

## New tendencies in the European Pension Fund systems

Portfolio optimization through low volatility stocks



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## Overview

Key message of my presentation:

Design of correct incentives for all stakeholders is important for a well-functioning pension system

1. Introduction of the pension system in the Netherlands
2. Portfolio optimization through low volatility stocks

Two-stage investment process creates a conflict of interest between pension fund and asset manager: solution!

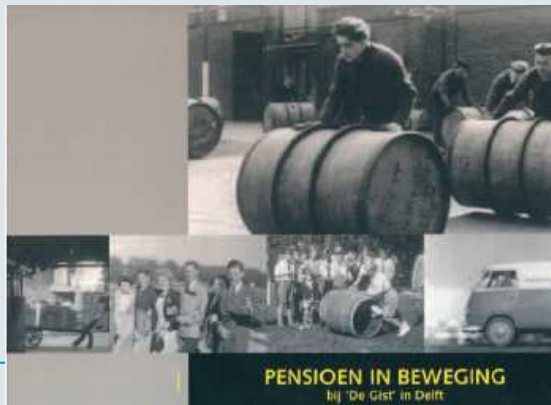
3. Brief overview of current regulatory issues

# The pension system in the Netherlands



## History of pension in the Netherlands

- 1880-1930 Employers voluntarily started funding final-wage pensions  
Economically good times for the Netherlands
  - 1880 Gist-Brocades (now DSM) establishes first pension fund
  - 1913 Philips establishes pension fund
- 1930-1960 Switch to funded defined contribution system  
Recession forced employers to stop too expensive final-wage schemes
  - 1952 Pension Law introduced to protect pension benefits
  - 1957 Introduction of 1st pillar State Pension for everybody



## History of pension in the Netherlands

- 1960-1995      Switch back to final-wage pensions  
Economically good times and labour unions fight for better pensions
- 1995-2010      Switch to average-wage pensions  
International competition forces employers to cut pension costs/risks  
Increased longevity makes funded system vulnerable to crises in asset markets and requires pension age to increase from 65 to 67



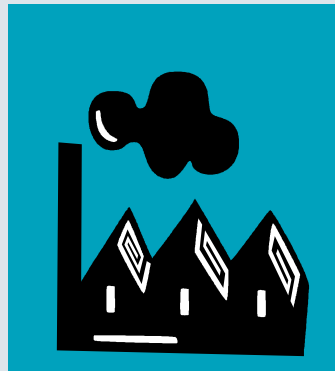
## Pension system in the Netherlands

1



Provided by the State  
 Everyone older than 65  
 Fixed amount \$1,500 p.m.  
 Pay-As-You-Go Financed

2



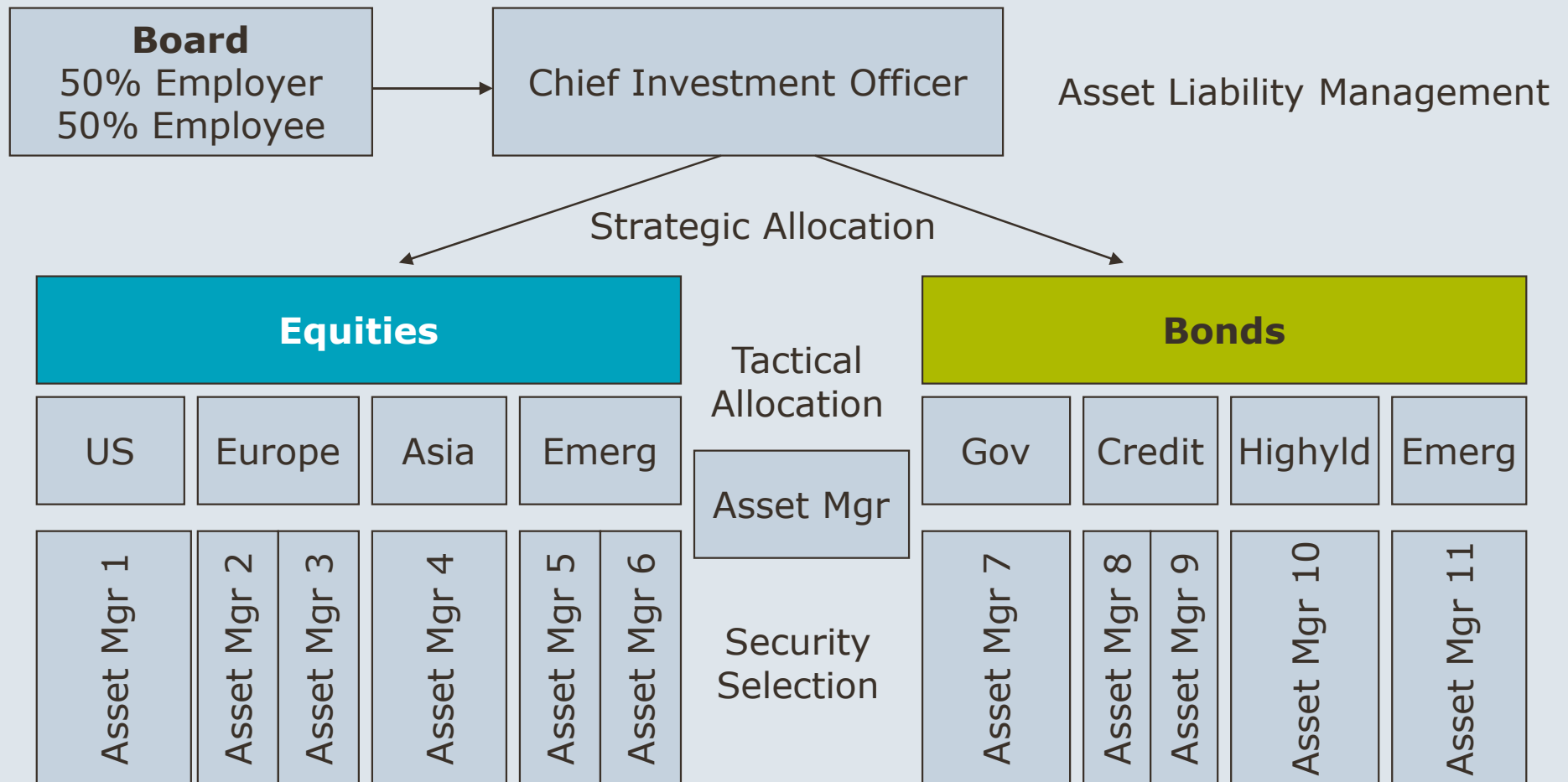
Provided by the employer  
 Executed by pension fund  
 Compulsory, no choice  
 Pension depending on salary  
 and years in service  
 Capital Funded  
 -\$1,000 bn (\$60,000 p.p.)  
 - 120% of GDP  
 - contribution 10% of salary

3



Individual savings  
 Executed by bank  
 or insurance company  
 Voluntary, choice  
 Small amounts

## Organizational structure of pension funds



## Organizational structure of pension funds

Decentralized investment process consists of two-layers

- Layer 1: Chief Investment Officer determines asset allocation
  - Focus TOTAL ABSOLUTE RETURN and TOTAL ABSOLUTE RISK
  - Connection with the goals and risk profile of pension fund
- Layer 2: Within asset allocation outsourcing to asset managers
  - Focus RELATIVE RETURN and RELATIVE RISK
    - Relative to benchmark or relative to peer group
  - No connection with goals and risk profile of pension fund

Question: Are the incentives for the CIO and asset manager aligned?

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### **Optimal Decentralized Investment Management**

JULES H. VAN BINSBERGEN, MICHAEL W. BRANDT, and RALPH S. J. KOLJEN\*

## Portfolio optimization through low volatility stocks



## Question for you as an investor

- Consider the following investment situation

	Expected Return	Volatility Risk
Equity Market	10%	20%
Stock A	10%	15%
Stock B	11%	33%

- Multiple choice question for you: Which stock do you choose?
  - Stock A
  - Stock B

*Please raise you hand for your choice*

## Answer depends on your goals and incentives

- Quick analysis of your investment possibilities

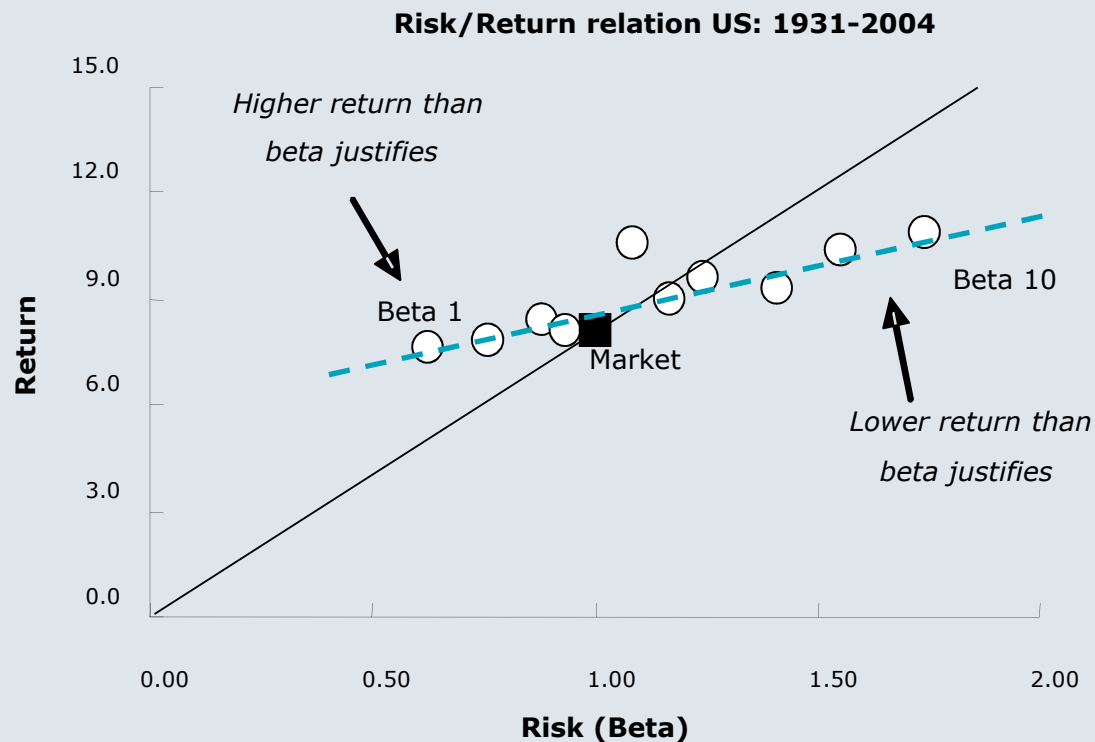
	Expected Return	Volatility Risk	Absolute Reward/Risk	Relative Reward/Risk
Equity Market	10%	20%	0.5	-
Stock A	10%	15%	0.7	0.0
Stock B	11%	33%	0.4	0.1

Conflict of interest arises in decentralized investment process

- Layer 1:
  - Chief Investment Officer of a pension fund wants Stock A
  - Stock A has superior absolute reward for risk
- Layer 2:
  - Asset manager wants Stock B
  - Stock B has outperformance relative to benchmark

## Academic research on reward and risk says that the relation is (too) flat

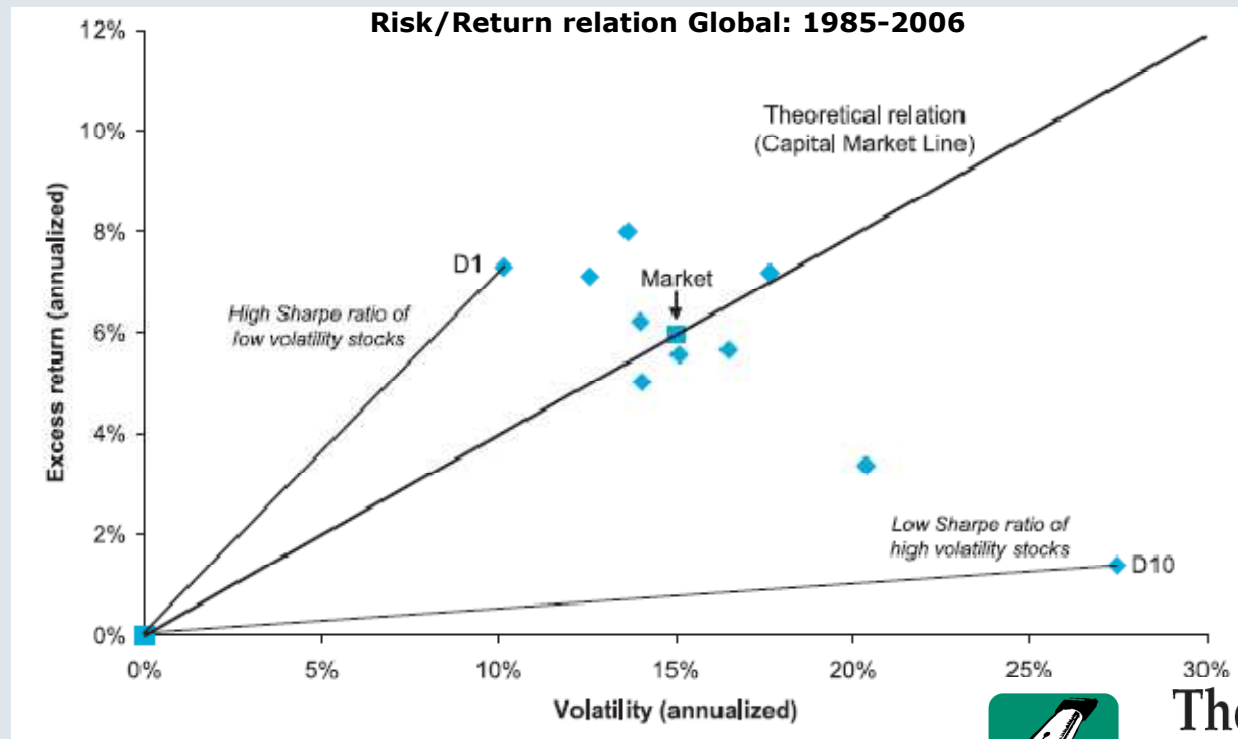
- Fama and MacBeth (1973) and Black (1993):  
Stocks with low risk have a higher return than theoretically expected based on their beta



Source: Van Vliet, P.  
Downside Risk and Empirical Asset Pricing,  
PhD thesis Erasmus University Rotterdam, 2004

## Reward risk is too flat, also in other markets and in more recent periods

- Award-winning research from Robeco Quantitative Strategies extends the flat reward-risk pattern for global markets



### The Volatility Effect

*Lower risk without lower return.*

David C. Blitz and Pim van Vliet

## Discussion with my colleagues

### First reactions in 2005 were sceptical

- Typical reaction from an asset manager: "Relative performance to the benchmark is weak, so this is a bad quant product idea"
- "But, from the clients perspective, good idea"

### Change of paradigm

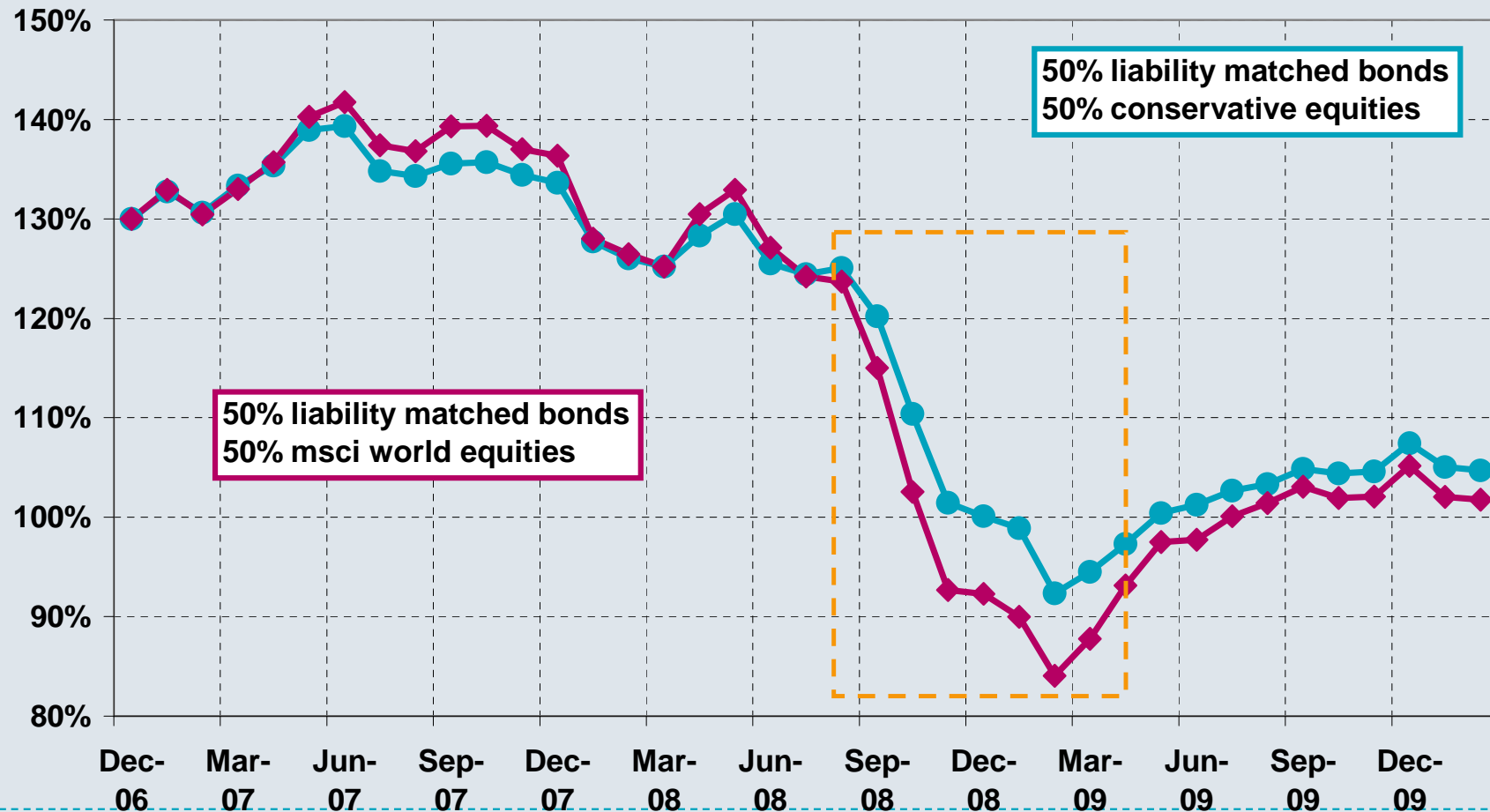
- Benchmark no longer the starting point of portfolio construction
- Focus on absolute risk; relative risk is not important
- Focus on absolute return; relative return is not important
- Goal of the client is to optimize the Sharpe ratio and not the information ratio

### Why have only a few asset managers taken this step?

- Manager selection mostly based on relative performance
- Peer group risk is considered to be extremely important

# Funding ratio development over time

Funding ratio development of typical Dutch pension fund



## Over the past years, some pension funds have taken the step to invest in low-risk equities

- PFZW Pension fund for the health care industry  
30% of equity portfolio \$ 10 billion
- PF Rabobank Pension fund for the Rabobank employees  
20% of equity portfolio \$ 1 billion
- PF ABN-Amro Pension fund for the ABN Amro employees  
Amount not (yet) disclosed
- BPL Pension fund for the boat pilots in the harbour  
20% of equity portfolio \$ 70 million
- PF Robeco Pension fund for the Robeco employees  
33% of equity portfolio \$ 40 million

## Summary of findings on low risk investing

### **Long-term investors can benefit from benchmark-driven investors who have a preference for risk**

1. When determining the strategic asset allocation, treat “Low volatility equity” as a separate investment category  
*(Note that for fixed income investing this is common with the separation of investment grade and high yield)*
2. Manager selection  
Choose your manager within the asset class low volatility equities

## Brief overview of current pension issues



## Brief overview of major pension issues

- Move from a classical Defined Benefit system to a system with many Defined Contribution characteristics
  - Companies do not want and cannot take the pension risk
  - International accounting standards (IFRS) support DC
  - Learn from international pension systems, such as Chile, Colombia, or Denmark
- Regulators are reconsidering risk-based solvency requirements
  - For example, equity shock equals -25% for allocation to developed market equity portfolios
  - No regulatory reward for investing with lower risk
  - Incentive to invest in high risk strategies, no penalty

## Brief overview of major pension issues

- Minimum Return Guarantees in DC may work counterproductive



- Netherlands: Prudent person principle is leading
- Pension funds and asset managers have the freedom to act in the best interest of their clients:  
*"Not taking enough risk means that you have the guarantee of an insufficient pension"*
- Long-term pension investing is risky by definition



- Belgium: Minimum return guarantees depending on the interest rate, but ultimately determined by politics (3.25%)
- The pension schemes with return guarantees are not considered attractive; little upside, high guarantee costs



## Brief overview of other pension issues

- Traditional balanced mandates become less popular
  - Tactical asset allocation by using liquid derivatives
- Interest for passive smart beta investing continues
  - Non-market capitalisation weighting for fixed income and equities
- Regulators are reconsidering mark-to-market for pension liabilities
  - Interest rates/discount rates too volatile for long-term policy
- Increased interest in responsible investing
  - You have the responsibility to know why you own a stock or bond into your portfolio