC VALUE OF EQUITY
SENSITIVITY

SPREAD



FOREX GAP (FX NOP) SAMPLE REPORT

STATIC	NOP ON		NOP ON + OFF	
	ECONOMIC	ABSOLUTE	ECONOMIC	ABSOLUTE
ACTUAL	19.82%	19.84%	4.93%	4.96%
BI LIMIT	20.00%			20.00%
INTERNAL LIMIT				10.00%

DYNAMIC	NOP ON		NOP ON + OFF	
	ECONOMIC	ABSOLUTE	ECONOMIC	ABSOLUTE
PROJECTION	7.32%	14.74%	3.70%	3.76%
BI LIMIT	20.00%			20.00%
INTERNAL LIMIT				10.00%

Recommendation :

1. Regulatory compliance
NOP (static and dynamic) are within limits (statutory/BI and internal limit).
2. Foreign Exchange risk
Rupiah currency is showing stronger trend, therefore the long NOP should be maintained at minimal.
Dynamic NOP (+ 3-month business plan) is in line with the strategy of reducing the long position.

Permodalan (*Capital*)

Kualitas Aset (*Asset Quality*)

Manajemen (*Management*)

Rentabilitas (*Earnings*)

Likuiditas (*Liquidity*)

Sensitivitas terhadap Risiko Pasar (*Sensitivity to Market Risks*)

SAMPLE REPORTS – BANKING HEALTHINES MEASURE (cont'd)

MATRIKS PERHITUNGAN/ANALISIS KOMPONEN FAKTOR LIKUIDITAS (LIQUIDITY)

No	KOMPONEN	FORMULA & INDIKATOR PENDUKUNG	KETERANGAN
1	Aktiva likuid kurang dari 1 bulan dibandingkan dengan pasiva likuid kurang dari 1 bulan	$\frac{\text{Aktiva Likuid} < 1 \text{ bulan}}{\text{Pasiva Likuid} < 1 \text{ bulan}}$	a. Aktiva likuid dan pasiva likuid < 1 bulan dihitung berdasarkan posisi bulan penilaian.
			b. Aktiva likuid < 1 bulan: 1) Kas 2) Giro BI 3) SBI 4) Antar Bank Aktiva (giro, <i>deposit on call</i> , <i>call money</i>)
			c. Pasiva likuid < 1 bulan: 1) Giro 2) Tabungan 3) Deposito 4) Kewajiban Segera 5) Kewajiban pada Bank lain (giro, <i>deposit on call</i> , <i>call money</i>)
			d. Rasio dihitung per posisi.
2	1-Month Maturity Mismatch Ratio	$\frac{\text{Selisih Aktiva dan Pasiva yang akan jatuh tempo 1 bulan}}{\text{Pasiva yang akan jatuh tempo 1 bulan}}$	a. Aktiva dan pasiva yang akan jatuh tempo 1 bulan ke depan (<i>maturity profile</i>).
			b. Aktiva yang jatuh tempo 1 bulan: 1) SBI 2) Antar Bank Aktiva 3) Surat berharga 4) Kredit yang diberikan 5) Lain-lain

SAMPLE REPORTS – BANKING HEALTHINES MEASURE (cont'd)

No	KOMPONEN	FORMULA & INDIKATOR PENDUKUNG	KETERANGAN
			c. Pasiva yang jatuh tempo 1 bulan: 1) Giro 2) Tabungan 3) Deposito 4) Bank Indonesia 5) Antar Bank Pasiva 6) Surat Berharga yang diterbitkan 7) Pinjaman yang diterima 8) Lain-lain d. Rasio dihitung per posisi.
3	<i>Loan to Deposits Ratio (LDR)</i>	$\frac{\text{Kredit}}{\text{Dana Pihak Ketiga}}$	a. Kredit merupakan total kredit yang diberikan kepada pihak ketiga (tidak termasuk kredit kepada Bank lain). b. Dana pihak ketiga mencakup giro, tabungan, dan deposito (tidak termasuk antar Bank).
4	<i>Proyeksi Cash Flow 3 bulan mendatang</i>	$\frac{\text{Net Cash Flow}}{\text{Dana Pihak Ketiga}}$	a. <i>Net Cash Flow</i> merupakan proyeksi <i>cash flow</i> selama 3 bulan. b. Dana pihak ketiga merupakan dana pihak ketiga (tidak termasuk antar Bank) posisi bulan penilaian: 1) Giro 2) Tabungan 3) Deposito

SAMPLE REPORTS – BANKING HEALTHINES MEASURE (cont'd)

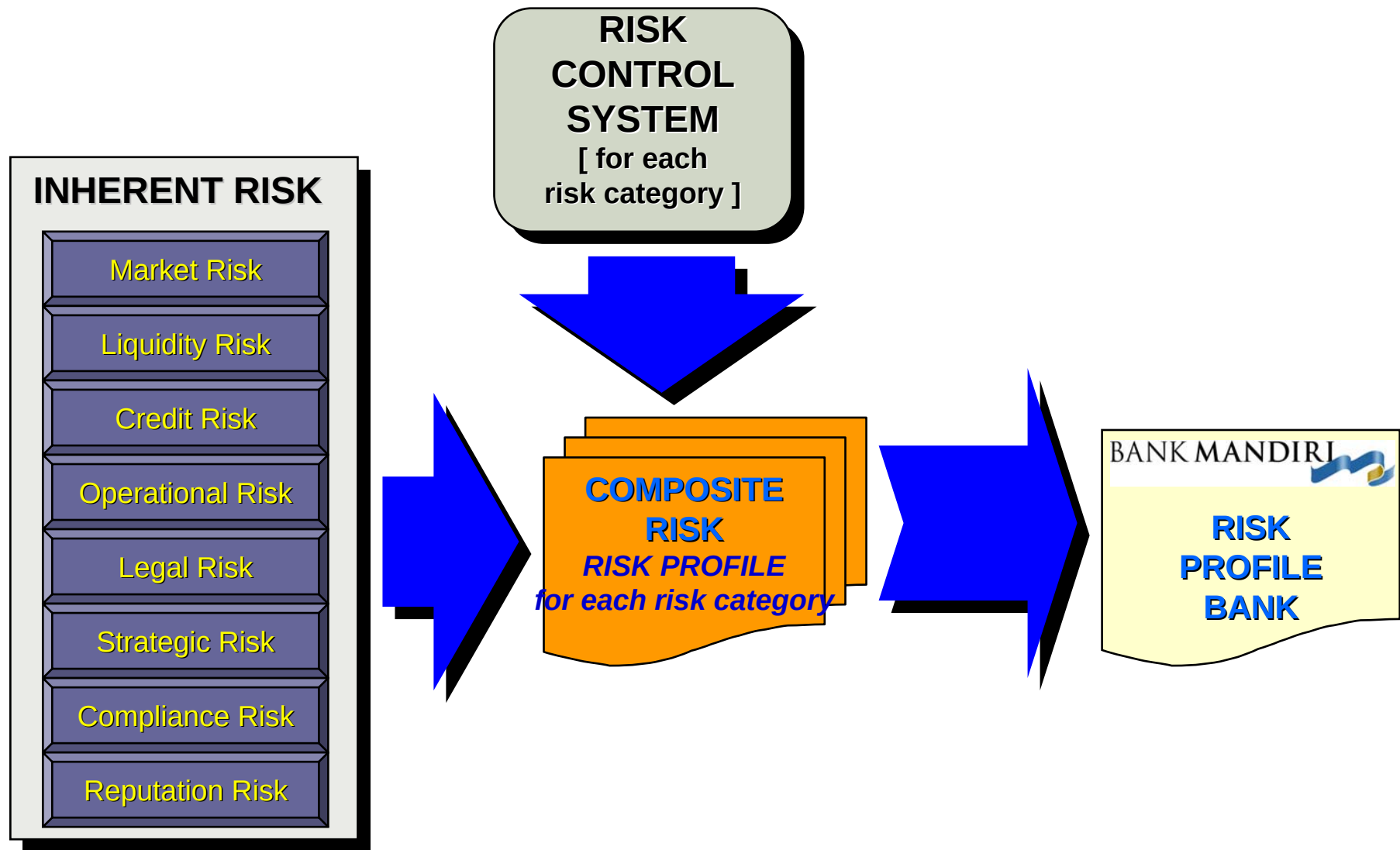
No	KOMPONEN	FORMULA & INDIKATOR PENDUKUNG	KETERANGAN
5	Ketergantungan pada dana antar bank dan depositan inti	$\frac{\text{Antar Bank Pasiva}}{\text{Total Dana}}$	a. Antar Bank pasiva dan total dana dihitung posisi bulan penilaian.
			b. Total Dana mencakup: 1) Dana Pihak Ketiga 2) Antar Bank Pasiva 3) Pinjaman Yang Diterima 4) Surat Berharga yang diterbitkan
			c. Rasio dihitung per posisi.
		$\frac{\text{Depositor Inti}}{\text{Dana Pihak Ketiga}}$	a. Dana pihak ketiga dan depositan inti dihitung posisi bulan penilaian.
			b. Depositasi inti mencakup 10, 25 atau 50 <i>depositors</i> terbesar dari giro, tabungan dan deposito sebagai berikut:
			1) Bank dengan total aset $\leq$ Rp 1 T $\rightarrow$ depositasi inti = 10 <i>depositors</i> ;
			2) Bank dengan total aset Rp 1T < total aset $\leq$ Rp 10 T) $\rightarrow$ depositasi inti = 25 <i>depositors</i> ;
			3) Bank dengan total aset > Rp 10 T) $\rightarrow$ depositasi inti = 50 <i>depositors</i> .
			c. Rasio dihitung per posisi.

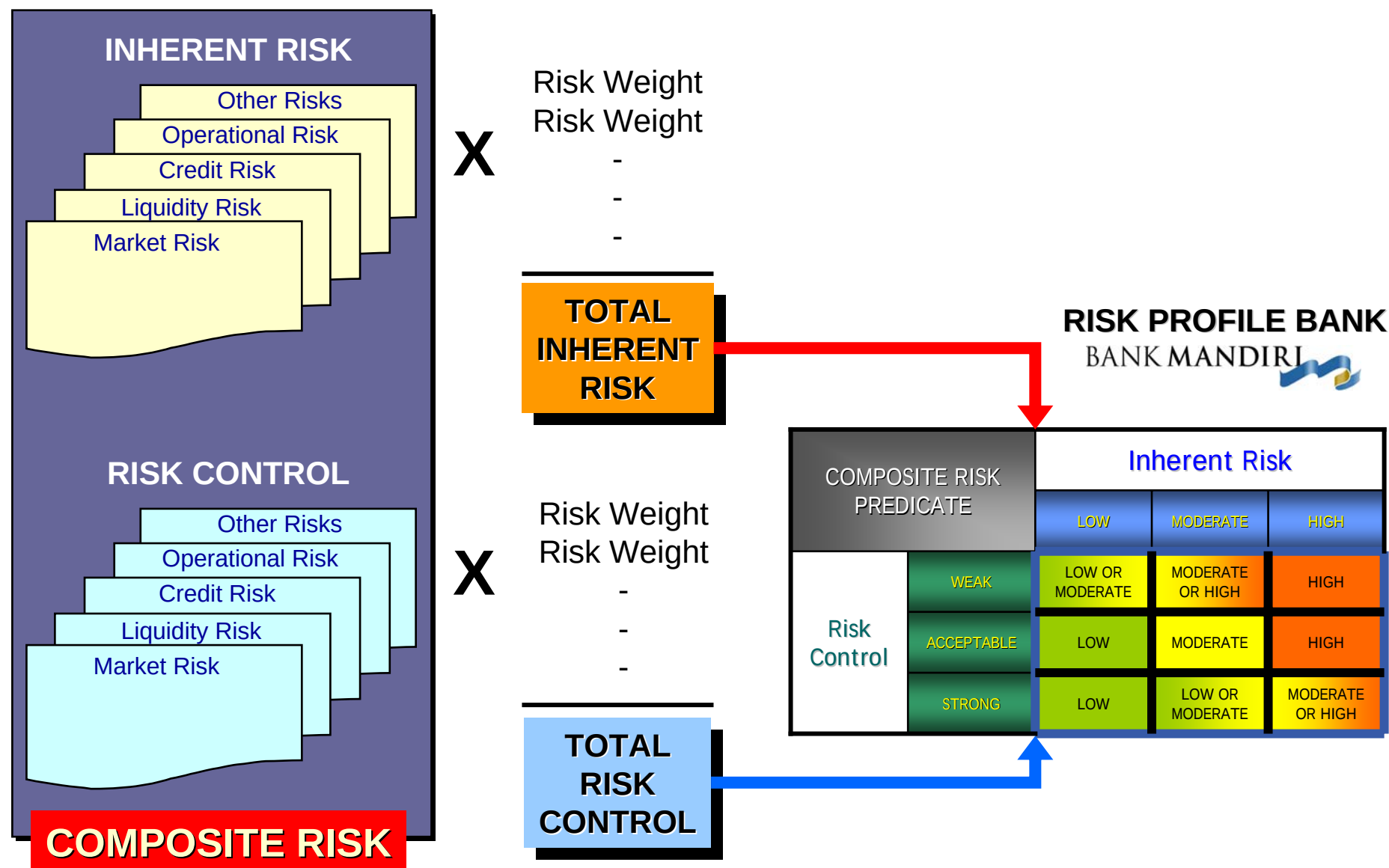
SAMPLE REPORTS – BANKING HEALTHINES MEASURE (cont'd)

No	KOMPONEN	FORMULA & INDIKATOR PENDUKUNG	KETERANGAN
6	Kebijakan dan pengelolaan likuiditas (<i>Assets and Liabilities Management/ALMA</i>)	Indikator pendukung seperti:	Pengelolaan Likuiditas meliputi pengelolaan <i>primary reserve</i> , <i>secondary reserve</i> , kebutuhan dana harian. Dalam rangka menilai kecukupan ALMA, terutama pengukuran posisi likuiditas dengan jangka waktu yang panjang pada suatu saat tertentu antara lain dilakukan penilaian laporan <i>maturity profile</i> sebagaimana diatur dalam ketentuan Bank Indonesia yang berlaku.
		Kecukupan <i>Contingency Funding Plan</i>	
		Kesesuaian kebijakan dengan struktur <i>asset & liabilities</i>	
		Kecukupan penetapan dan prosedur limit	
		Kecukupan akuntabilitas dan jenjang delegasi wewenang	
7	Kemampuan Bank untuk memperoleh akses kepada Pasar Uang, Pasar Modal atau sumber-sumber pendanaan lainnya	Indikator pendukung seperti:	
		Peringkat Bank	Peringkat Bank adalah peringkat Bank yang dikeluarkan oleh pihak eksternal.
		Persyaratan Fasilitas Pendanaan Jangka Pendek (<i>FPJP</i>)	Persyaratan FPJP berpedoman pada ketentuan Bank Indonesia tentang FPJP yang berlaku.
		<i>Track record</i> dan ketersediaan <i>money market line (credit line)</i>	<i>Track record</i> dan <i>money market line</i> diukur dari pengalaman Bank dalam melakukan transaksi pasar uang dan pasar modal serta ketersediaan <i>credit line</i> .
		Suku Bunga PUAB dibandingkan dengan Suku Bunga PUAB yang dikenakan pada Bank	Perbandingan suku bunga PUAB dilakukan setidaknya-tidaknya selama periode 3 bulan.
8	Stabilitas Dana Pihak Ketiga (DPK)	Indikator pendukung seperti:	
		Pertumbuhan DPK	Pertumbuhan DPK dihitung setiap bulan dengan analisis 12 bulan sampai dengan bulan penilaian.
		Pertumbuhan Deposan Inti	a. Pertumbuhan deposan inti dihitung setiap bulan dengan analisis 12 bulan sampai dengan bulan penilaian.

SAMPLE REPORTS – BANKING HEALTHINES MEASURE (cont'd)

No	KOMPONEN	FORMULA & INDIKATOR PENDUKUNG	KETERANGAN
			c. Deposan inti mencakup 10, 25 atau 50 <i>depositors</i> terbesar dari giro, tabungan dan deposito sebagai berikut:
			1) Bank dengan total aset $\leq$ Rp 1 T $\rightarrow$ deposan inti = 10 <i>depositors</i> ;
			2) Bank dengan total aset Rp 1T < total aset $\leq$ Rp 10 T) $\rightarrow$ deposan inti = 25 <i>depositors</i> ;
			3) Bank dengan total aset > Rp 10 T) $\rightarrow$ deposan inti = 50 <i>depositors</i> .





SAMPLE REPORTS – MATURITY PROFILE

Bank : Bank X
 Report Date : Date : 31 Month : May Year : 2006

(in IDR million)

ITEMS	Code	Balance	MATURITY *)				
			upto 1 month	>1 month upto 3 months	>3 months upto 6 months	>6 months upto 12 months	> 12 months
A. ASSETS	10000	124,774,950	27,451,217	1,924,173	4,083,443	7,133,457	84,182,659
1.Cash	10100	1,498,651	1,498,651	-	-	-	-
2.Bank Indonesia :	10200	19,778,881	19,778,881	-	-	-	-
a.Current Account	10210	11,696,480	11,696,480	-	-	-	-
b.Central Bank Certificate	10220	8,082,401	8,082,401	-	-	-	-
3.Interbank Placement	10300	1,055,308	608,328	7,990	24,202	39,660	375,128
4.Marketable Securities	10400	55,459,579	1,028,484	7,961	1,353,546	73,645	52,995,943
5.Loan:	10500	39,668,547	3,642,618	1,908,223	2,705,695	7,020,152	24,391,858
a. Outstanding **)	10510	37,009,099	3,642,618	1,908,223	2,705,695	7,020,152	21,732,411
b. Pastdue ***)	10520	2,659,448	-	-	-	-	2,659,448
6.Others	10600	7,313,984	894,254	-	-	-	6,419,730
B. LIABILITIES	20000	121,247,701	89,678,606	6,671,470	1,785,922	3,931,895	19,179,808
1.Third Party Fund	20100	93,862,928	79,308,290	6,660,810	1,783,634	3,931,670	2,178,523
a. Demand deposit	20110	16,406,150	16,406,150	-	-	-	-
b. Saving deposit	20120	24,646,221	24,646,221	-	-	-	-
c. Time deposit	20130	52,810,557	38,255,919	6,660,810	1,783,634	3,931,670	2,178,523
2.Bank Indonesia	20200	250,272	-	-	-	-	250,272
3.Interbank Borrowing	20300	4,032,854	4,019,681	10,660	2,288	225	-
4.Issued Securities	20400	-	-	-	-	-	-
5.Fund Borrowing	20500	418,947	-	-	-	-	418,947
6.Others	20600	22,682,700	6,350,635	-	-	-	16,332,065
C. DIFFERENCE (A - B)		3,527,249	(62,227,389)	(4,747,297)	2,297,522	3,201,561	65,002,851

Notes :
 *) Based on contractual maturity.
 **) Loan considered as doubtful and loss is reported in the ">12 months" bucket.
 **) Projected loan recovery on pastdue loan.

OPICS RISK

Trading risk application by Misys Banking Systems.

SENDERO A/L

Asset & Liability Management application by IPS-Sendero.

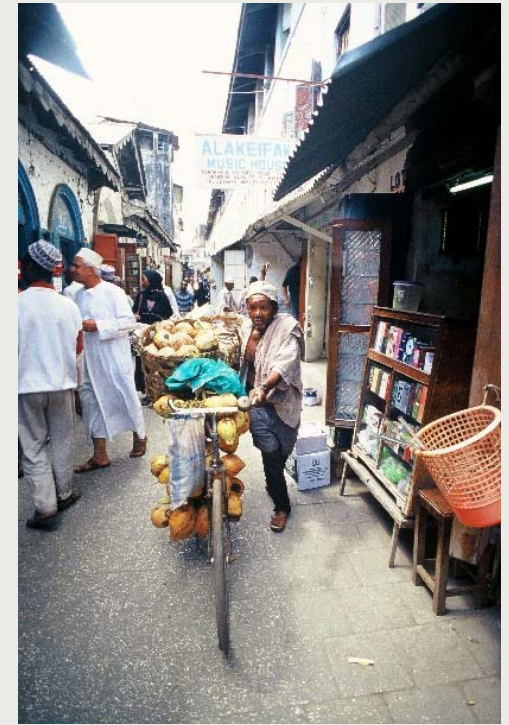
Spreadsheets

VBA Excel for small market risk applications.

“There are risks and costs to a program of action. But they are far less than the long-range risks and costs of comfortable inaction”

(John F. Kennedy)

Tanzania



“Thank you
and have fun”

