

# **Comprehensive Performance Measurement for Pension Funds - some initial Thoughts**

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# Agenda

- Introduction
- Cause for analysis and research
- Conceptual discussion on performance processes
- Conceptual discussion on performance methods & measures
- Conclusions and suggestions
- References
- Contact details and disclaimer

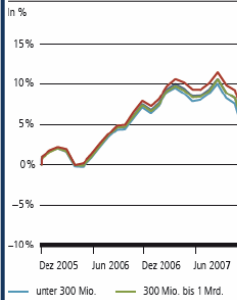
# Introduction

# Introduction

UBS PK-Barometer: Jahresrendite 2010  
Jan 17, 2011 at 9:09  
P.W. in Kapitalanlagen

Die Schweizer Pensionskassen haben 2010 eine Jahresrendite von +0.26% erzielt. Die Schweizer Pensionskassen haben 2010 eine Jahresrendite von +0.26% erzielt. Die Schweizer Pensionskassen haben 2010 eine Jahresrendite von +0.26% erzielt.

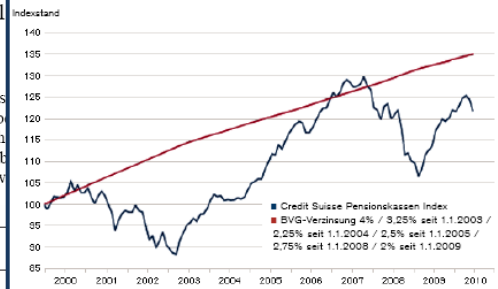
Kumulierte Performance seit 2006



Quelle: UBS

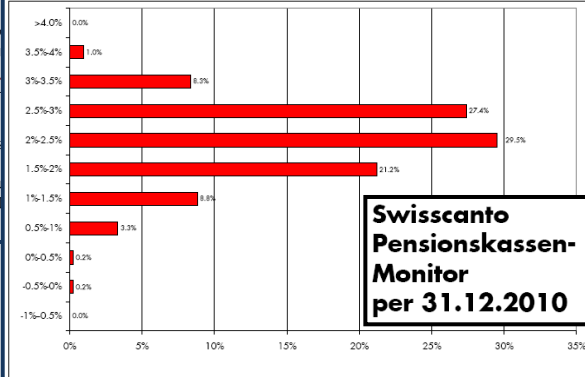
Die Performance aller Pensionskassen hat die Performance aller Pensionskassen überholt. Ihre kumulierte Rendite ist um +8.7% höher als die der Pensionskassen (+6.0%).

Performance von Schweizer Pensionskassen auf Basis der Global-Custody-Daten der Credit Suisse per 30. Juni 2010



Der Credit Suisse Schweizer Pensionskassen Index (blaue Linie), der zu Beginn des Jahres 2000 mit 100 Punkten gestartet wurde, erleidet im 2. Quartal 2010 einen kräftigen Dämpfer. Im Berichtsquartal büsste der Index 2.98 Punkte resp. 2.40% auf 121.58 Punkte ein. Zum negativen Resultat haben der Mai -0.73% und der Juni -0.12% beigetragen, während der April ein leichtes Plus von 0.45% zu verzeichnen

Abbildung 3: Erzielte Renditen aller berücksichtigten Vorsorgeeinrichtungen in Prozent seit 1.01.2010



Swisscanto  
Pensionskassen-  
Monitor  
per 31.12.2010

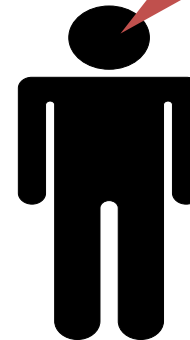
Berechnet von Complementa InvestmentControlling AG

Die nach der Struktur des Vermögens (Asset Allocation) errechnete Performance ergibt für die erfassten Kassen im Zeitraum 1. Januar 2010 bis 31. Dezember 2010 eine Durchschnittsrendite von 2,0% (vermögensgewichtet). Zwischen den öffentlich- und den privatrechtlichen Kassen lassen sich keine Unterschiede erkennen.

Das Marktumfeld hat im vierten Quartal nur unwesentlich zu einer besseren Renditeentwicklung bei den erfassten Vorsorgeeinrichtungen geführt. Die 2010 erzielte Rendite ist gemessen an der Sollrendite zu klein.

... and how can performance measurement be improved?

What is the performance of a pension fund?



**Remark:**

Performance also involves risk but going forward we focus on returns. Discussion can (and should) be broadened to include risk as well.

# Cause for analysis and research

# Cause for analysis and research

(1/4)

Definition

**Service efforts and accomplishments reporting for governments**

Home GASB Store Calendar FASB GASB

About SEA Reporting  
Concepts Statements  
SEA Reporting Project  
Reporting Initiatives  
Reporting Contacts  
Glossary

**GASB project – Suggested criteria**

**Reporting Performance Information: Suggested Criteria for Effective Communication**

"The special report presents a set of suggested criteria for use in developing external reports of SEA performance information. The purpose of the SEA reporting project is to encourage the external reporting of SEA performance information, to provide nonauthoritative guidance for the communication of SEA performance information, and to assess how successful the guidance has been in assisting state and local government organizations to effectively communicate the results of their operations. This report describes a set of suggested criteria that state and local governments can use in preparing an effective report on SEA performance information.

In the past, the GASB issued research reports that emphasized current practice in SEA reporting and, to some degree, how governments could begin experimenting with reporting SEA performance information based on examples from current practices. This special report takes a normative approach—describing what governments can do to produce effective reports on SEA performance. That is, the sixteen suggested criteria described in Chapter 6 provide guidance that is intended to result in external reports on SEA performance information that communicates relevant, reliable information about the results of government programs and services to elected officials, citizens, and other users."

Performance often just seen as the investment return

## Pensions & Investments

### U.S. plans lead 2009 performance parade

Strong stock, bond returns plus a weak dollar drive returns

By Drew Carter  
Source: Pensions & Investments  
Date: January 25, 2010

U.S. pension funds, aided by strong equity and bond returns and a declining dollar, returned 19.6% in 2009, outperforming their peers in the world's seven largest markets.

Strong equity markets lifted pension fund returns worldwide into double digits, a major about-face from 2008 when real returns sank as low as -27%. U.S. plans lost an average 25.2% in 2008.

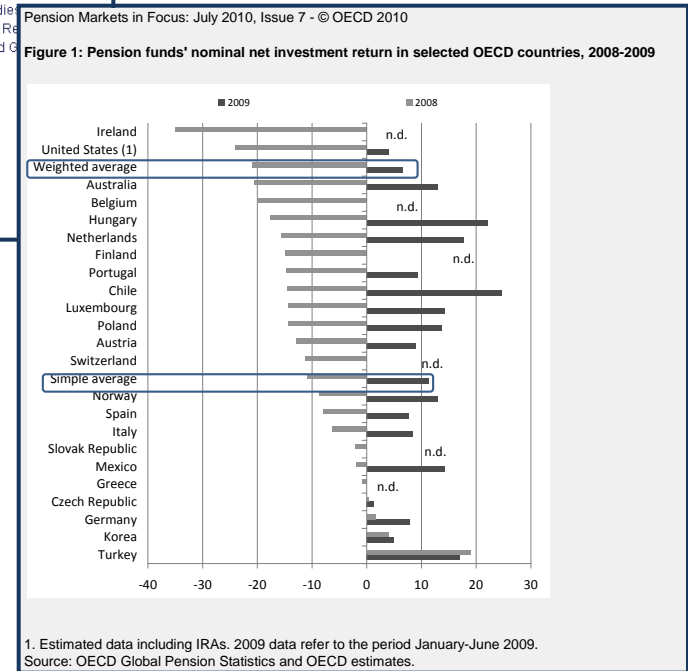
Pension fund returns in the U.K. rose 14.5% in 2009, in part because of a falling pound boosting international investment returns. U.K. plan returns sank 13.1% in 2008.

Currency movements went the other way in commodities-rich countries like Australia and Canada in 2009. Aussie investors returned an average 14%, after the Australian dollar soared against most major currencies. The real return in 2008, which included a 5% bump in inflation, was -27%. Canadian pension funds were up 13.8% last year, after losing 14.7% in 2008.

Pension fund returns in the Netherlands, Switzerland and Japan rose 13.2%, 10.8% and 9.5% in 2009, respectively. Dutch funds were up from a -16.6% return in 2008, when Swiss funds returned -13.3% and Japan, -21.2%.

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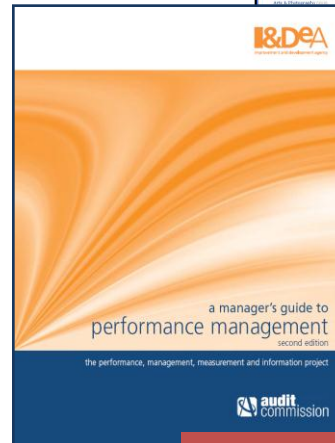
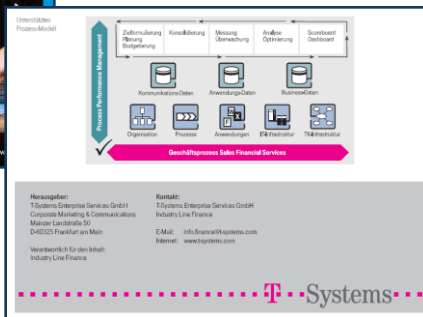


# Cause for analysis and research

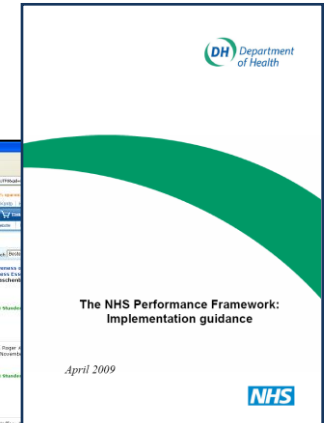
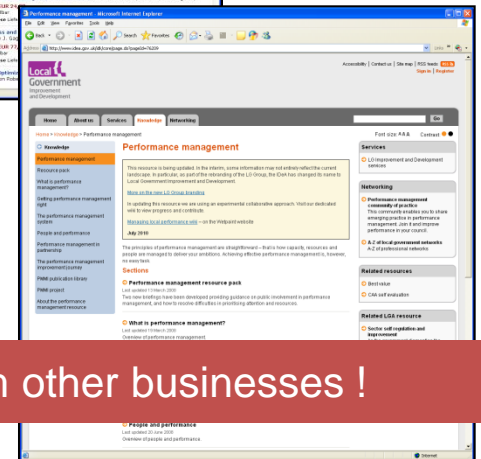
(2/4)

Process

Performance measurement is not unique for investment management

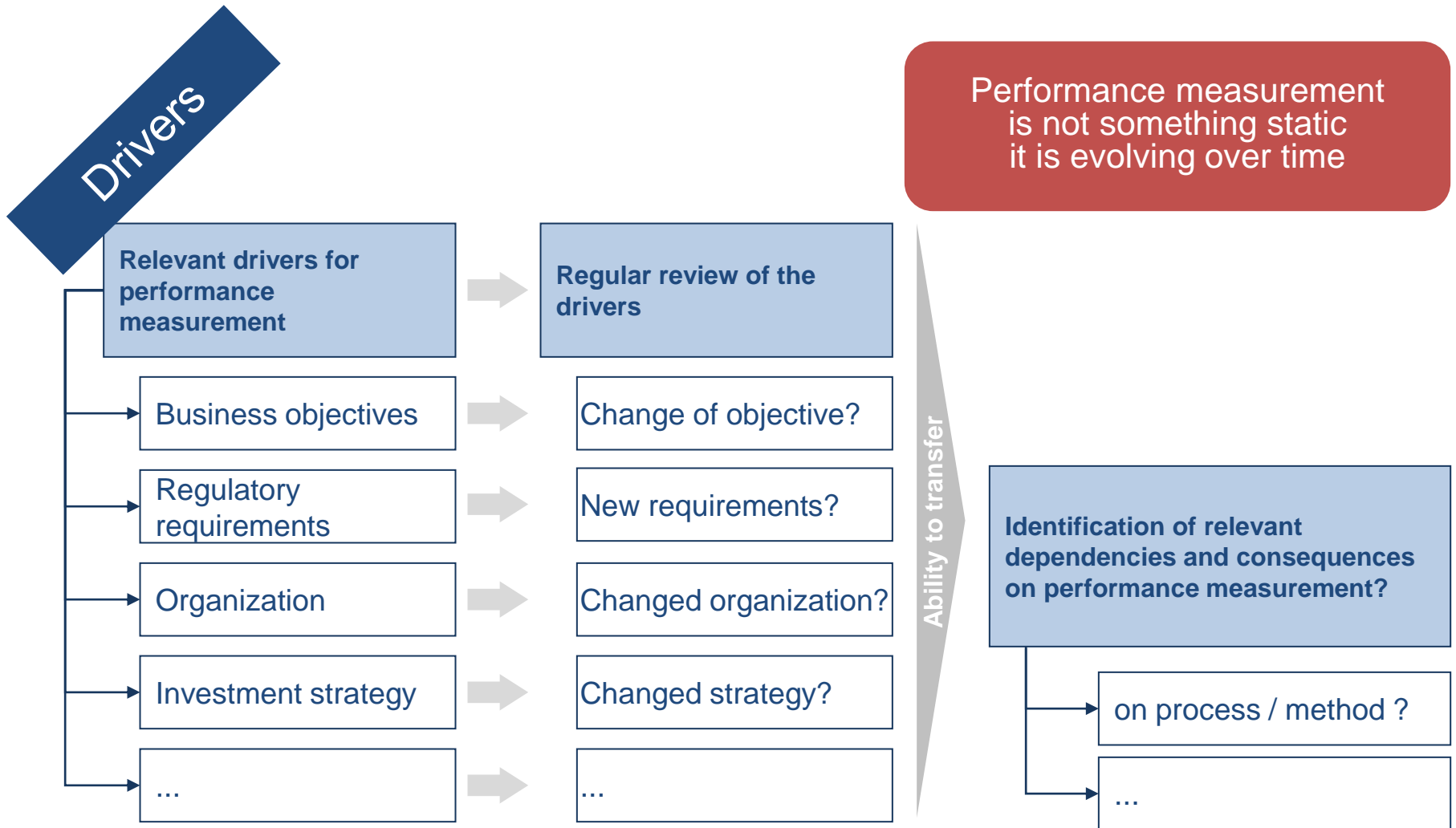


▶ learn from other businesses !



# Cause for analysis and research

(3/4)



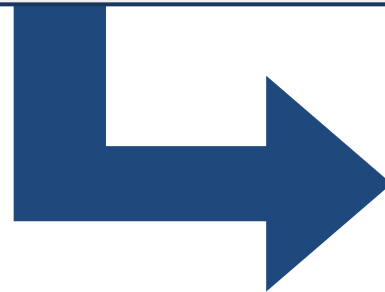


# Cause for analysis and research

(4/4)

## Summary of questions:

- What is the performance of a pension fund?
- What is the governance around performance?
- What are the drivers for determining the performance processes?
- ...



Performance  
measurement –  
Areas for analysis

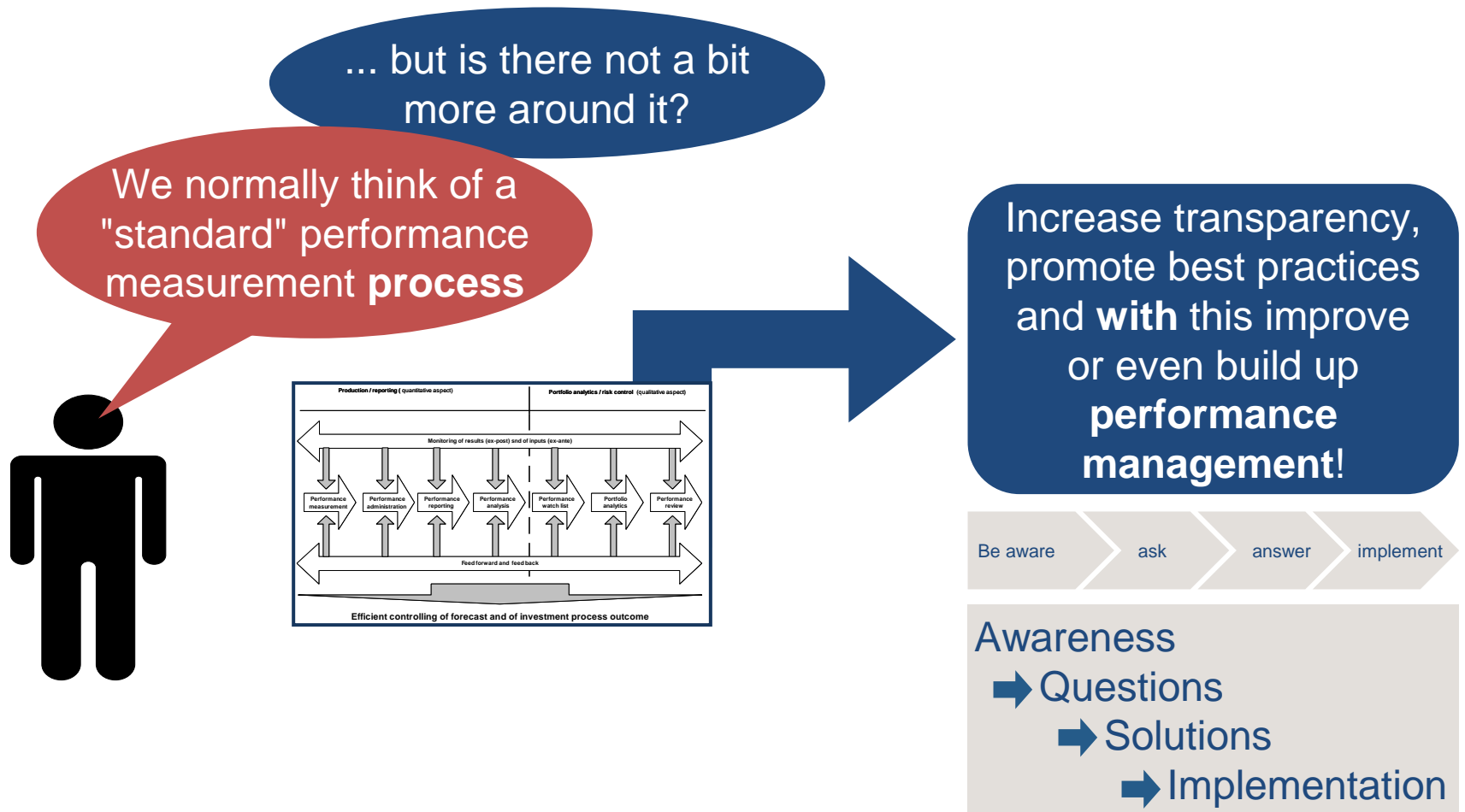


Processes !

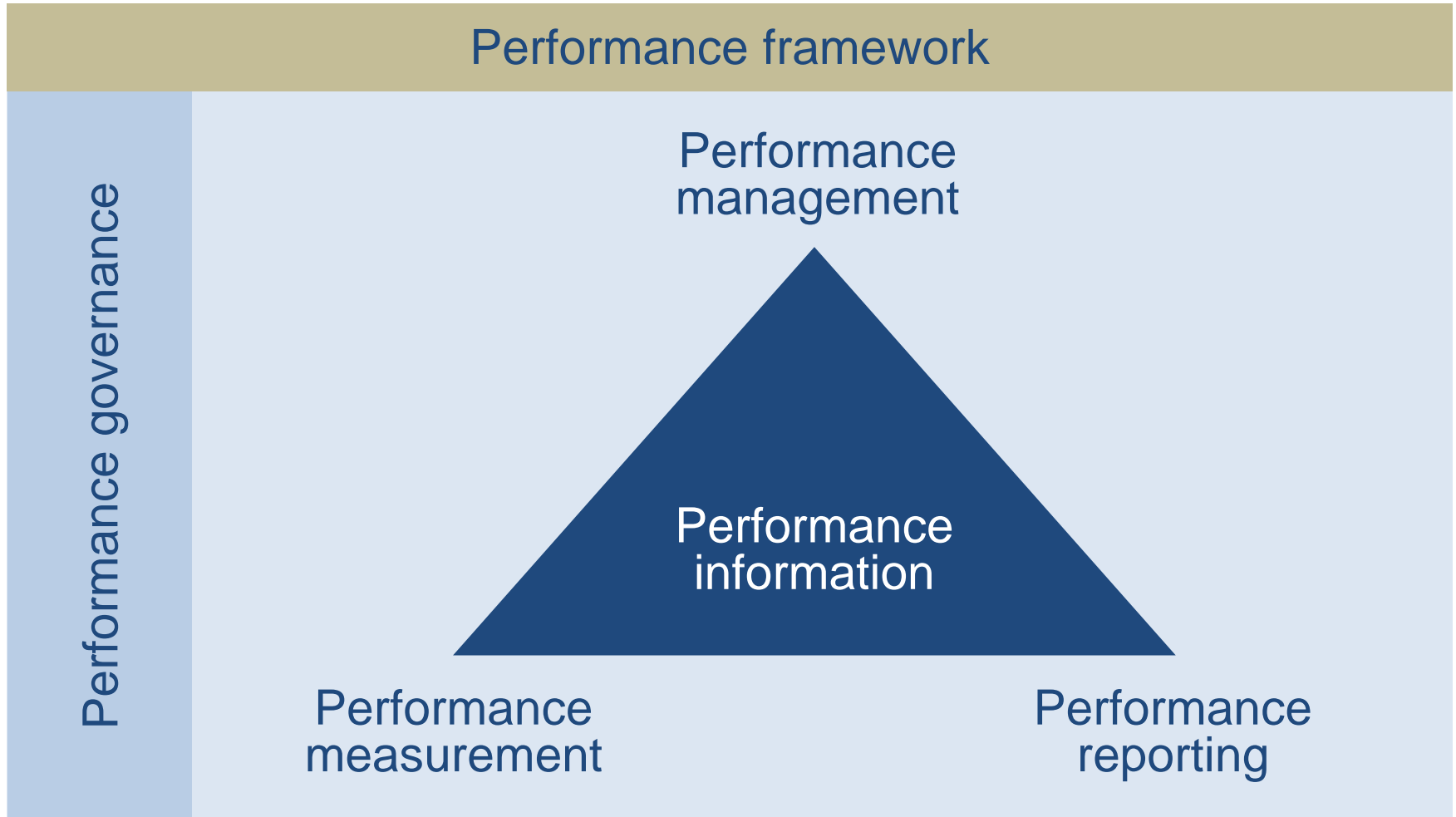
Methods & measures

# Conceptual discussion on performance processes

# Starting point and objective – processes

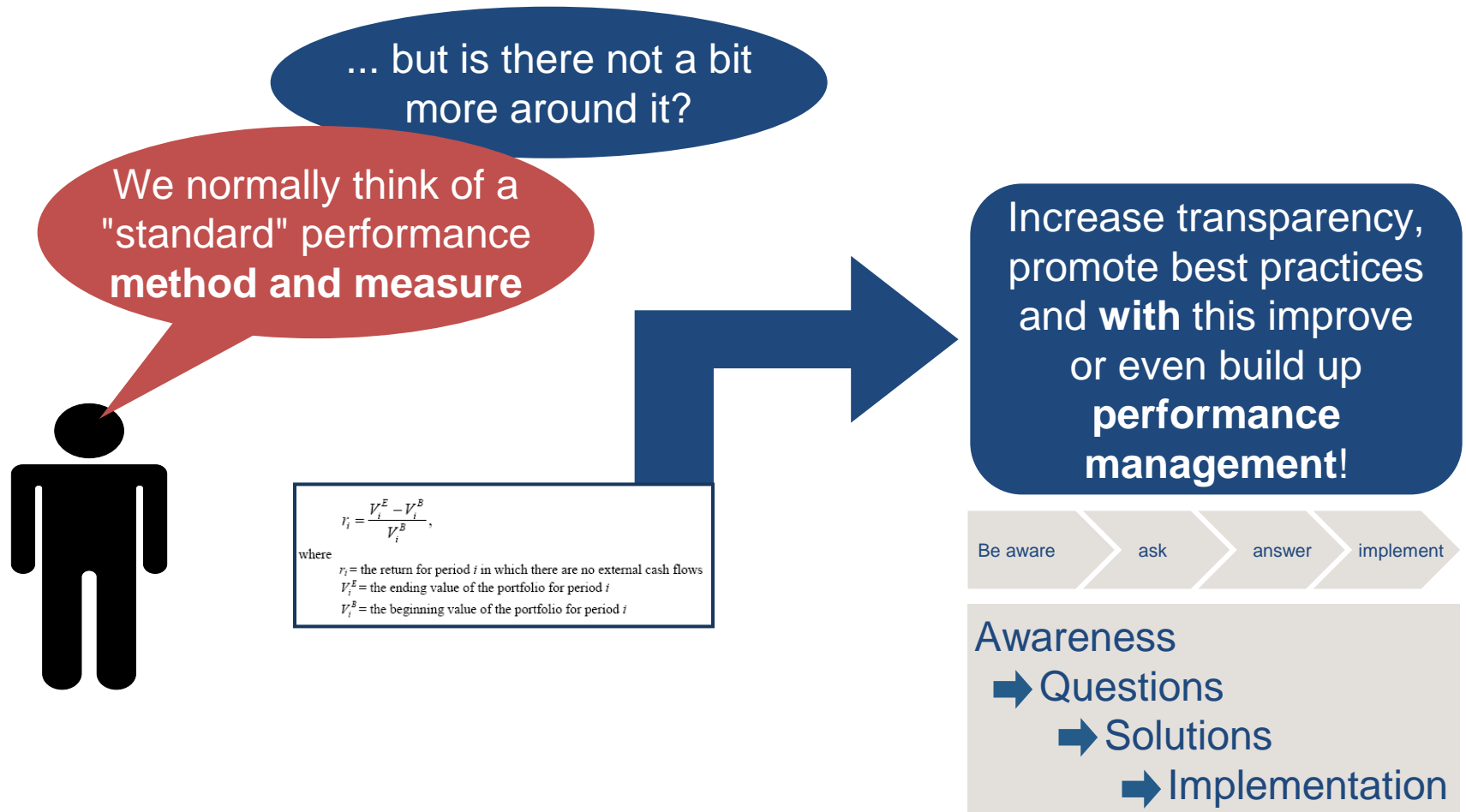


# Conceptual setup of a performance framework

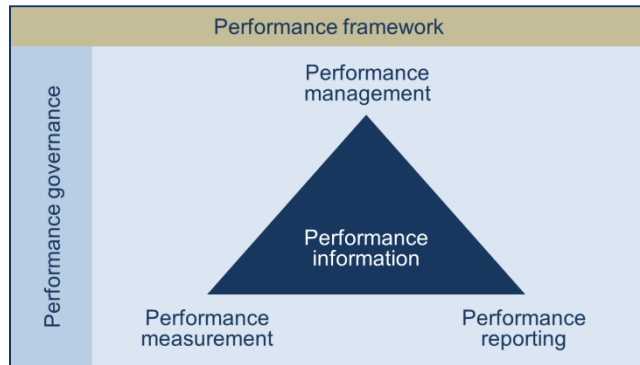


# Conceptual discussion on performance methods & measures

# Starting point and objective – methods and measures



# Topics for discussion



Performance



What is the performance?

How do we measure performance?

- Investment return
- Surplus return
- Meet liabilities
- ...

- TWR
- MWR / IRR
- Combination
- ...

**Remark:** Performance also involves risk but going forward we focus on returns.

# Introductory example: What is the performance? (1/3)

Simplified balance sheet of a pension fund

Assets	Liabilities
Assets	Liabilities Surplus

Assets	Liabilities
Total capital	Total liabilities Equity



$$\text{Total capital} = \text{Total liabilities} + \text{Equity}$$



# Introductory example: What is the performance? (2/3)

Assets	31.12.2009	Liabilities
Assets = 100		Liabilities = 90 Surplus = 10

Profit	2010	Loss
$\Delta$ assets = 10		$\Delta$ liabilities = 4 $\Delta$ surplus/profit = 6

Assets	31.12.2010	Liabilities
Assets = 110		Liabilities = 94 Surplus = 16



$$\Delta \text{ total capital} = \Delta \text{ total liabilities} + \Delta \text{ equity}$$
$$10 = 4 + 6$$

**Remark:** No cash flows during reporting period.

# Introductory example: What is the performance? (3/3)

Profit	2010	Loss
$\Delta \text{ assets} = 10$		$\Delta \text{ liabilities} = 4$ $\Delta \text{ surplus/profit} = 6$



Return on total capital =  
 Return contribution on total liabilities  
 + Return contribution on equity  
 $10.0\% = 4.0\% + 6.0\%$



Return contribution on equity =  
 Return on total capital –  
 Return contribution on total liabilities  
 $6.0\% = 10.0\% - 4.0\%$

Accounting view	Return on total capital = 10.0% Return on total liabilities = 4.4% Return on equity = 60.0%
Investment management view	Investment return = 10.0% Liabilities return = 4.4% Surplus return = 60.0% <b>?/!</b>

**Remark:** No cash flows during reporting period and here invested capital equals initial capital.

**Return contributions are additive – but not returns!**

# How do we measure performance?

(1/7)

## Topics and questions to address:

- Accounting view and / or investment management view  
=> e.g. measures according to accounting standards versus measures used to evaluate investment management activities
- Consistent valuation principles and hierarchy over time as well as applied for both assets and liabilities  
=> e.g. discount factor for liabilities versus fair value of the investments
- Length of the reporting period  
=> e.g. 12 months view versus long-term view and short-term versus long-term analytics
- Profit & Loss versus return figures  
=> e.g. absolute versus relative analysis
- Consideration of risk  
=> e.g. absolute and / or relative risk figures and risk adjusted measures

# How do we measure performance?

(2/7)

## Topics and questions to address:

- Comparison against benchmarks  
=> e.g. market indices and liability oriented benchmarks
- Consideration of changes in the invested capital  
=> e.g. handling of internal and external cash flows causing changes in the capital invested
- TWR and / or MWR  
=> e.g. portfolio manager view versus client / company view
- Decomposition of the performance  
=> e.g. contributions to return or risk according to decisions, activities, etc.
- ...

# How do we measure performance?

(3/7)

Accounting view and / or investment management view

Return = Profit / Invested capital

Assets	31.12.2009	31.03.2010	30.06.2010	30.09.2010	31.12.2010
Assets	100.0	100.5	101.0	105.4	110.0
Liabilities	90.0	91.0	92.0	93.0	94.0
Equity	10.0	9.5	9.0	12.4	16.0

Return on equity (accounting view) = 54.6%  
=  $(16.0 - 10.0) / \{[(10.0 + 9.5)/2 + (9.5 + 9.0)/2 + (9.0 + 12.4)/2 + (12.4 + 16.0)/2] / 4\} = 6.0 / 11.0$

normally

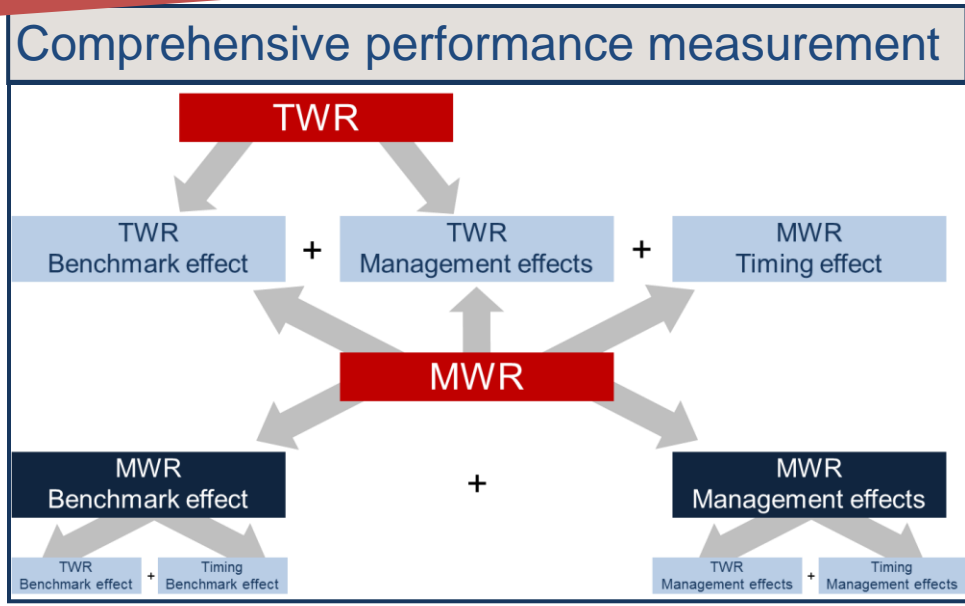
Return on equity (investment management view) = 60.0%  
=  $(16.0 - 10.0) / 10.0 = 6.0 / 10.0$

**Remark:** No cash flows during reporting period. There is no industry standard for calculating the invested capital from an accounting point of view.

# How do we measure performance?

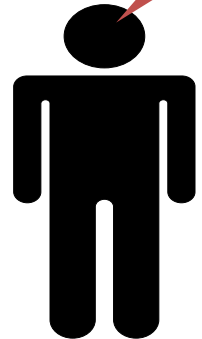
(4/7)

TWR and / or MWR  
and its decomposition



... and is there one measure for all situations?

Who is responsible for what decision?



- |                                                                                                                                                           |                                                                                                                                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>Internal and external cash flows</li><li>Fees</li><li>Rebalancing</li><li>Internal and external benchmark</li></ul> | <ul style="list-style-type: none"><li>Investment guidelines</li><li>Risk profile</li><li>Investment target</li><li>...</li></ul> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|

# How do we measure performance?

(5/7)

TWR and / or MWR  
and its decomposition

Assets	31.12.2009	31.03.2010	30.06.2010	30.09.2010	31.12.2010
Assets	100.0	100.5	121.0	126.3	131.8
Liabilities	90.0	91.0	107.0	108.2	109.3
Equity	10.0	9.5	14.0	18.1	22.5
Cash flow assets			20.0		
Cash flow liabilities			15.0		
Cash flow equity			5.0		

Return on equity (accounting view) = 51.5%

$$= (22.5 - 10.0 - 5.0) / \{[(10.0 + 9.5)/2 + (9.5 + 14.0)/2 + (14.0 + 18.1)/2 + (18.1 + 22.5)/2] / 4\} = 7.5 / 14.5$$

Return on equity (investment management view) depends on the handling of cash flows – see next slide.

# How do we measure performance?

(6/7)

## TWR and / or MWR and its decomposition

Return on total capital (MWR)

= Return on total capital (TWR) + Timing effect total capital

Return on total liabilities (MWR)

= Return on total liabilities (TWR) + Timing effect total liabilities

Return on equity (MWR)

= Return on equity (TWR) + Timing effect equity

Return on total capital (MWR) **10.73%** = 10.00% + 0.73%

Return on total liabilities (MWR) **4.44%** = 4.44% + 0.00%

Return on equity (MWR) **60.96%** = 60.00% + 0.96%

P&L on total capital (MWR) **11.8** = 10.0 + 1.8

P&L on total liabilities (MWR) **4.3** = 4.0 + 0.3

P&L on equity (MWR) **7.5** = 6.0 + 1.5

**Remark:** MWR is calculated using the IRR as the true MWR.



# How do we measure performance?

(7/7)

TWR and / or MWR  
and its decomposition

Return on total capital (MWR)

= Return contribution on total liabilities (MWR)  
+ Return contribution on equity (MWR)

10.73% = 3.94% + 6.79% (or for P&L: 11.8 = 4.3 + 7.5)

Return contribution on equity (MWR)

= Return on total capital (MWR)  
– Return contribution on total liabilities (MWR)

6.79 % = 10.73% – 3.94% (or for P&L: 7.5 = 11.8 – 4.3)

**Remark:** For the calculation of the return contribution (MWR) see "Decomposing the Money-Weighted Rate of Return – an Update", Stefan J. Illmer, 2009, Journal of Performance Measurement.

# Conclusion and suggestions

# Conclusion and suggestions

- Performance measurement is not only relevant for investment management.
- Performance measurement is much more complex as it seems to be in the first place.
- Comprehensive approach on performance helps to get around the mysteries of performance measurement.
- ...

Evolve performance measurement into performance management embedded in a performance framework !



# References

# References

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2. Special report summary: "Reporting performance information: Suggested criteria for effective communication", GASB – Governmental Accounting Standards Board, 2003 – available on the internet.
3. "Performance measurement for pension funds", Auke Plantinga, 2006 – available on the internet.
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5. and other information on performance measurement and management available on the internet.

# Contact details and disclaimer

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