

INTRODUCTION TO RISK MANAGEMENT IN BANKS

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What is Risk?

Having an accident in a cab?



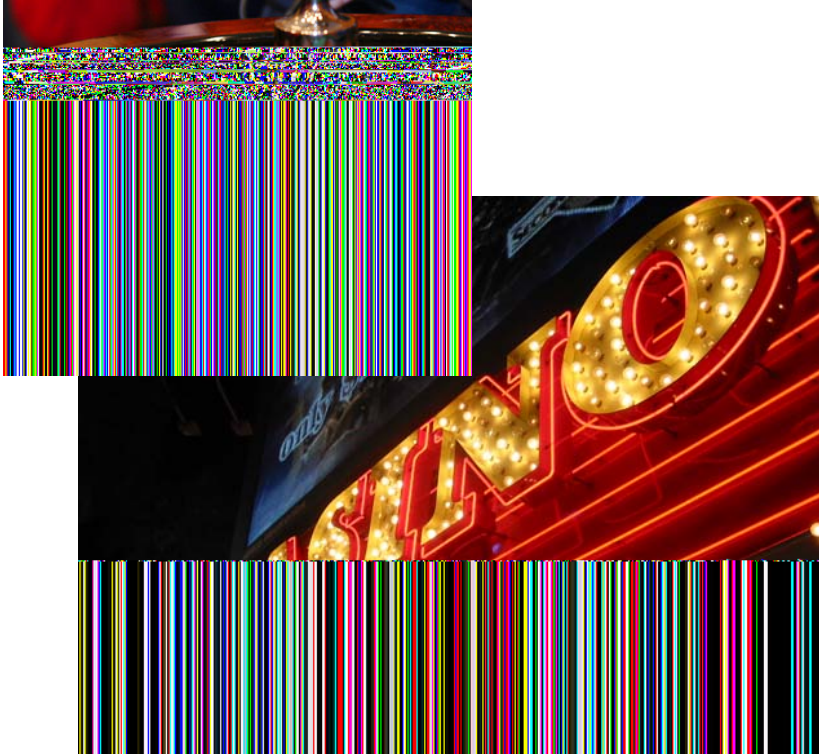
You may get injured!



Having an accident while speeding on the highways?

What is Risk?

Gambling & losing money?



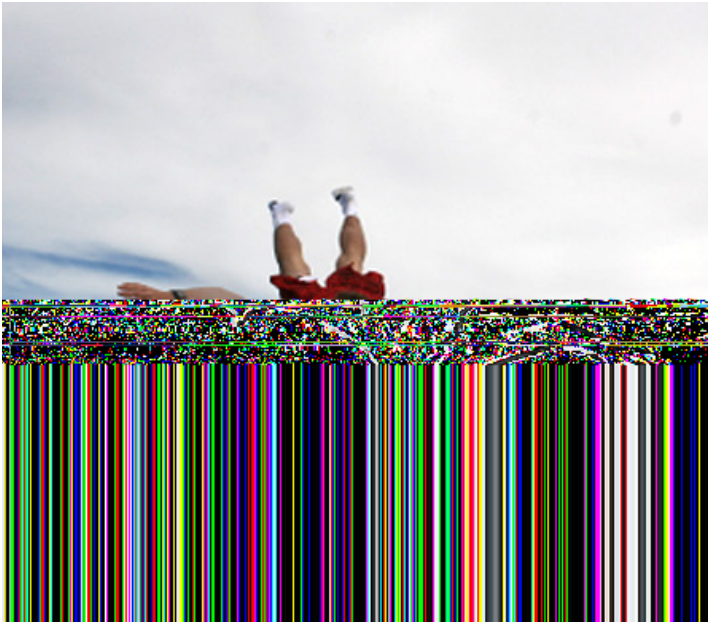
Your house being robbed & losing your valuable stuff or money?

You may lose money!

Taking risk voluntarily or involuntarily?

Is there any uncertainty?

Jumping out of the plane without a parachute?



Outcome is certain.

Bungee jumping?



Outcome depends on the conditions.

Risk \neq Uncertainty

Uncertainty

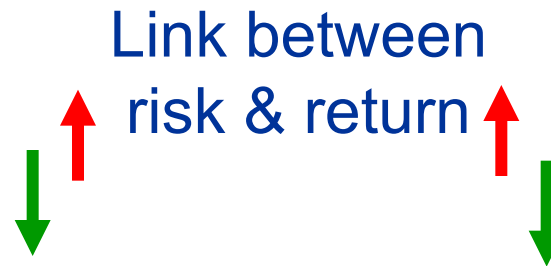
indefiniteness or variance of an event
favorable or unfavorable



- Uncertainty that affects an individual's welfare
- Associated with adversity and loss
- **Exposure to loss**

Uncertainty is necessary for risk to occur
but
not necessarily lead to a risky situation.

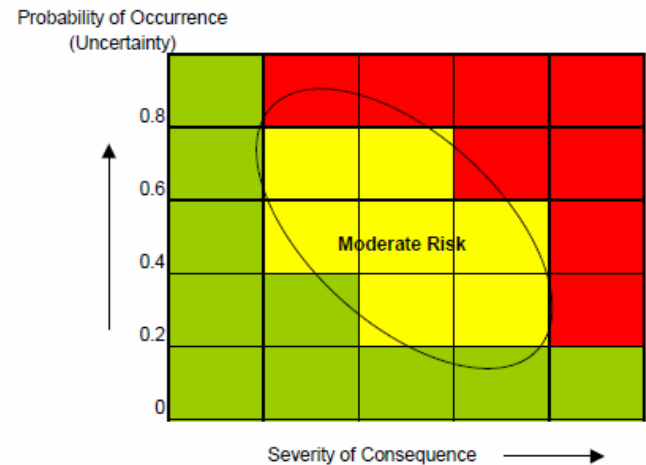
Risk & Return



e.g. Stocks are riskier than bonds but generate higher returns over long periods.

- How much do I want to gain?
- How comfortable am I with taking risk ?
- To what extent would I take risk?
- Is the return worth the risk?

- Am I prepared to take risk?

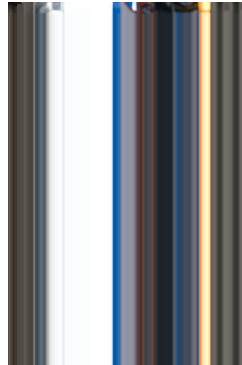


Opportunities & Threats

危險

What does this Chinese symbol represent?

- A threat for someone can be an opportunity for the other.



RISK

a combination of danger (crisis) & opportunity representing the downside and the upside of risk.



- Some know how to turn threat into opportunity.



Recent crisis experience

Risk comes from many different sources...

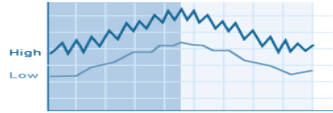


Human created

Unforeseen natural phenomena



Financial firms mostly focus on financial risks...



Fluctuation in economic
value/income

Market Risk

Fluctuations in economic
value/income due to
changes in market prices

RISK

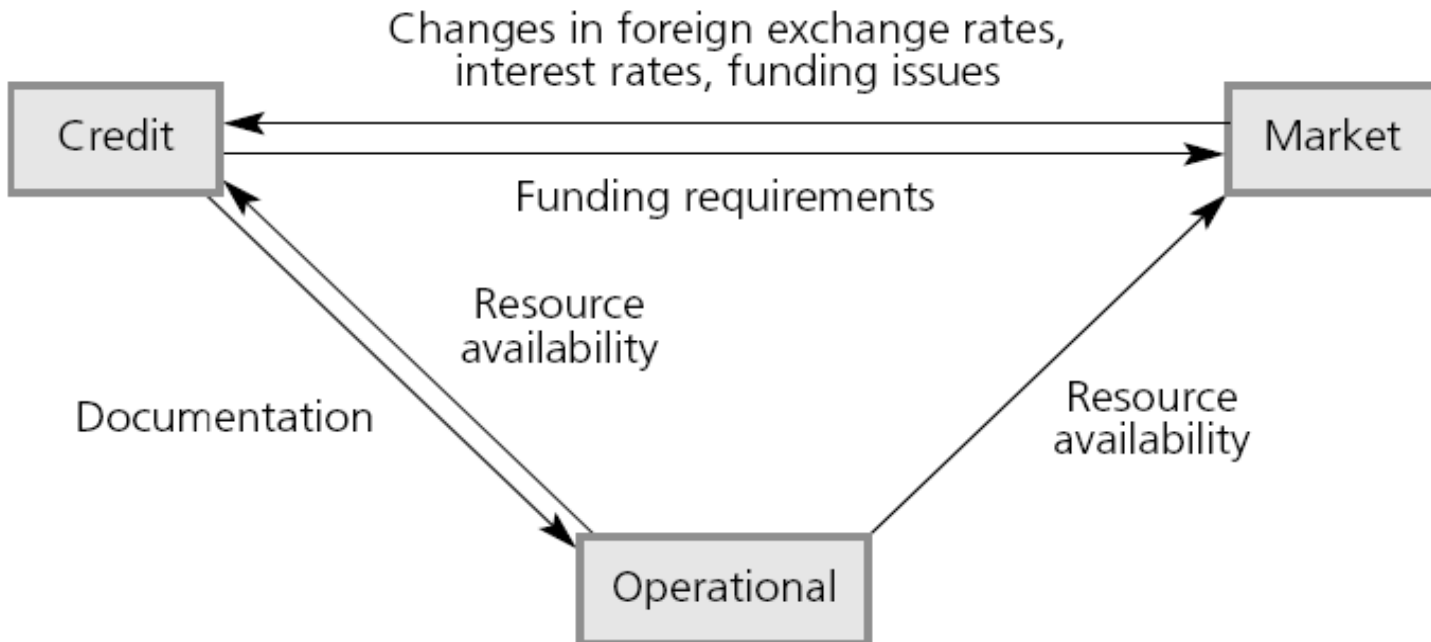
Credit Risk

The potential that a
counterparty may fail to
meet its obligations (default)
in accordance with agreed
terms.

Operational Risk

Fluctuations due to losses
arising from inadequate or
inappropriate internal
practices, people & systems
or external events

RISKS ARE RELATED..



THERE ARE TOO MANY RISKS THAT WE ARE EXPOSED TO...

- | | |
|---|----------------------------|
| 1 Information Risk | 30 Lending Risk |
| 2 Data Processing Risk | 31 Liquidity Risk |
| 3 Risk of unexpected events (Fire, Flood, Inundation) | 32 Limit Risk |
| 4 Correspondence Risk | 33 Model Risk |
| 5 Clearing Risk | 34 Accounting Risk |
| 6 Counterparty Risk | 35 Agreement Risk |
| 7 Pre-Payment Risk | 36 Netting Risk |
| 8 Euro Risk | 37 Operational Risk |
| 9 Extrapolation Risk | 38 Option Risk |
| 10 Interest Risk | 39 Capital Resources Risk |
| 11 Fund Conversion Risk | 40 Personnel Risk |
| 12 Funding Risk | 41 Market Risk |
| 13 Franchise Risk | 42 Market Liquidity Risk |
| 14 Frequency Risk | 43 Advertisement Risk |
| 15 Gap Risk | 44 Capital Risk |
| 16 Delay Risk | 45 Systemic Risk |
| 17 Expansion Risk | 46 Systematic Risk |
| 18 Yield (return, income) Curve Risk | 47 Political Risk |
| 19 Hedging Risk | 48 Contract Risk |
| 20 Legal Risk | 49 Spread Risk |
| 21 Issuer Risk | 50 Technology Risk |
| 22 Bankruptcy Risk | 51 Transfer Risk |
| 23 Interpolation Risk | 52 Maturity Structure Risk |
| 24 Reputation Risk | 53 Tax Risk |
| 25 Complexity Risk | 54 Volatility Risk |
| 26 Risk of Other Party | 55 Fiduciary Risk |
| 27 Correlation Risk | 56 Re-investment Risk |
| 28 Loan Risk | 57 Re-pricing Risk |
| 29 Foreign Exchange Rate Risk | 58 Concentration Risk |

Increasing Volatility in the Markets...

70's

1971
Bretton Woods
breaking down

1973
Oil price
shocks

1987
Black
Monday

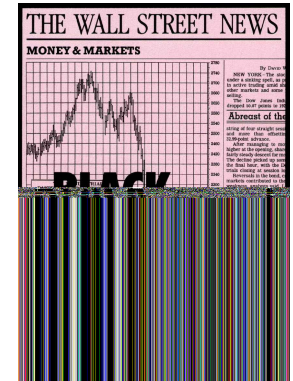
1994
Bond
Debacle

1997
Asian
Turmoil

1997
Russia
Moratorium

Tight regulation &
cartelization

Deregulation & globalization
Technological developments
Decreased product life cycles



Fixed exchange rate system breaking down

High inflation & wild swings in interest rates

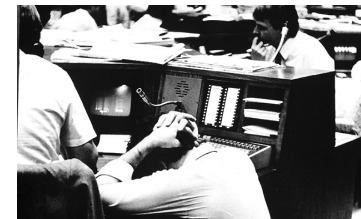
US stocks collapsing by 23% wiping out **\$1 trillion** in capital

FED starting a series of 6 consecutive interest rate hikes after 3 years of low rates
erasing **\$1.5 trillion** in global capital

Wiped off about $\frac{3}{4}$ of **dollar capitalization of equities** in Indonesia, Korea, Malaysia & Thailand.

A global financial crisis

Failure of a big hedge fund, Long Term Capital Management : A bailout of **\$3.625 billion**



Increasing Volatility in the Markets...

2000

2002

2007



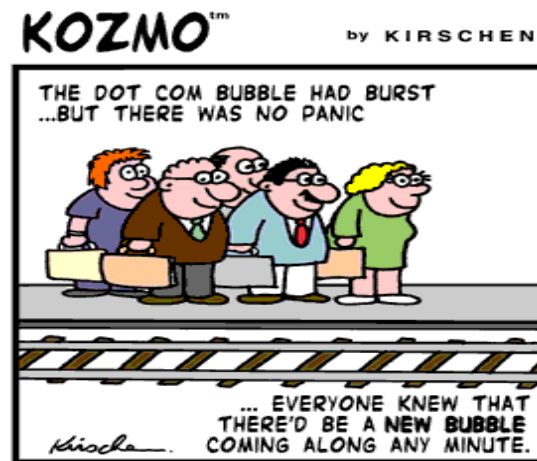
Wiped out **\$5 trillion**
in market value of
technology
companies

Sub-prime Mortgage Crisis

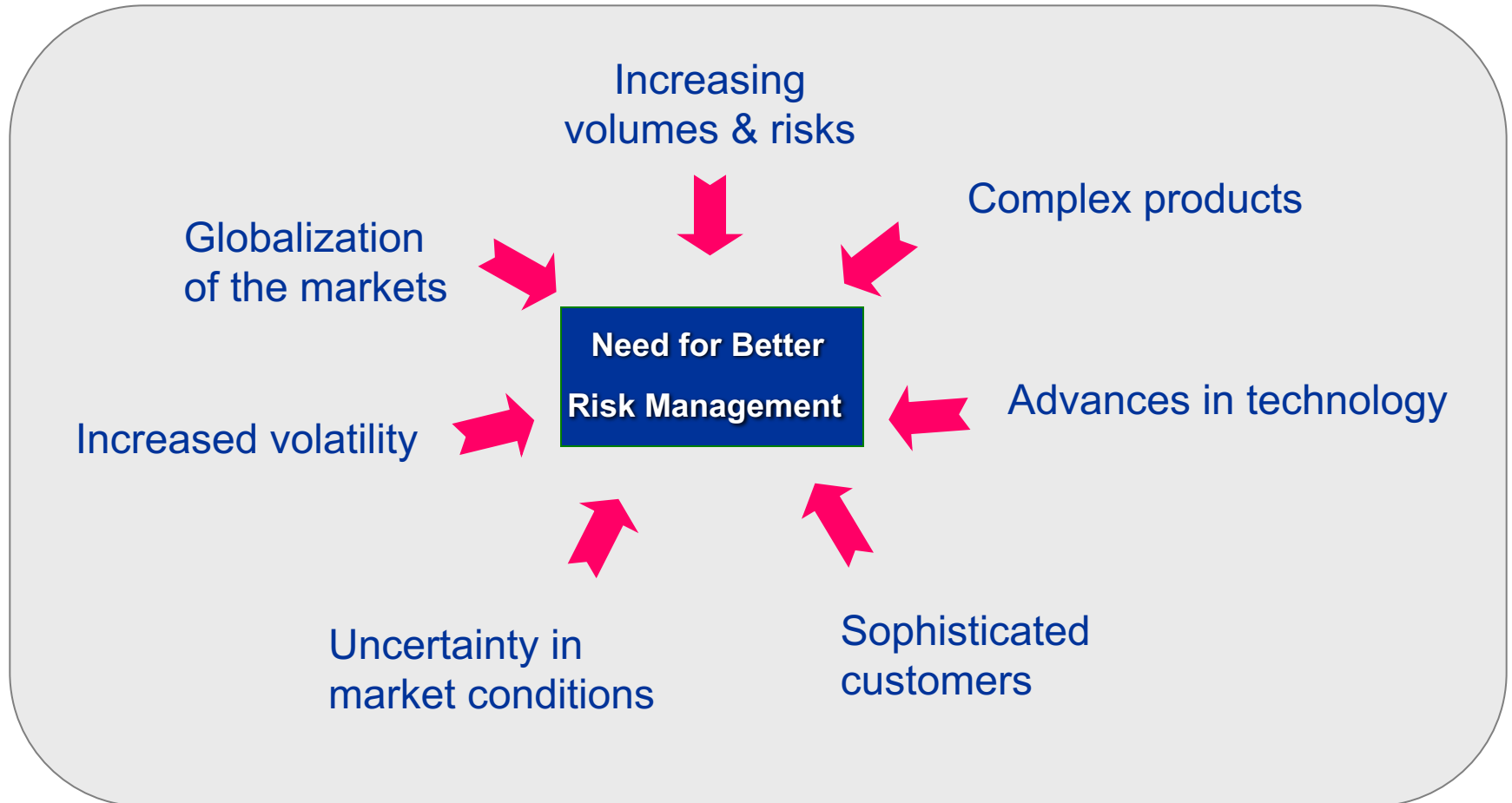
IMF estimation:

Large U.S. & European banks lost more than **\$1 trillion** on toxic assets and from bad loans from January 2007 to September 2009.

2010 estimation: exceeding **\$2.8 trillion**



Risk & Risk Management Is Evolving Together...



Development of Risk Management

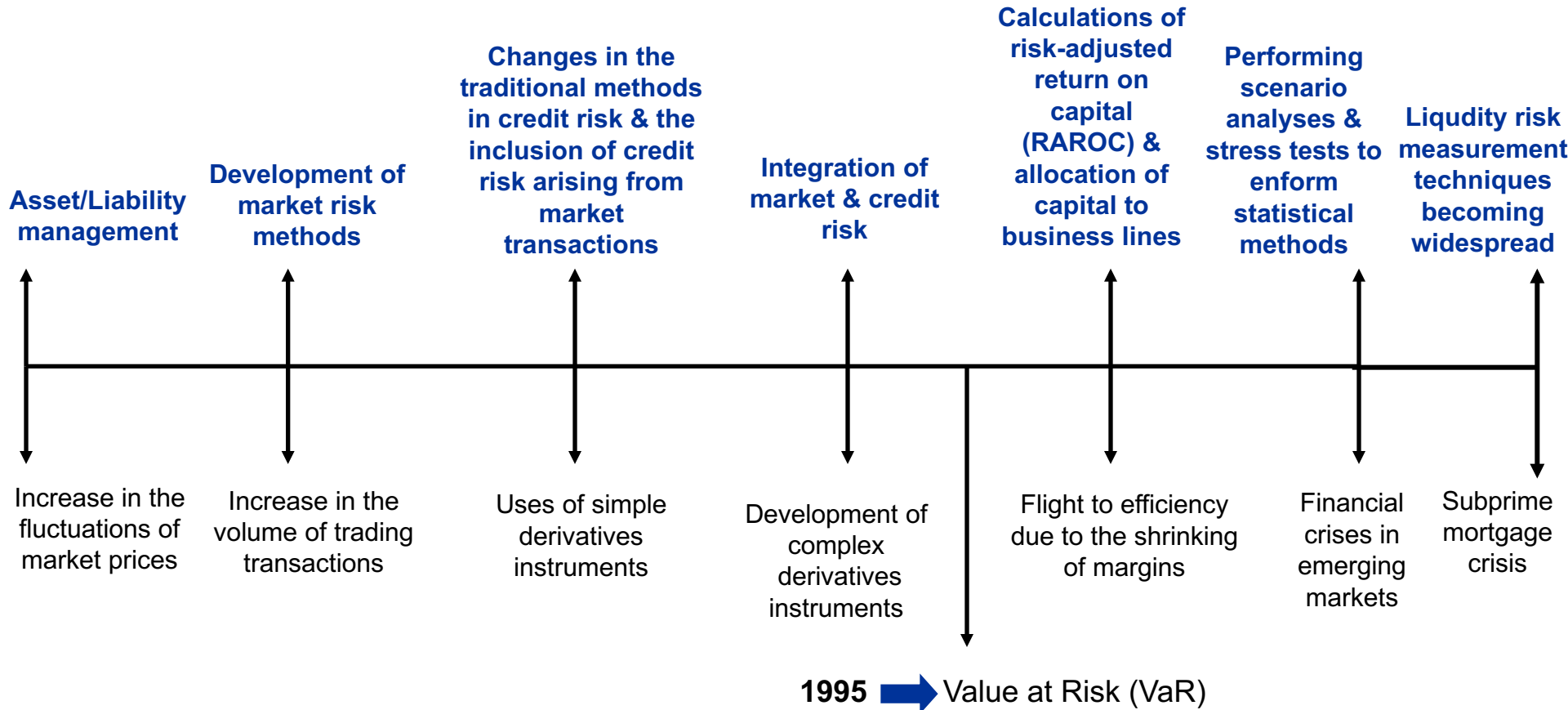
1980's



1990's



2000's



MANAGEMENTS' INTERPRETATION OF RISK AFFECTS THE WAY THEY TREAT IT..

Managements have different attitudes to risk.



The key is:

There is always risk in business. The important thing is to be aware of it and define the appropriate approach.

Measurement and management depend on the characteristics of the bank.

APPROACH TO RISK IS ALSO CHANGING...

1980's



1990's



2000's

❑ Focusing on problems and controls

❑ Managing each risk separately based on the risk type or organizational issues

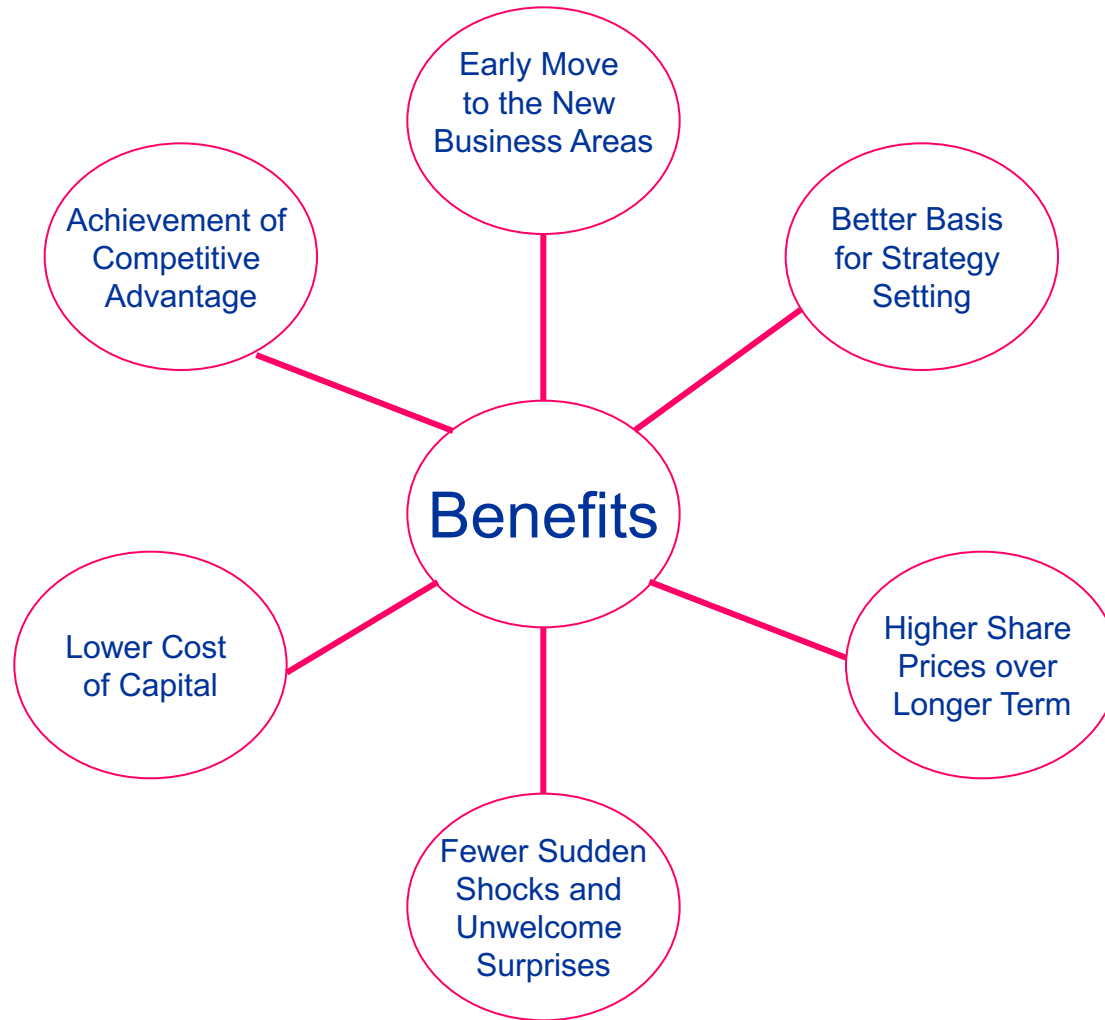
❑ Middle-level managers involved

❑ Taking “opportunities” into account as well as threats

❑ Integrated risk management

❑ Board of Directors & senior-level managers involved

Benefits of Risk Management



Risk Management Framework

