



Market Risk Management in Corporate Entities- Polish Experience

17 June 2008

Agenda

Introduction

FX Risk

Interest Rate Risk

Structured Products

Controls Around Market Risk

Counterparty Risk

Summary

Company

◆ General Information

- Less than 1,000 employees
- Finance- 30 employees
- Treasury/ Risk Management Team- 4 employees
- Offices in the biggest polish cities

◆ Risk Profile

- Mainly FX Risk
- Commitment of providing transport services
- Costs PLN, Revenue EUR
- Unknown volume
- Few investment loans

◆ Risk Management Process

- Located mainly in HQ
- Some Business Units independently

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Interest Rate Risk

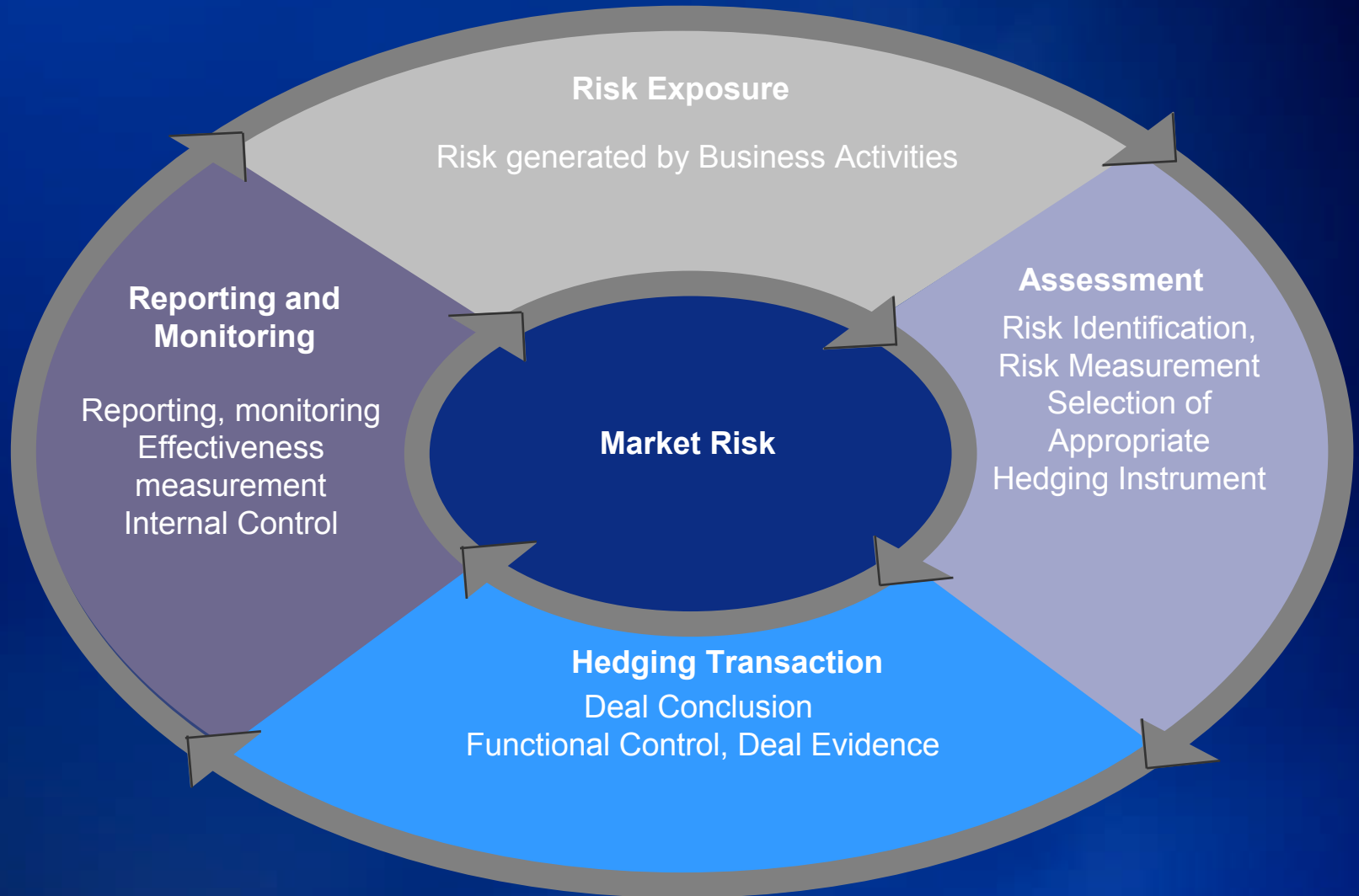
Structured Products

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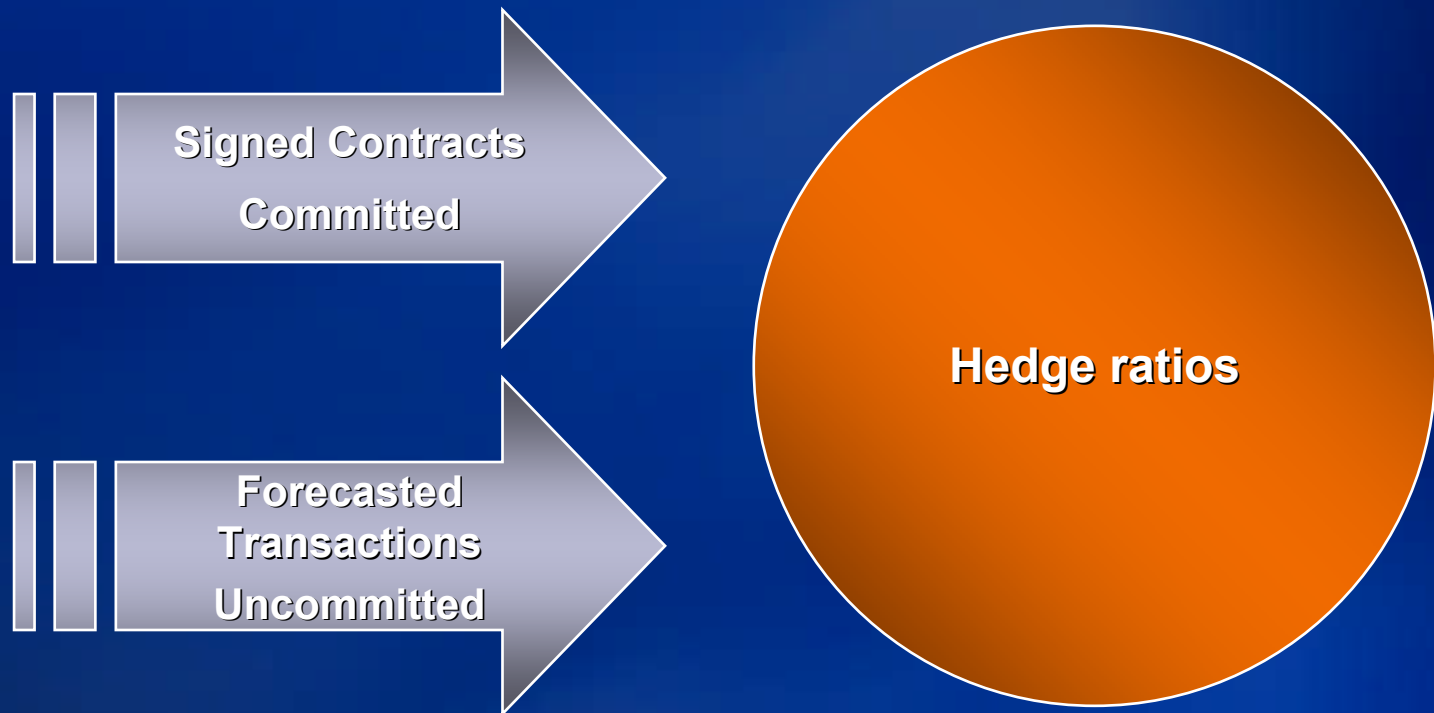
Summary

FX Risk



Hedge ratios

What portion of the exposure should be hedged?



Questions

VaR and CFaR methods

- Long term contracts
 - Costs mainly in PLN
 - Revenue mainly in USD

How the offer rate should be selected to ensure that the contract is profitable?

Hedging horizon

- Most of the companies set a hedging horizon
- Long term hedging is often more expensive
- Forecasted transactions

Back testing:

- Analysis enables more efficient hedging in the future

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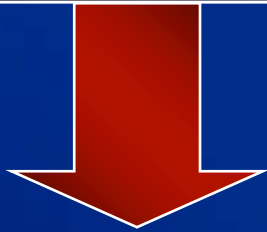
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Summary

Interest Rate Risk

Types of Interest Rate Risk



Fair Value Risk

Change of Valuation Due to Interest Rate Movements

Cash Flow Risk

Changes in Cash Flows due to Interest Rate Movements

Banks

Companies

Most Common Problems

◆ Risk Exposure Identification

- Review of all Business Activities
 - Some items often omitted
 - Subsidiaries
 - Financial Planning
- Significant (for example 1m USD > 1Y)
- Recognition of the Hedged Item

◆ Hedge Ratio

- 100%
- 60-80%
- Other solutions

◆ Effectiveness testing (economic and accounting)

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Structured Products

◆ Key features

- Tailored
- In some cases lower hedging costs
- Lack of quotes
- Possibility of participation in price movements
 - Deposits with embedded oil options

◆ Popular even among small and medium sized companies

◆ Restricted by many large companies

Structured Products

◆ Potential Threats

- How big is the margin?
- Is the product really for me?
- How can I close the position?
- Position keeping
 - Valuation
 - Presentation and Reporting

◆ What can be done

- List of permitted instruments
- Sufficient analysis before entering the deal
- Quotes from several banks

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Controls

◆ Organizational Structure

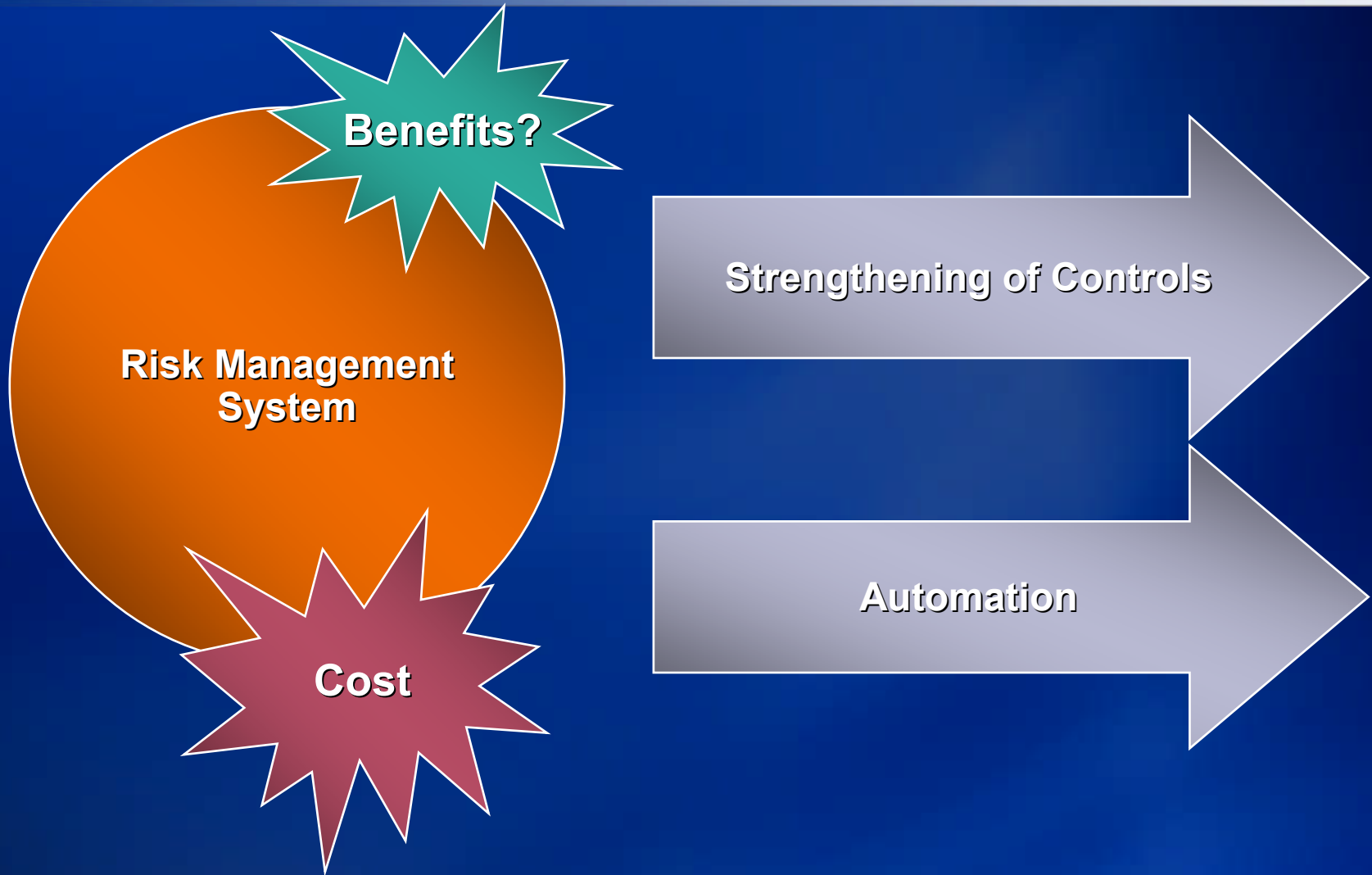
- Segregation of Duties
 - Business Profile
 - Size of the Company
- Independent Review

◆ Policies and Procedures

- Hedging Policy
- List of permitted instruments
- Maximum maturities
- Hedge ratios
- Material Unusual Exposures

◆ Risk Reporting

Dedicated IT system



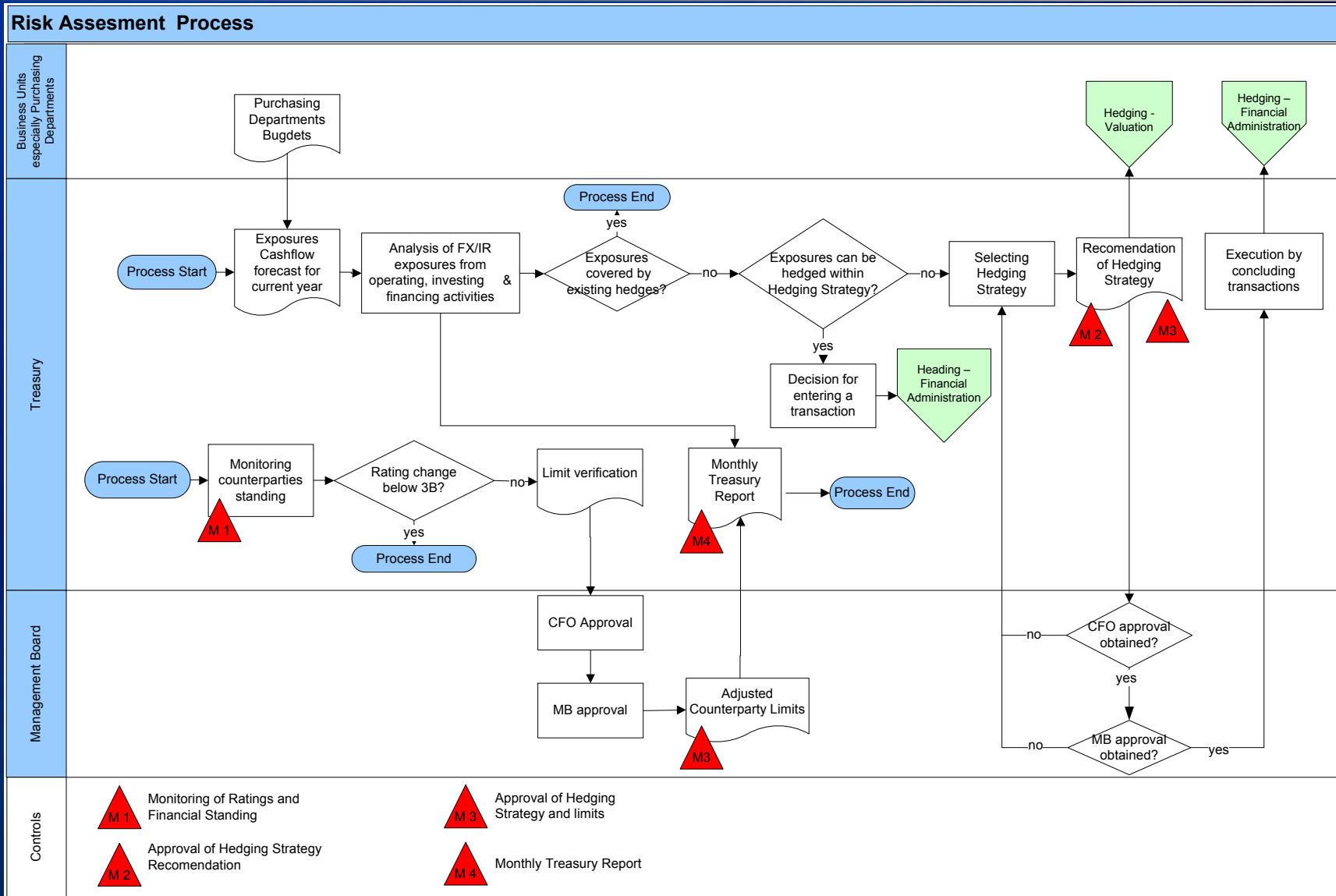
Controls

- ◆ **Authorization to conclude hedging transactions**
 - Amount + type of instrument
- ◆ **Maker/checker rule**
- ◆ **Few quotes required for significant deals**
- ◆ **Risk Reporting**
 - Independent employees
 - Valuation of all deals with approved and tested models
 - Compliance Analysis
- ◆ **Reconciliation of Bank Accounts**
- ◆ **Deal confirmed by the Accounting Department**
- ◆ **Valuation booked by the Accounting Department**

Monthly Risk Reporting

- ◆ List of concluded deals
- ◆ Realized and unrealized gains/losses
- ◆ Roll-over deals
- ◆ Utilization of counterparty limits
- ◆ Compliance review
 - Risk of speculative deals
- ◆ Risk measures
 - Small/medium sized companies- simple measures
 - More sophisticated methods when needed

Risk Assessment Process



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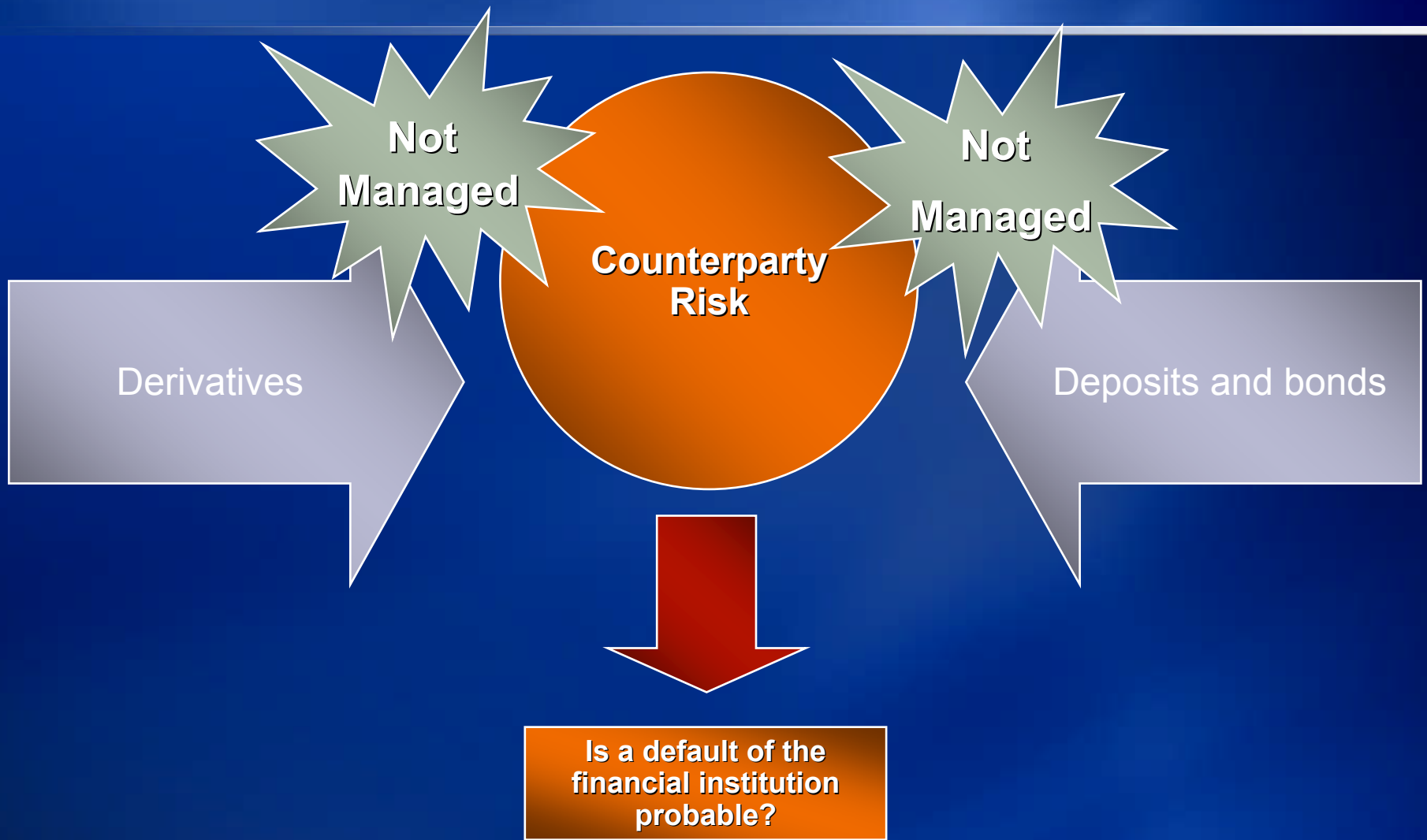
Structured Products

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Counterparty Risk



Counterparty Risk

◆ Listing of approved Counterparties

- Minimal requirements for Banks:
 - Rating
 - Limit: Loan Agreements
- Limit for each Counterparty
 - Notional Amounts
 - Valuation of open position

◆ Reporting on monthly basis

◆ Analysis of banks' financial situation on quarterly basis

◆ Simple methods- low effort

Deposits and Bonds

Lack of formalized risk management process
(or the risk is not managed)



Investments Policy:

- ◆ Liquidity Requirements
 - ◆ Safety of Capital
 - ◆ Control
 - ◆ Return

Deposits and Bonds

- Instruments
 - Term Deposits
 - Certificates of Deposits
 - T-Bonds and T-Bills
 - Commercial Papers?
- Characteristic
 - Maturity
 - Level of credit risk:
 - Banks- Ratings and Capital
 - Periodical Reviews

Investments

The policy should contain at least:

- Diversification
 - Concentration Limits
 - Maturity
 - Fixed/Floating Rates
- Liquidity
 - Analysis linked to Business Activities
 - Only surplus of funds
 - Limits for cyclical/contractual payments
- Compliance with the Investment Policy

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Key issues

- ◆ Segregation of Duties
- ◆ Risk Identification
- ◆ Structured Products
- ◆ Cost of Hedging- Margins
- ◆ Hedge ratios
- ◆ Dedicated IT Risk Management System
- ◆ Counterparty Risk – Minimal Requirements
- ◆ Investment Policy

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