

National Economics University

Hanoi

Open University

Ho Chi Minh City

**Banking in a Market
Economy**

Février – Mars 2004

**Eric De Keuleneer
Université Libre de Bruxelles**

PLAN

I. INTRODUCTION

II. BANK ACTIVITIES

III. BANK MANAGEMENT QUESTIONS

IV. REGULATION

V. CONCLUSIONS

I. INTRODUCTION

- **DEFINITIONS**

- Economy
- Market
- Bank

- **ECONOMIC SYSTEMS**

- Money
- Forms of money
- Time element of money

- **FINANCIAL INSTRUMENTS**

- Classic
- Commercial
- New (derivatives)

- **FINANCIAL INTERMEDIATION**

- Types of intermediation
- Impact
- Requirements
- Trust

I. INTRODUCTION

DEFINITIONS

• ECONOMY

= **System of satisfaction of needs and wishes in a human community**

= **Production and distribution of goods and services**

by and to economic agents, i.e.

- individuals/households
- enterprises
 - for profit
 - not for profit
- governments
 - central
 - local

within a { institutional
(legal)
material } framework

- **MARKET**

= **Place or system where supply and demand of goods and services between economic agents meet (more or less freely)**

- **physical**

- **virtual**

- **BANK**

= **Institution providing specific services**

- **Credit**
- **Deposit facilities**
- **Trade settlement – financing**
- **custody facilities**
- **payment systems**
- **foreign exchange procurement**
- **negotiating, issuing,
underwriting, servicing financial
instrument**
- **financial information and advice**

to economic agents

ECONOMIC SYSTEMS

vary in efficiency

- **autarchy** : e.g. self-sufficient isolated farm
- **exchange** :
 - **barter (thing / thing)**
 - **enables specialization of production**
 - **increases productivity and production**
 - **market**
 - **brings supply and demand together**
 - **enables specialization of distribution**
 - **increases choice in exchange**
 - **reduces time**
 - **money = universally accepted object or sign for settling an exchange (thing / money)**

FORMS OF MONEY

- **Object** - shell, stones, cigarettes
 - **Metal** - bars, coins (gold, silver, copper, nickel alloys)
 - **Paper** - banknotes □ cheques, bills, ...
 - **Scriptural** - book entries
 - **Electronic imprints** : through cards, terminals
-

MONEY

- **represents purchase power = wealth**
- **enables measure, accounting, comparison, supervision, management**
- **three characteristics : means of payment
unit of account
store value**

TIME ELEMENT OF MONEY

**Money can be accumulated = savings
= postponement of use (sacrifice)**

→ time element

Savings :

- hoarded**
- made available to others (risk)**

→ financial instruments

temporary :

- short term (1 day – 1 year)**
- medium term (1 – 5 years)**
- long term (> 5 years)**

indefinite : - no term specified

Sacrifice + risk → reward = remuneration

FINANCIAL INSTRUMENTS

CLASSIC FINANCIAL INSTRUMENTS

Temporary : debt (fixed rate)	bills notes bonds	short medium long
--	----------------------------------	----------------------------------

Indefinite :	equity	shares	ordinary
	(debt	perpetuals)	preferred

Many variants

COMMERCIAL INSTRUMENTS used in Banking/Finance

- **Claims on clients**

- **Bills of exchange (trade bills)**
- **Promissory notes**

- **Invoices**

- **Claims on goods**

- **(trade) Warrants (in warehouse)**
- **Bills of lading (in transport)**

“NEW” FINANCIAL INSTRUMENTS (DERIVATIVES)

- **Futures (not very new) [= forward]**
Agree today to buy or sell. Settlement at later date
- **Options**
 - **Foreign exchange contracts**
 - **Interest rate contracts**
 - **Equity**
 - **Indexes**

Physical settlement seldom

Notional (Underlying physical instruments)

FINANCIAL INTERMEDIATION

Money collection and allocation

from "haves" (savers)

to "have nots" (users)

- for own account (as principal)
- for third parties (as broker)

Transfer, with transformation

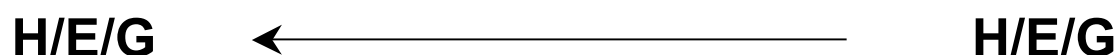
- Time
- Place
- Amounts
- Currency

TYPES OF INTERMEDIATION

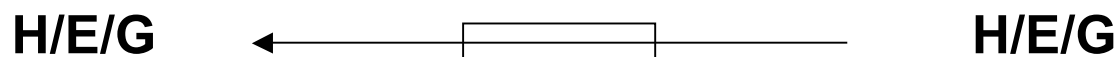
Users <i>(Have notes)</i>	Savers <i>(Haves)</i>
-------------------------------------	---------------------------------



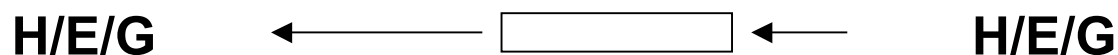
no transfer (hoarding)



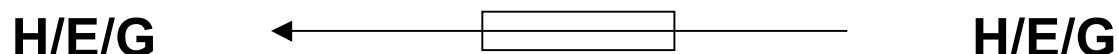
**one on one
not efficient**



**broker = throughput
more efficient**



**bank
more value added
(transformation)**



**organized market + broker
(alternative to banking)**

IMPACT OF FINANCIAL INTERMEDIATION

- Sophistication → Efficiency is good for :

- Efficient allocation of capital
- economic growth
- foreign trade /foreign exchange reserves
- social benefits/employment
- the State : general well-being/increased revenues (taxes)

- Sophistication → Fragility

New risks + dependency

So collective and individual

penalties of failure increase

→ Intermediation is good but delicate

→ Must be carefully developed and cultivated for the benefit of all

REQUIREMENTS OF INTERMEDIATION

- **SAVERS (H/E/G) need :**
 - Good instruments (best reward / risk)
 - Safe overall system
- **USERS (H/E/G) need :**
 - Cheap/reliable finance sources
 - No excessive collateral requirements
 - Protection against abuse

TRUST in the system is essential
Breeds further savings
→further efficiency :
virtuous circle

NO TRUST : people don't enter the system

TRUST LOST : people leave the system in a
panic (run on deposits, market
crash)

**Governments intervene to provide sound
framework and practice**

HOW TO INSPIRE TRUST

- **Prudential Regulation (global safety)**
 - **Establish clear rules for : clients, staff, markets, institutions, authorities**
 - **Allow entry to credible professionals only (honesty, competence, means)**
 - **Impose sound financial structure (capital adequacy, other ratios)**
 - **Manage conflicts of interest (legal and ethical barriers, Chinese walls)**
 - **Avoid abuse of power (big versus little)**
 - **Promote transparency (disclosure, good accounting standards)**
 - **Monitor application of rules : reporting, internal and external audits, official control bodies**
 - **Provide mechanisms for resolving problems and disputes**
 - **Enforce sanctions**
 - **Indemnify victims (selectively)**

- **Monetary stability**
 - **Low inflation**
 - **Stable currency**
 - **Global market liquidity**

- **Technical and legal framework**
 - **Reliable payment systems**
 - **Individual bank liquidity**
 - **Adequate general legislation**
 - **Fair and prompt settlement of disputes**

- **Problems**
 - **Solve them swiftly and firmly**

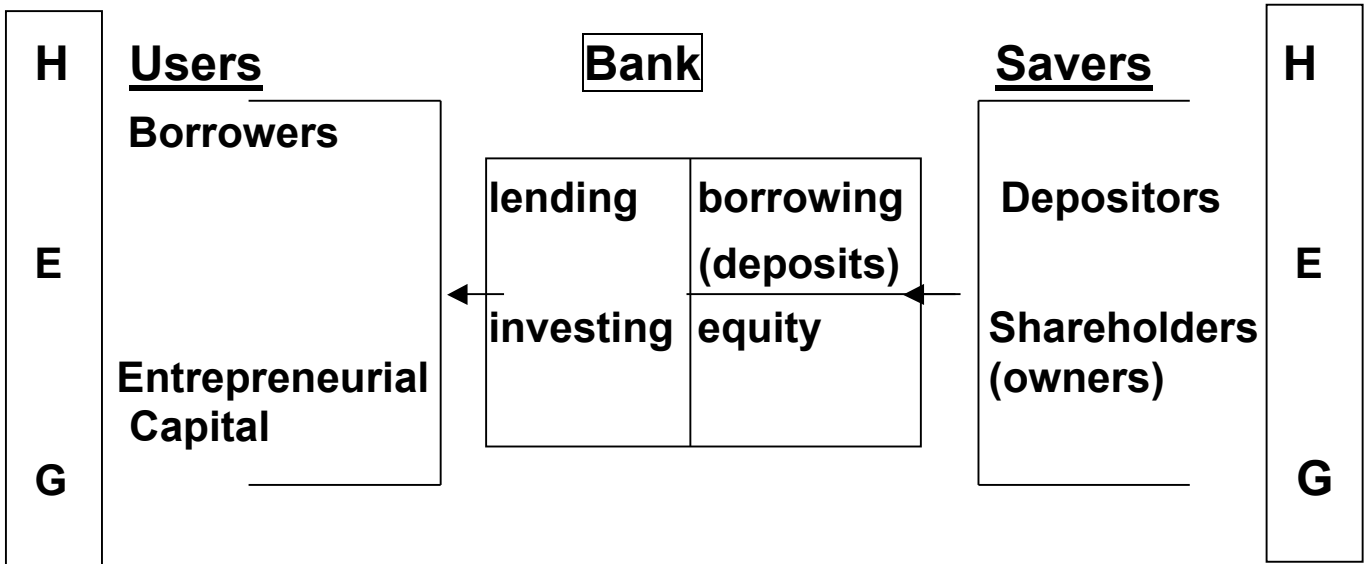
- **Education**
 - **Professionals**
 - **Public**
 - **Explain why and how the system works**

II. BANK ACTIVITIES

- **BALANCE SHEET**
- **FUND RAISING**
 - Deposits
 - Equity
- **FUND ALLOCATION**
 - Credit, loans and advances
 - Loan securities
 - Shares and participations
- **SERVICES**
 - Custody
 - Payments
 - Foreign exchange
 - Securities transactions
 - Asset Management

II. BANK ACTIVITIES

Starting point : balance sheet



BALANCE SHEET

= INSTANT PHOTOGRAPHY OF WEALTH

<u>Assets (uses)</u>	<u>(sources) Liabilities</u>
<u>Placements</u>	<u>External funding</u>
Cash	(from clients, money and capital markets)
Banks	Short term : deposits
Loans in account	CDs
Loan instrument portfolio	savings books
(private/public)	Medium term : (deposits) notes
Stock portfolio	Long term : (deposits) bonds
	Subordinated bonds
<u>Fixed Assets</u>	Earmarked provisions
Participations	
Equipment	
Buildings	<u>Equity (shareholders stake)</u>
	Capital
	Reserves
	Unearmarked provisions
	Profit carried forward

Contingent accounts

Guarantees

Documentary credits

Future commitments/rights

Assets in custody

re. { foreign exchange
securities (underwriting)
etc.

In theory, equity could be 0

But market economy = trust

No equity = losses impact third parties directly

Third parties demand shareholders' equity cushion to absorb potential losses.

Governments demand shareholders' equity to avoid bailing out.

Shareholders bear first risk

→ will put up equity only if they can expect profit to remunerate that risk over and above alternative placements (e.g. government loan (lowest risk) or private sector loan, with compulsory repayment schedule)

To have long term sustainable profits, bank must manage their own risks

Question : how much equity in relation to :

- external funding**
- risks**

Answer : capital adequacy ratios.

FUND RAISING (liabilities)

- **Sight deposits (in current account)**
- **Time Deposits**
- **Savings deposits**
- **Otherdebt instruments**
 - **CD's**
 - **Notes**
 - **Bonds**
- **Equity**

1. Sight deposits

**= Deposits made
added to
withdrawn**

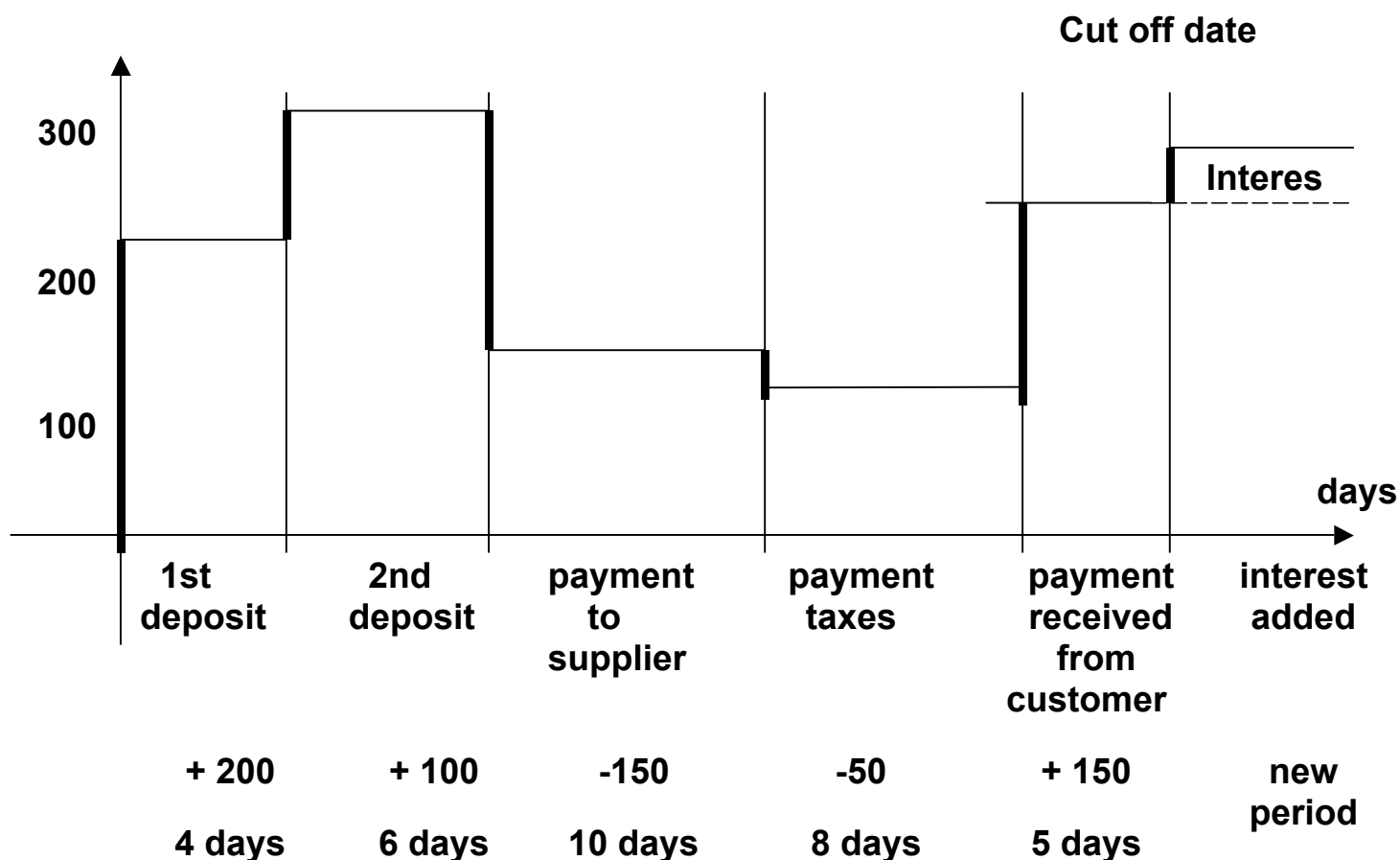
at any time by client

INSTRUMENT :

**current account
in name of specific client**

CURRENT ACCOUNT

Client X



Each transaction book entry

Balance only is due to client

Interest calculated on balance, for number of
of days balance stays the same

then added up, and added to balance
on cut off date

In the example, the balance fluctuates, but shows that
the bank owes between 100 and 300 to the client

• **Current account**

- **is flexible for client**
- **reduces use of cash (loss, theft, destruction)**
- **entails immediate impact on interest**
- **is unpredictable for bank**
- **interest rate on deposit is low**

P.M. : value dates ≠ actual transaction dates

Value date = interest earning date

- **money going out : - 1 or 2 days**
- **money coming in : + 1 or 2 days**

Reason : to compensate the bank

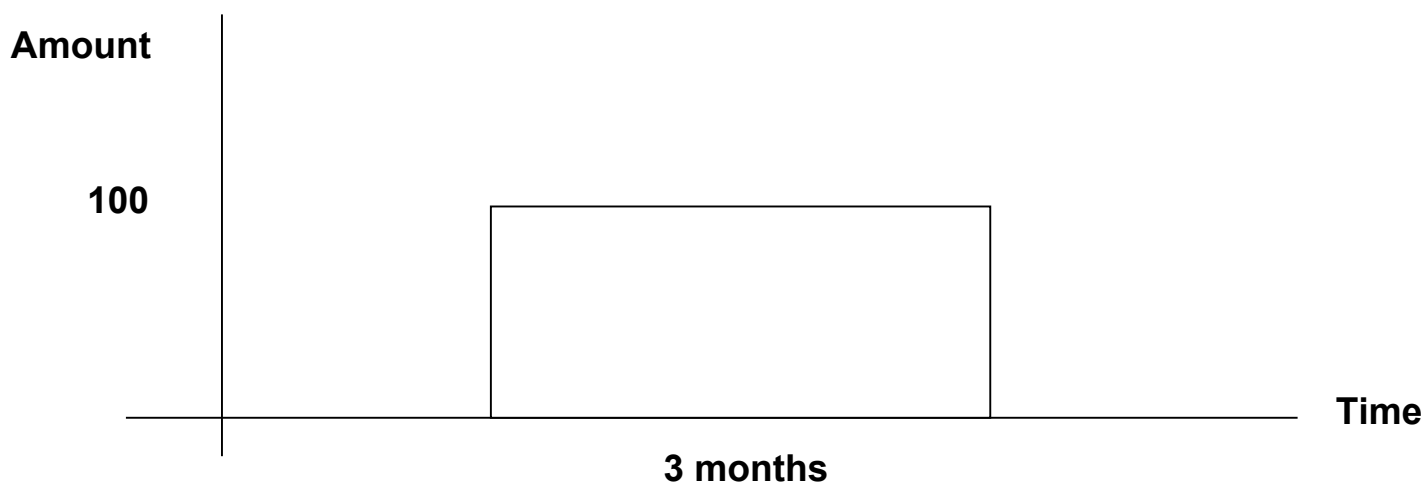
- **for holding available (going out)**
- **for delay in putting money to work (coming in)**

Clients wish to have "same date"

Current account linked to good payment systems (see later)

2. Term or Time / Deposits

- Fixed amount
- Received for a fixed period
- At a fixed rate



- not flexible for client (or else penalty)
- predictable for bank (can be matched or mismatched with corresponding asset)

Rates higher than current account

3. Savings Books

- **Money deposited for indefinite period**
- **Can be added to at any time,
withdrawn with notice period**
- **Entries written into a personalized
booklet – real or virtual (electronic)**
- **Specially used by savings banks**
- **In practice, stable resources**
- **Interest rates medium, for medium
flexibility**
- **Often : tax advantage**

4. Debt Instruments

C.D.'s

= Term deposits represented by a negotiable instrument

bearer form

< 1 year

Notes

= C.D.'s 1 - 5 years

Bonds

= C.D.'s > 5 years

Holder can theoretically resell or pass on

Useful to have secondary (resale) market. Not always the case

5. Equity

Reminder : equity = safety cushion for creditors

- **START UP**

Founding shareholders

**Minimum required by regulation
(absolute amount)**

- **GOING CONCERN**

**Equity increases by retained earnings
decreases by losses**

Equity must be in proportion with business. Bank is a very special business.

□ ratios imposed (capital adequacy regulation)

- **Ratio Philosophy :**

1. **Excessive borrowing is risky**

(= leverage /gearing)

- **Gearing ratio = Equity to external funds
to total balance
sheet**

2. **But risk varies with use of funds**

- **Depends on bank's functions /strategies**

- **Risk assets ratio = Equity to assets and
other commitments
(Cooke or Basel Committee)**

Risk factors : Solvency of debtors

Market fluctuations of assets

etc.

Others ratios conceivable

- **Ratio application**

Cooke Ratio (simplified)

$$\frac{\text{EQUITY}}{\text{RISK ASSETS}} \geq 8\%$$

Equity : Tier one (min 4 %)

Tier two

Tier one = capital

+ reserves

+ some provisions

+ retained earnings

Tier two = some other provisions

+ unstated capital gains (net)

+ subordinated debt with

minimum (long) time to maturity

Risk Assets

1. Solvency risk (simple)

- fixed assets : deducted from equity
- all other assets and some contingent accounts :

weighted by risk and concentration

e.g. loans to governments
banks
companies
households
shares in companies
guarantees
foreign exchange commitments

2. Market (liquidity) risk (complicated)

If < 8% {
recapitalization
reduce risky lending
securitization (sale) of assets

FUND ALLOCATION (Assets)

**CREDITS, LOANS & GUARANTEES
COLLATERAL, AND OTHER CREDIT
ENHANCEMENT**

PLACEMENTS IN SECURITIES (paper)

- treasury bills/commercial paper/bonds
- equity shares and participations

TO PRIVATE SECTOR - Households
 - Enterprises

PUBLIC SECTOR - Governments

1. Credits, Loans + Advances

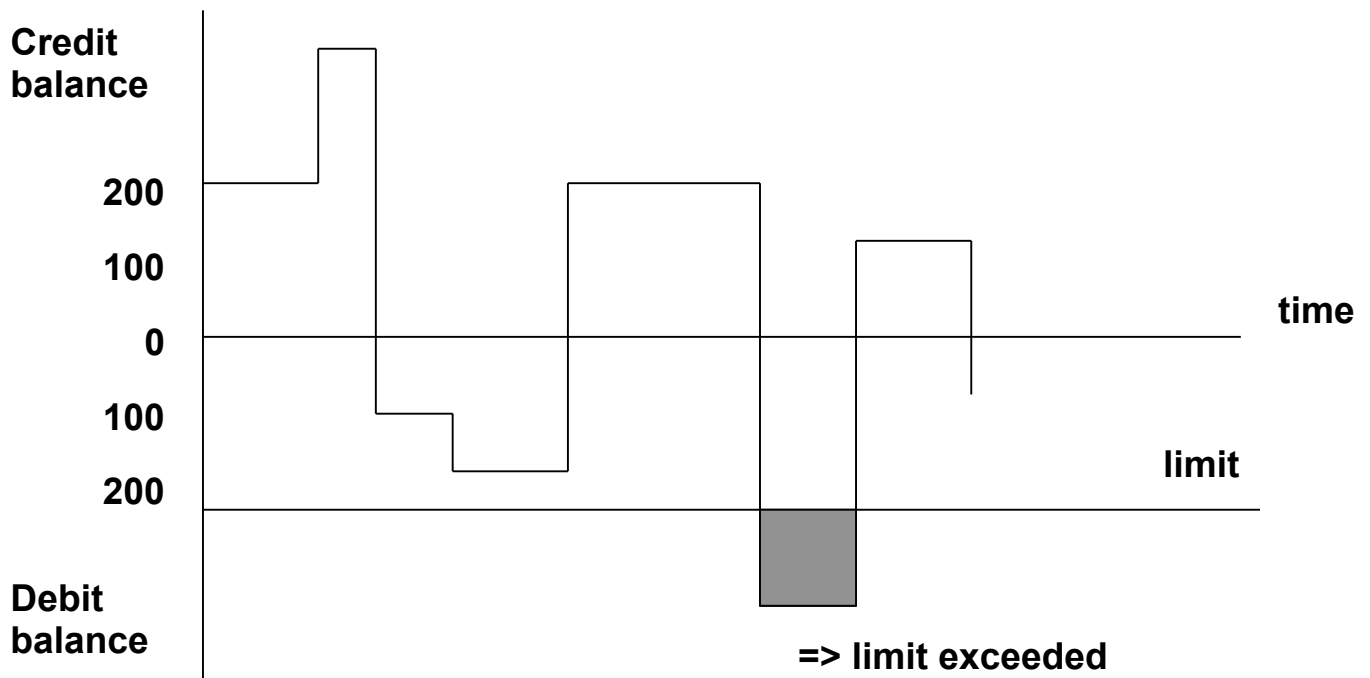
Credit analysis

(rating, scoring) in-house or not

purpose – repayment flow collateral

OVERDRAFT FACILITY

Instrument : current account



Flexibility/Risk/Unpredictability : high-illiquid

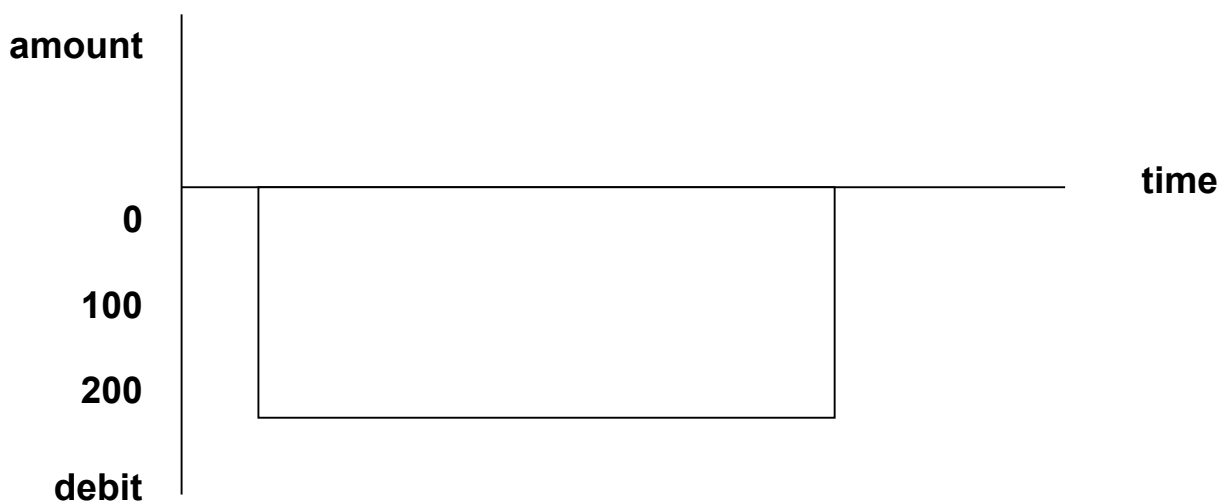
Interest : high (base rate + margin)

Maturity : short or fixed notice period

Use of funds unknown

STRAIGHT LOAN

- Fixed amount
- Fixed maturity
- Fixed rate



Use : can (should) be defined

Funding : can be matched or mismatched

**Future mobilization : possible if instrument
(e.g. note)**

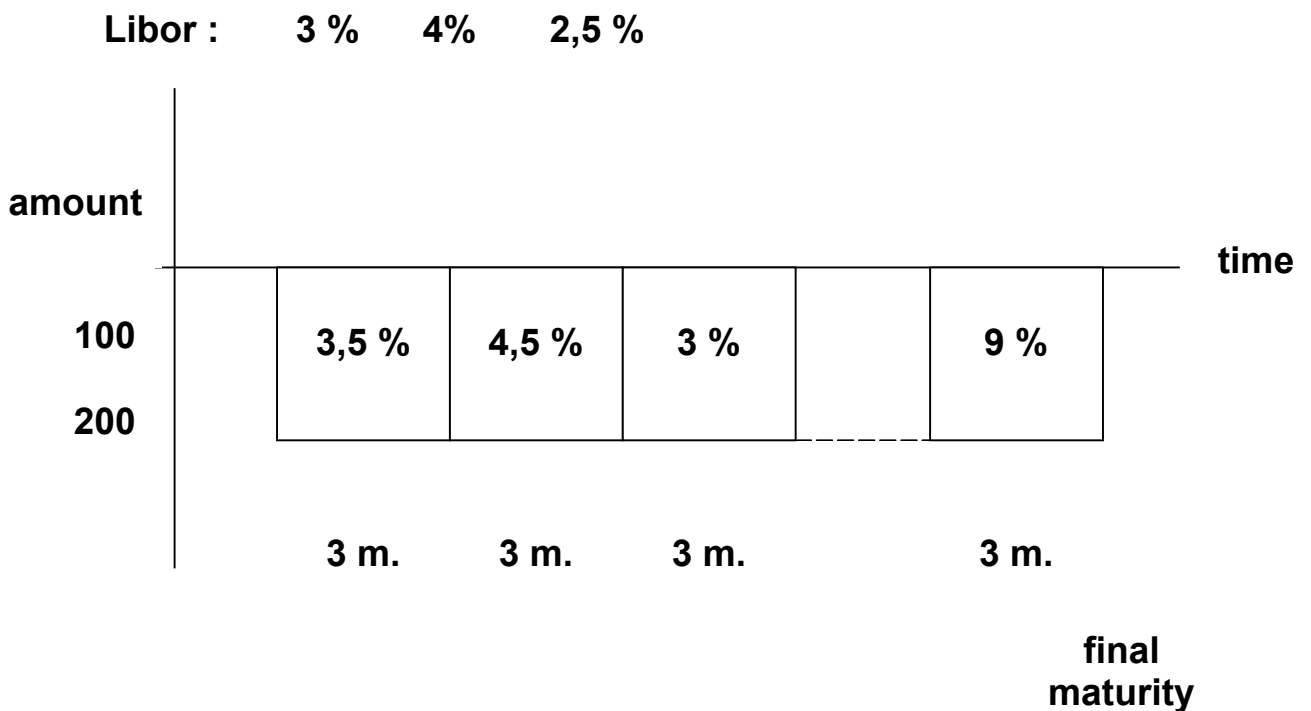
☐ rate lower than overdraft

Maturity = short (days) - long (years)

ROLL-OVER FACILITY

Client may renew straight loans for new periods, up to final maturity (□ several years)

Rate : reset at beginning of each period, relative to a yardstick (e.g. Libor + 1/2 %)



Maturity

Rate : unknown

Multiple currency option

DISCOUNT OPERATIONS

Instruments :

- **Promissory notes**
 - = I.O.U commitment by client, or client's debtor**

- **Trade bills, invoices, contracts**
 - = claims on client's debtors**

N.B. Trade bills and promissory notes :
subject to international legal standards
= safest

Discount

**= purchase of instrument before maturity
at less than face amount (to be
received)**

e.g. promissory notes of 100,

1 year to maturity

discounted at 4 %

Bank pays client 96 now

retrieves 100 at maturity

$$\text{Real rate } \frac{4}{96} = 4.167 \%$$

**Some instruments : eligible for rediscount at
central bank (lender of last resort) or
financial institutions with available funds**

**Rate : cost of funds + margin for risk and
administrative costs**

GUARANTEES

Banks commits to indemnify

- counterparty in client's contracts**
- if client defaults in his commitments**

If default,

- guarantee is called by counterparty,**
- bank indemnifies counterparty**
- bank tries to recuperate from client**

If no default, no funding (= 0 cost)

Bank receives commission for risk and administration only (1/2 % - 2 % p.a.)

DOCUMENTARY CREDIT

**Bank commits to pay a (foreign) supplier
the purchase price of goods
upon delivery of a set of documents
before a given date
as specified by (local) purchaser**

- **Purchaser specifies to bank documents required, amount due, expiry date**
- **Bank sends specifications to supplier with commitment to pay**
- **Supplier gathers and sends documents required to bank**
- **Bank checks documents**
- **If OK, bank pays supplier**
- **Bank remits documents to purchaser**
- **Bank is reimbursed by client**

Documents include :

- invoices**
- transport document evidencing shipment**
- insurance documents**
- quantity-quality certifications**

Buyer knows goods will be shipped before payment

Seller knows he gets paid if goods shipped

□ safety for both

Documentary credits are generally subject to international rules (ICC)

No funding required (in and out on delivery of the documents)

Bank receives a commission for risk and administration

2. Collateral and other credit enhancement

Collateral

Building (mortgage)

House – factory – office – building

If default – repossession

Raw material-work in progress – inventory

Invoices, trade bills, etc...

Guarantee given by owner, parent company

Contracts & covenants

negative pledge – pari pause

Cross default

Minimum solvency or profitability, or rating

SME I				SME 2			
factory	150	equity	150	factory	150	equity	15
inventory	50	Inv. loans	100	inventory	60	inv. loans	100
WIP	50	bank credit	100	WIP	60	suppliers	135
Clients	300	suppliers	200	clients	450	bank credit	335

3. Securities

= Debt instruments (paper) promising repayment by issuer

- at a set maturity**
- with fixed (or variable) interest**
- at given periods**

Many variants of risk/reward parameters

Short term (□ 1 year)

- Government Treasury Bills**
- Companies Commercial Paper = Promissory notes**

issued through auction
or at set or negotiated price

Nature generally high quality
often liquid - secondary market
□ liked by investors banks
□ relatively cheap rates

Long term \geq 1 year

Governments and companies

issue bonds

- through auction**
- or at set or negotiated price**

Nature : generally high quality
often liquid - secondary market
various investors
are bought by banks within
Asset/Liability Management
constraints :
yield/duration relative to
funding

Central Government debt issued in its own currency

= best risk (benchmark)

since Government prints its own money and thus can pay back (but beware of inflation)

Local governments and commercial borrowers pay risk premium :

1/4 % - 2 1/2 % above central government rates, according to risk standing

(cf rating agencies)

When rate margins above government exceed $\pm 2\ 1/2\ %$: "high yield" (or "junk") bonds

3. Equity shares and participations

Participation =

substantial shareholding giving holder an influence over management (board seats)

Before 1930 : banks often held shares and participations

1930's : many bank failures

□ philosophical debate :

may banks hold participations or even shares ?

Reasoning :

- **Participations or shares**
 - have no set maturity
 - are inherently long term
 - are first impacted by issuing company's losses
 - have relatively lower liquidity
 - have no guaranteed yield
- **should be funded accordingly from equity, or possibly long term debt, not from short term deposits**
- **Participations breed conflicts of interest (power play bank-industry, incentive to fund losses by new credits out of vulnerable depositors' funds)**

CONSEQUENCE :

U.S. : Glass Steagall Act 1933

split of activities :

➤ investment banking/stockbroking

*** underwriting, negotiating of shares, market-making**

➤ commercial banking

*** deposit taking, lending. No underwriting, no equity holding**

Europe : only limitation in asset. Not in Germany,

Switzerland

Japan : much like U.S.

- **1980's : debate reopened**

- **Modern portfolio theory : diversified holding of shares = acceptable risk**

- **Ceilings, not exclusion should limit excesses :**

- **In Europe :**

- individual participations**

- **15 % of bank's equity**

- total participations**

- **60 % of bank's equity**

- **In U.S. :**

- recent alleviation of Glass Steagall act restrictions**

SERVICES

1. Custody

Duty of custodian to receive and retribute a given deposit

Deposits

- Money**
- Securities**
- Sealed envelopes**
- Jewels**
- ...**

- **Regular deposits**

Actual deposit to be restituted

(same object : securities, jewels, ...)

Custodian

- **may not use the object himself**
- **must keep it separate from his and other clients' assets**

Extra cost for safekeeping and administration

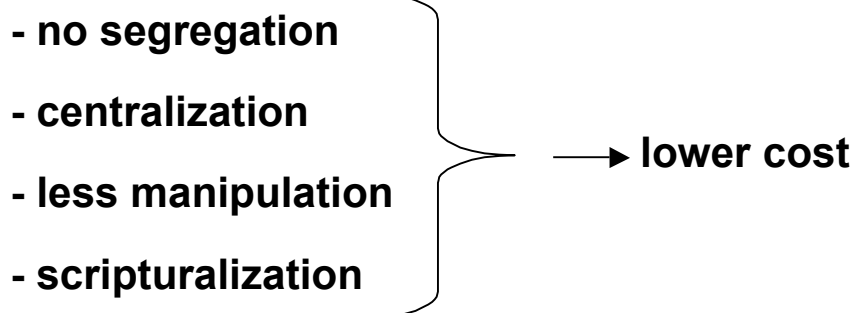
- **Irregular deposits (fungible objects**
 - e.g. money)

Same quantity and quality to be restituted (not necessarily same object)

Custodian can use it himself as long as he can always retribute enough of the same on time

□ Reasonable "gamble" on statistics + mechanism to remain liquid in assets deposited

If client consents to make his securities fungible (to disregard their actual n°) :



- **Liability**

Defaulting custodian of regular deposit is liable for indemnification (embezzlement)

Question : what if default on irregular deposit ?

If money deposit depositor is included as a general creditor

If securities deposit depends on local law

- **Custodian holds deposits in safe vaults protected physically, electronically and organizationally**
- **Contents are insured
(question : how much ?)**

2. Payment systems

Payment instruments

- **Cash (Notes, coins)**
 - **Inefficient (except small amounts)**
 - **Unsafe**

- **Drawings on current accounts**

Cheques

order to bank

to pay third party (beneficiary)

a specified amount

by issuer on a form

given to beneficiary

□ **Cumbersome :**
beneficiary

either goes to issuer's (1st) bank

or asks his own (2nd) bank

to recover amount from 1st bank

**through clearing or settlement
system**

□ **Uncertain :**

**if no provision in account, 1st bank does not
pay; cheque goes all the way back**

Protection :

by standard international regulation;

no provision □ penal sanctions

□ **Costly :**

signatures must be checked

paper must be manipulated several times

huge volumes = tons/day

Transfers

**order transmitted
by debtor
to his own bank
to pay third party (beneficiary)
at his bank
a specified amount**

- **Simple :**
 - easy to computerize**
 - less paper**
 - less manipulation**

Still needs settlement/clearing

**mechanism between
transferor's and transferee's banks**

also easy to computerize

• **ACCESS TECHNIQUES**

Account holder gives order to bank

- **at counter (slow)**
- **by mail (needs paper)**
- **by electronic terminal : self-, phone-, or home-banking (fast, integrated, no copying) : electronic payments**

Account holder authorizes recurring beneficiaries (e.g. utilities : phone, electricity, credit card issuer, ...) to access his bank account :

- **beneficiary processes invoices electronically through his own bank to account holder's bank**

- **funds are automatically transferred to beneficiary's account**

Payment cards (debit cards)

Issued by bank to client-cardholder for use at Points of Sale (payments) and Automated Teller Machines (cash withdrawal)

POS/ATM are electronically linked to banking system

**Accounts are debited
on-line (real-time) or
off-line (postponed □ risk □ limits to individual withdrawal)**

POS beneficiary is automatically credited

Debtor (Bank client) / Beneficiary (seller of service at POS) must pay for service

Credit cards

Issued by banks or non-banks to cardholders for use at Points of Sale

Beneficiary retrieves payment from card issuer

Card issuer requests reimbursement from cardholder (i.e. at risk = credit)

Beneficiary pays a commission to card issuer (% of amount retrieved)

Cardholder pays annual fee to card issuer

Combined Debit/credit cards

Card issuer is a bank

Cards require :

- Computerized operations**
- Efficient telecommunications network**
- Safety features
(theft, forgery, computer hacking)**

Note : Clearing System

- **Interbank settlement of**

- cheques
- transfers
- trade bills/promissory notes
- foreign exchange, financial flows

needs clearing system

Payment one on one : inefficient

Centralized point of exchange

(central bank) : more efficient

**Multilateral centralized clearing system :
most efficient (generally at central bank)**

- **Clearing house : all transactions entered = zero sum game**

Only global balance of each bank (positive or negative) is received from or paid to system

Initially : physical paper transmitted (cheques, bills, ...)

Today : mostly replaced by telecommunicated data

Physical movements reduced

Transcription errors avoided

Operations accelerated

Working hours extended to 24 hours /day

- **Daily end balance uncertain**
- **Settlement by**
 - **borrowing shortfall/lending surplus :**
those with surplus lend directly or through central bank to those with shortfall
 - **drawing on account with Central Bank**
- **Uncertainty □ safety margins necessary**
 - **have rediscountable trade bills or government treasury bills ready for rediscounting or repo operations (immediate sale and deferred repurchase agreement with Central Bank)**

3. Foreign exchange

- **Purchase-sale of foreign banknotes and travellers' cheques**

Commercial operation

- with relatively low inventory
- buy and sell rates : difference = spread
- spread volatility increases with currency instability
- for small amounts (travel, tourism, ... also money laundering)

- **Foreign transfers**

Greater part : commerce, finance, foreign transfers

Bank correspondents : reciprocal accounts (local and foreign currency)

Using accounts require inventory balances that increase with number of

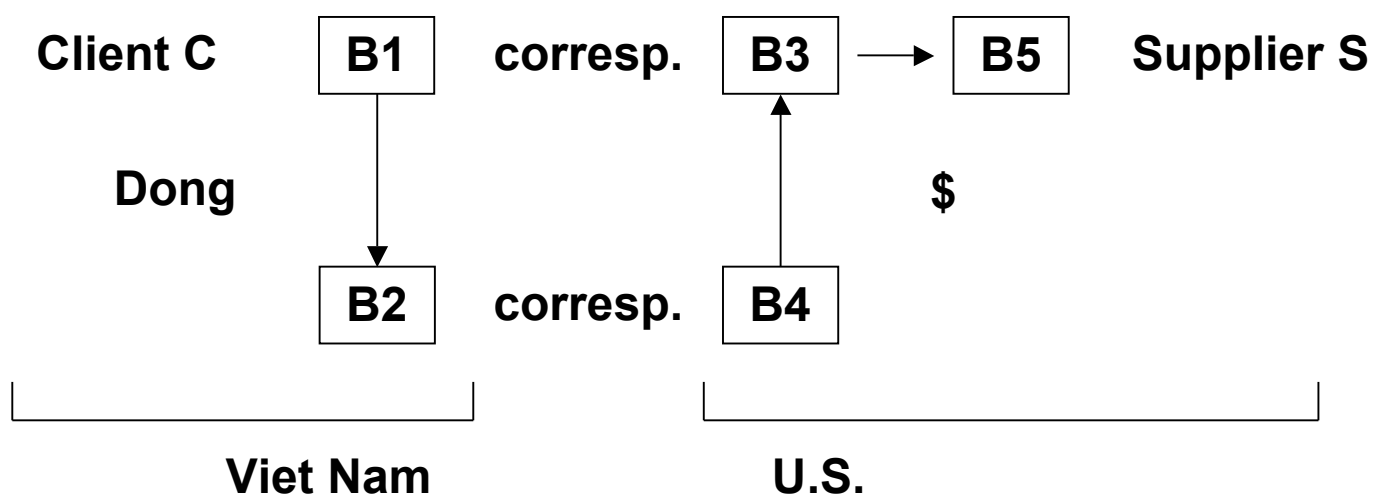
accounts

currencies

transactions

□ **Exchange risk**

Example of foreign exchange transaction for client C, who needs to pay supplier S in \$



C buys \$ from his bank B1 against Dong

B1 buys those \$ from B2 against Dong

B1 debits C in Dong and pays Dong to B2

B2 holds his \$ at his US correspondent B4 and asks him to transfer \$ to B3, correspondent of B1, for the latter's account

B1 asks his correspondent to transfer the \$ to supplier's bank B5 in favour of S who is credited

- **Foreign exchange influences currency reserves**

- **National importance**
- **If necessary foreign exchange controls to limit imbalances**

Control exercised through

- **import/export quotas**
- **transfer rules**

with assistance of

- **customs**
- **banks**

Sale, purchase and transfer of foreign currency only if authorized

- **Controls are cumbersome and costly**
- **Banks get compensatory fees from their clients**

-
- **No controls ever in U.S.A.**
 - **Controls in European Union abrogated**

• **Forex transactions**

a. Spot transactions

- **Buy/sell currency : price fixed to-day, settlement to-day**

e.g. bank notes at counter

- **For transfers : 2 work-days delay for bilateral settlement**

b. Forward transactions

- **Buy/sell : price fixed to-day, bilateral settlement on a future date**

e.g. 1, 6 or 12 months

c. Options

- **Buy or sell possibility to-day, against fee, to buy/sell currency at future date at price specified to-day**

- **Option will be exercised**

if at that date current price is over/under specified price

Option bought : risk limited to fee

Option written : if uncovered,

- risk is**
- **100 % of exercise price for puts**
 - **unlimited for calls**

- **Spot, forward, options transactions can :**

- **cover an existing position □ eliminates existing risk = hedging**

e.g. cover a receipt or expenditure in foreign currency

- **constitute an open position □ exposure to fluctuation = speculation**

Banks limit exposure per - currency

- maturity

- amount

monitor exposure

cover exposure by equity allocation

- **Banks earn commissions, spreads and trading gains (losses) on foreign exchange transactions**

4. Securities transactions

- **Primary market**

**New issues for government
companies**

Banks - advisory role
 - implementation

Interest rate swap :

	1		2		3		4		5
Company borrows	I	I	I	I	I	I	I	I	I

**5 years, floating 6 Months
libor + _ % rate unknown**

Interest rate swap :

	1		2		3		4		5
Company pays	I	I	I	I	I	I	I	I	I

**fixed rate (7 %), receives
Libor every 6 months**

=> cost to company 7 _ for 5 years

a. Advisory

Assess issuer (due diligence)

Governments

G.D.P.

Natural resources

Economic growth

Overall productivity

Budget equilibrium

Foreign trade balance

Currency reserves

Inflation

Political stability

Social climate

Past defaults

Companies

Cash flow

Earnings

Balance sheet

Forecasts

Management

Social climate

Litigation

Technology

Markets

Past defaults

Determine best form of issue :

Type : bonds, shares, warrants

Features : ordinary, subordinated,
convertible, preferred,
cumulative

Term : short, medium, long,
undetermined

puts (by holders)

calls (by issuer)

Remuneration : interest/premiums
dividends

Taxes

Rank subordination
(senior, junior)

Guarantees, covenants, pledges

b. Implementation :

complex, many players

- Managers

- prepare documents
- obtain authorizations
- form syndicate
- coordinate action

- Underwriters

- guarantee to buy unsold part of issue

- Sellers

- will distribute securities to end buyer or other sub-seller

When all is ready :

closing (= signature)

distribution begins

Risk for bank :

resale price lower than expected

- bad pricing judgement**
- external elements**

bad company news

general market fluctuation (interest rate rise, political factors)

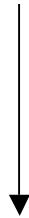
□ loss on inventory not yet sold

Bank receives

- **Fees/commissions**

depends on security/issuer

Government bonds (0.25 %)



Small company equity (5 % +)

- **Reimbursement of expenses (legal, advertising, ...)**

- **Secondary markets**

Place/Mechanism

for purchase/sale of securities after issue

- **Organized markets :**

 - Stock exchanges**

 - **physical : NYSE**

 - **screen based : NASDAQ**

- **Non-organized markets :**

 - OTC :** **screen based**
telephone

Objective :

make supply/sellers
 demand/buyers] meet

- Fair price
- Safe operation

Principles

- Informed investor decisions
 - regular disclosure
 - transparent trading data
 - no insider trading

- **Liquidity promotion**
 - **order-driven system : centralized auctions (brokers)**
 - **quote-driven system : decentralized market makers with inventory (dealers)**
 - **position/risk □ capital adequacy constraints**
- **Broker/dealer regulation**
- **Best execution**
- **Safe settlement system**
 - **payment against delivery**
 - **early settlement or else system is the settlement counterparty, not the individual broker (see clearing house)**

Practice :

differs for

- **odd lots : public, small investors**
- **block: institutional investors**
- **very large blocks : major shareholders**
 - **M & A specialization**

Remuneration

- **odd lots : fixed or negotiated commissions**
- **blocks : negotiated commissions or spreads (market makers)**
- **very large blocks : special fees and success commissions according to complexity**

- **Range : from a few basis points, e.g. 0.1 % on bonds to 1.5 % for illiquid shares in small companies**
- **Trend : from fixed to negotiated commissions**

More competition □ more vulnerability

Many securities houses have merged or disappeared

Risk

- **loss on inventory (market makers)**
- **settlement delays**
- **counterparty failure**

5. Asset Management

Banks (and other institutions)

- give advice
- execute transactions

for savers-investors on management of their wealth

Management : joint (with client)
discretionary (by manager
alone, but within constraints)

Constraints : Investors' objectives differ

- Young executive
 - Widow and orphan
 - Retired industrialist
 - Pension fund
 - Insurance company
 - Mutual fund
- Private
- Institutional

Influence on income requirements
time horizon
risk acceptance

View on risk differs too

- **Advice**

- **Determination of portfolio type:**

- bonds, shares, insurance contracts, real estate

- **Degree of diversification**

- by industry sector

- by geographical sector

- by currency

- **Determination of "vehicle"**

- in personal account

- in special vehicle (holding, trust, ...)

- in collective vehicle (mutual fund)

- **Determination of actual assets**

- **Execution**

- **Manager**

- buys/sells assets**

- avoiding conflicts of interest**

- (Chinese wall, ethical conduct rules)**

- accounts for and ensures safekeeping of assets**

- reports on transactions and performance (methodology problems)**

- **Remuneration**

- **Advisory : fixed or incentive based**

- **Transaction commissions**

- **Custody fees**

- **Administration fees**

III. MANAGEMENT QUESTIONS

- **RISK MANAGEMENT**
 - Financial depreciation of assets (default /market)
 - Counterparty risk
 - Technical risk
 - Physical destruction/loss
 - Fraud
 - Professional liability
- **ASSET & LIABILITY MANAGEMENT**
 - Balance sheet structure
 - Asset & Liability Monitoring
 - Corrective mechanisms
- **INCOME & COST MANAGEMENT**
 - Income Statement
 - Operating income
 - Provisions
 - Overhead
 - Depreciation
 - Tax
- **MARKETING**
 - Product vs client
 - Technology
 - Influence on market organization
 - Divergent strategic trends

III MANAGEMENT QUESTIONS

Banks = Enterprises

- **General aspects**

- production of financial "products and services"

- **Specific aspects**

- Bank solvency
- Bank liquidity
- Bank profitability



= Banker's worry

- Bank Marketing

SOLVENCY : RISK MANAGEMENT

1. Financial asset devaluation risk

- **Intrinsic depreciation risk**

= debtor / investment default

Prevention

- **define decision making process and responsibilities**
- **define eligible types of assets**
- **define individual/collective limits (diversification)**
- **analyze concrete proposals**
- **draw up precise contracts**
- **specify collateral and pledges**
- **enforce legal rules in actual implementation**
- **monitor debtor's situation**
- **detect anomalies**
- **audit the screening, decision and monitoring process**

Cure

- **enforce contracts and covenants or renegotiate relevant clauses**
- **terminate/sell and if necessary execute guarantees**
- **make provisions if loss expected**
- **write off if no reasonable hope left**

- **Market risk**

= fluctuation of asset value owing to market conditions (supply and demand, interest rates, currencies ...)

Prevention

- **define decision making process and responsibilities**
- **define eligible assets**
- **define individual and collective limits**
- **define hedging requirements**
- **define operating and control responsibilities**
- **monitor and audit operations**
- **monitor economic and political environment (national and international)**

Cure

- **call margins**
- **cut losses**
- **make provisions**

2. Market counterparty risk

- **Analyze actual and potential counterparties**
- **Fix**
 - **internal limits per market counterparty**
 - **sub-limits per type of transaction**
- **Reduce time lag between contract and settlement**
- **Use payment against delivery**

3. Technical risk

**= failure of technique to protect bank,
because of bad conception,
implementation or monitoring**

= failure of systems, computers, ...

- Define responsibilities**
- Define organizational procedures,
including back-up**
- Train and inform staff**
- Take insurance**

4. Physical destruction/loss risk

- Organize prevention**
- Regularly inspect quality of physical facilities**
- Check routing of valuables**
- Look for weak spots**
- Provide for back-up**
- Take insurance**

5. Fraud, theft risk

- **Organize procedures**
- **Separate functions**
- **Conduct audits (internal/external)**
- **Detect weak spots**
- **Take insurance**

6. Professional/Institutional risk

= risk of damages if bank or agent does not meet legal/regulatory/ethical requirements

- Have competent and responsible staff**
- Monitor legal, judiciary and professional evolutions**
- Have a good information/communication system**
- Ensure continuing training for all levels of bank staff**

LIQUIDITY : ASSET & LIABILITY MANAGEMENT

**Objective = meet bank's commitments
when due**

if not met, loss of trust

**□ withdrawal of deposits
(if panic : run on the bank)**

**Problem : degree of maturity
transformation, i.e. :**

Short term resources □ long term uses

1. Balance sheet structure

Institutional aims influence liquidity

Holding company

Participations	Equity
(Long term loans)	Long term debt

Mortgage/Savings banks Long term (industrial) credit bank

Long term loans	Equity
(Short term loans)	Long term debt
	Savings
	(Short term deposits)

Commercial Bank

(Equity placements)	Equity
Long term loans	Long term debt
Short term credit	Savings
	Short term deposits

Structures vary according to aim

2. Asset and Liability orientation

A. Transformation monitoring

- Analysis of trends of capital markets**
- Definition of acceptable duration gaps and assessment of risk**
- Setting of limits for groups of assets/liabilities with given maturities**
- Periodic readjustment according to market (interest rate) evolution and forecasting**

Must be closely monitored and audited

B. Funds movement forecast

- Watch banks own contractual maturities**
- Listen to client's indications of future movements**
- Study statistical movements of deposits and borrowers (seasonal demands, tax payment dates, ...)**

3. Corrective mechanisms

Asset side

- **1st line of liquidity**
 - = **cash, sight or short term balances with central and other banks**

- **2nd line of liquidity**
 - = **marketable securities portfolio (T-bills, bonds)**

 - = **trade bill portfolio eligible for rediscount or repo**

Liability side

- **Back-up lines**
 - **Official borrowing lines from central bank**
 - **Negotiated stand-by lines from other banks**

- **Recourse to interbank money market**
 - **Instant (overnight) to 1 year term**
 - **(ensure that internal lines exist)**

PROFITABILITY : INCOME AND COST MANAGEMENT

Income statement (P & L)

= flux of revenues and costs over a period

Costs	Income
Interest paid	Interest received
Spreads (negative)	Spreads (positive)
Capital losses	Capital gains
Commissions paid	Commissions received
Operating profit	
Provisions for losses	Excess provisions retrieved
Gross profit	
Overhead	
Staff	
Services received	Rebillings to clients
Depreciation	
Building/equipment	
Net profit before tax	
Tax (corporate income)	Tax refunds
Net profit after tax	

- **To perform the banking function, a bank must**

- a) **cover the cost of
funding
risk
overhead and depreciation
taxes**

- b) **leave surplus profit
(distributed or retained)
to remunerate equity**

Surplus because shareholders

- **have invested their own funds without maturity (indefinitely)**
- **bear the ultimate risk**
- **will only be remunerated if there is sufficient sustained profit**
- **have other investment opportunities (e.g. loans with fixed maturity, fixed income, less risk,...)**

Level of remuneration

**(distributed or retained) required by
shareholders = cost of capital**

Cost of capital varies with

- Base market long term rate**
- Specific risk of individual bank**

Operating income

Examples

1. INTEREST

Funded loan (matched) of 100

4 months straight loan at 12 % p.a.

$$100 \times \frac{120}{360} \times \frac{12}{100} = 4 \text{ gross}$$

funded by :

4 months fixed deposit at 9 % p.a.

$$100 \times \frac{120}{360} \times \frac{9}{100} = 3$$

Operating margin : $4 - 3 = 1$, to cover :

- provision (risk)
- overhead, depreciation
- taxes
- cost of capital required (net profit)

Funding required

Time element inherent : 4 months

N.B. Operations are generally not funded back to back

Mismatching :

- in amounts
- in maturities (time element)

Often : short term borrowings fund longer term loans

Consequence :

If long term loans are on fixed interest rate

and

if short term borrowing rates (on deposits) increase

□ squeeze on operating margin

Example

- 8 year mortgage loan
- fixed rate 10 %
- funded by successive one year borrowings

Year	Borrowing rate	Margin
1	7 %	+ 3 %
2	9 %	+ 1 %
3	8 1/2 %	+ 1 1/2 %
4	11 %	- 1 %
5	13 %	- 3 %
6	12 1/2 %	- 2 1/2 %
7	15 %	- 5 %
8	10 %	0 %

The total result is negative

U.S. : Many Savings and Loan Associations (mortgage banks) failed in 1975-1985

Huge losses : many billions \$

2. SPREAD

Spot foreign exchange transaction

Buy rate \$ 1 = 14 000 D
Sell rate \$ 1 = 15 000 D

} rate spread = 1 000

Buy \$ 100 = 1 400 000 D

Sell \$ 100 = 1 500 000 D

100 000 D profit spread

Little funding required (in and out)

□ Time element not inherent (i.e. same day possible, but some inventory normally needed)

3. COMMISSIONS

**Placement (underwriting and sales)
commission for euro-bond issue**

Amount underwritten and placed : 1000

Underwriting and sales commission rate : 2% flat

Client pays bank	1 000
Bank pays issuer	980
Banks keeps sales commission	20

No funding required (if issue totally placed)

No time element (in and out)

4. TRADING OR CAPITAL GAINS / LOSSES

Temporary-placement in Treasury Bills

- Buy to-day at auction
1 year T-bill of 100
Yielding 12 % p.a. at maturity
- In 3 months, want to sell (9 months to go)
At that time, new 9 months T-bills are auctioned at 13 % p.a.
Market sale of initial 12 months T-bill
= say 99.3

Capital loss : $100 - 99.3 = 0.7$

[Loss rate over 3 months = 2.8 % p.a.
to be linked to funding rate] 5.0 % p.a.
7.8 % p.a.

Interest rate setting

Economic factors

When

- economy overheats
- full employment wages, prices rise
- inflation high
- budget deficit large
- trade deficit large
- currency reserves low

□ Risk of devaluation

- people lose confidence
- locals buy foreign currency
- foreigners sell local currency

□ Drives local interest rates up :

- Government increases rates on local T-Bill/bond issues
- Central bank increases discount and lending rates to banks
- Central bank increases reserve requirements of banks

Reverse is true

Time element

Inflation biggest influence. Can go up or down.

Risk increases with time

Sum of the two => yield curve usually positive, not always

Amount

The bigger the amount

- **the more the bank will pay for deposits**
- **the less it will ask on loans**

because :

- **fixed costs are relatively lower**
- **wholesale clients get better rates than retail clients**

Interest rates paid on deposits

Rates can be **free**
 limited by state
 limited by cartel

- **Until 1930** **Market economy**
 - **Rates were free**

- **1930's : Crisis**
 - **Bank failures**
 - **Depositors suffered**
 - **Loss of trust**
 - **Government intervention**

To restore trust : make banks profitable

- **Limit interest paid to depositors**
 - = regulation Q in USA**
 - **bank enjoy wider interest margins**

**Gives greater security but inhibits
competition and breeds inefficiency**

- **1970 - 1980 : reassessment**

Market forces rather than regulation

- **Abolition of rate ceilings and cartels**
- **Inefficient banks vulnerable (S & L)**
- **Necessity to compensate by stricter prudential control**
(increased reporting and capital adequacy requirements, stricter monitoring)

Interest rate earned by banks on credits and loans

Interest rates on loans depend

- **on cost of borrowing**
- **on solvency risk of borrower**
- **on risk of lending instrument
(trade bill safer than straight loan)**
- **on liquidity of lending instrument
(marketable T-bills more liquid than overdraft)**
- **on profit margin required to cover
overhead, depreciation, tax and cost of
capital**

**In market economies with anti-trust laws,
concerted (cartel) rate setting is prohibited**

**Each bank sets its own rate. But competition
brings rates very close.**

Commission setting

Commissions levied on transactions where little funding or time elements are involved

Level depends on

- **workload required by transaction**
- **sophistication of transaction**
- **cost of underlying network**
- **risk involved by transaction**
- **cost of capital associated with risk and inventory**

Ex : Securities transactions

- **from a few basis points e.g. 0.05 % to 5 % or more**
- **asset custody or management :
1/2 to 1 1/2 % or more**

Commission levels are limited by competition :

where there is unique expertise (no competition) e.g. special financial negotiation skills, commissions can be higher

Cross subsidization

1930-1980 :

- Interest margins were high because interest paid to depositors was below market price (regulation, cartel)
- Banks could therefore compete by lowering prices on other services, even below their cost price
- So depositors subsidized users of other services

In the 80's :

- Ceilings, cartels were abolished
- Pressure on interest margins
- So banks could no longer afford cross-subsidization

To-day

- More truth in pricing
- Efforts are made to set prices in line with real costs
- Improvement in cost-accounting (difficult in banking)

Provisions

Provisions are subtracted from profit to cover risks

2 sorts :

Specific ("earmarked") for identified probable risks

General ("unearmarked") for undetermined potential statistical risks

Good management sets well defined provisioning policies independent of circumstantial profit

Provisions are not always disclosed as such in the balance sheet (deducted from assets)

This enables discreet write-offs, and averts sensational news, but detracts from transparent accounting

If and when provisions are no longer necessary (risk has disappeared), they can be returned to profit

Overhead

Main costs

- **Staff : salaries, bonuses, social security**
 - **Banking was labour intensive**

Computerization

- **reduction of clerical staff**
- **increase of commercial staff**

- **Outsourcing : make or buy ?**

Bank staff expensive : services bought from outside (e.g. cleaning, public relations, safekeeping ...)

Question : given confidentiality of bank and client data, is it dangerous ?

- **Outside services**
 - **postal, telecommunication, insurance, information, advertising, legal services + consultants, etc**

Depreciation

- **Computer hard- and software increase**
- **Technological lifetime decreases**
- **Need for buildings decreases**

Taxes

Governments encourage certain types of transactions (savings, industrial loans, export financing, equity investments, ...) by tax relief.

Good exploitation of tax advantages can have a big impact on final profit

Tax management is therefore very worthwhile

Net profit

If sufficient

- **part is distributed
(dividends to shareholders)**
- **part is retained in bank
(reserves, profit carried forward)**

**With expanding business, autofinancing
contributes to capital adequacy
requirements (Cooke ratio)**

MARKETING

Product vs client

Market economy : sellers of goods and services compete to sell products to buyers at a price

Evolution :

Product targeting

□ **Client targeting**

Emphasis on product characteristics

i.e. build product, then find clients

□ **Emphasis on client needs**

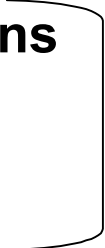
**i.e. determine client needs,
then design product**

Influence on bank organization

For mass retail transactions :

- mortgages
 - consumer credits
 - savings books
- 
- be near client**

For wholesale products, upscale clients

- large forex transactions
 - securities issuing
 - project financing
- 
- centralize**

Be near client : change in access

1960's : **branch proliferation**
- physical access / counter
- mail

1970's : **cards and ATMs**

1990's : **computer revolution**
- self-banking
- phone-banking
- home-banking
- internet

- **Branches less necessary for transactions**
- **Used more for commercial contacts (to explain and sell products)**
- **To-day, remote commercial contacts (by phone, computer) increase**

Impact of competition in marketing

- **Improved premises and facilities**
- **Better communications**
- **User-friendly forms, contracts, statements of accounts, etc**
- **Increased efficiency, speed, accuracy in execution**
- **Reduced prices**
- **More advertising**

Diverging strategic trends

Specialization :

greater quality focus on narrower product line for demanding upscale clients (high added value)

Despecialization :

Concentration of many different services under one roof :

□ "financial supermarkets"

IV.REGULATION

- **A STATE CONCERN**
- **REGULATION ON BANKS**
 - **Economic and monetary**
 - **Prudential and equitable**
- **ETHICS**

IV. REGULATIONS

A STATE CONCERN

- **Banks and bank operations impact the public good**
 - **Malfunctions can bring :**
 - human hardship
 - economic difficulties
 - social and political problems
 - **Ignorance, negligence, incompetence, financial greed, lust for power and prestige cannot be allowed to affect**
 - global economic and monetary requirements
 - individual members of the public
households and enterprises,
depositors, borrowers and investors

- **A balance is needed between**
 - **Official regulation and self-discipline**
 - **Government constraints and free market forces**
 - **Legitimate professional ambitions and client protection**

This balance has fluctuated according to time and place

- **Historical trends in regulation**

- **Before 1930** **nearly total market freedom**
- **1930-1980** **heavy regulation**
- **1980-1990** **economic deregulation**
- **1990-** **prudential reregulation**

REGULATION ON BANKS

1. Economic and monetary regulation

Aims

- **Stimulate consumption/investment in slumps**
- **Calm overheating in booms**
- **Curb inflation**
- **Improve balance of payments**
- **Increase overall savings levels**
- **Promote social, educational, cultural activities**

Means

- **Direct**
 - **interest rates**
 - **reserve requirements**
 - **ceilings (credits)**

- **Indirect**
 - **discount windows**
 - **credit facilities**
 - **auctions**
 - **open market interventions**

2. Prudential and equitable regulation

Aims :

- **Keep banks healthy**
- **Alleviate hardship**
- **Protect**
 - the weak from abuse by the strong**
 - the ignorant from abuse by the knowledgeable**

Means :

Depositor protection = ensure depositor gets paid back

Debtor protection = ensure borrower does not become overindebted or is not unduly taken advantage of or harassed by lender

Investor protection = ensure buyer of securities is aware of risk and receives fair treatment

Depositor protection

Prevention

- Designation of prudential authority
- Conditions to access banks capital and management (honesty, competence, means)
- Capital adequacy
- [Privileges]
- Conflict of interest management [Incompatibilities]
- Information and disclosure
- Accounting and reporting
- Consolidation (accounts)
- Organizational safety
- Internal and external audit and inspection
- Penalties for transgressions

Cure

- Indemnification mechanisms for the deserving depositor if bank fails

U.S. deposit insurance (1930s)

Europe various systems (post-war)

Banks contribute to a pool

- Cannot face major crises
(□ state = taxpayer intervention)
- Moral hazard

Debtor protection

Private borrowers (mortgage or consumer credit) are often ignorant or in great need

Aggressive lenders at lucrative rates can tempt them into overindebtedness

This leads to insuperable financial difficulties and social hardship

- **Designation of supervisory authority**
- **Conditions to professional access**
- **Limitation on interest rates, commissions and fees**
- **Explicit information on loan conditions (advertising, solicitation and contract rules)**
- **Compulsory inquiries on borrower solvency (official data banks)**
- **Restraint in pursuits against defaulting borrowers**
- **Heavy penalties for transgressions**

Investor protection

- **Designation of regulatory and enforcement authorities**

- **Emphasis on information :**
 - **Continuing disclosure of relevant data**
 - on the issuer of securities**
 - on market transactions**

 - **Prohibition of improper advertizing and solicitation**

 - **Prohibition of insider trading**

- **Market and professional rules (access, trading)**

- **Equal treatment rules**

- **Best execution rules**

- **Board exposure to court action**

ETHICS

**Beyond law and official regulation banking
profession sets standards, codes of conduct**

**Professionals expected to observe these
standards**

Peer review may condemn transgressions

V. CONCLUSION

- **Banks**
 - transfer savings to users
 - transform maturities, amounts and currencies
 - perform services
- **Bank activities are subject to**
 - solvency
 - liquidity
 - profitability
- **Financial instruments are increasingly sophisticated and difficult to monitor**
- **Banks depend increasingly on technology**
 - Clerical staff is decreasing
 - Commercial and technical staff is increasing

- **Banks increase economic efficiency**
- **Banks contribute to the public good**
- **Malfunctions hamper the public interest**
- **Trust in the system is essential**
- **State must intervene : what balance**

To-day :

- **less economic regulation (market forces to promote competition)**
- **more prudential regulation (to counter fragility)**

- **Bank prices are closer to economic truth**
- **Banks have gone international**
 - **greater cooperation between authorities**
 - **level playing fields**

- **Banking embraces economy, law, accounting, social sciences, computer sciences, etc.**
 - **Bankers must be competent, versatile, alert, adaptable**

- **Banks are at the redistribution crossroads of financial means and economic power : this leads to conflicts of interest**
 - **Bankers must have the highest standards of ethics**

INTERMEDIATION - RISK

- **Solvency**
 - bankruptcy of counterparty
- **Market**
 - Fluctuation of value, owing to supply and demand
 - Impact of interest rates
- **Liquidity**
 - Sale of asset at will with minimum loss
- **Currency (if funding in other currency)**
 - relative inflation, interest rates
 - public deficit, balance of payments, currency
- **Institutional/legal oversight**
 - Professional negligence, technical failures
(□ damages)
- **Fraud**
 - Theft, embezzlement, computer hacking
- **Physical loss**
 - Fire, flood, war, ...
reserves

individual
collective
(= systemic)

(More risks for bankers than for brokers)

- **Monetary regulation (global liquidity)**

- **Direct**

- **interest rates**
 - **reserve requirements**
 - **ceilings (credits)**

- **Indirect : money supply**

- **discount windows**
 - **mobilization facilities**
 - **auctions**
 - **open market interventions**