

Comprehensive Performance Measurement for Pension Funds – some initial Thoughts

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Agenda

- I. Introduction
- II. Cause for analysis and research
- III. Conceptual discussion on performance processes
- IV. Conceptual discussion on performance methods & measures
- V. Conclusions and suggestions
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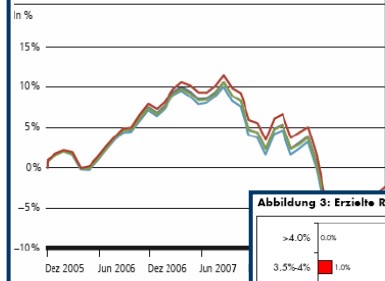
Introduction

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% erwirtschaftet. Dies ist ein leichtes Plus, das durch den Rückgang der Renditen auf CHF-Obligationen und Immobilien sowie den Anstieg der Renditen auf Aktien und Private Equity erzielt wurde. Nach einem schwachen November 2009 erzielte die Branche im ersten Quartal 2010 noch einmal eine leicht positive Rendite von +0.26%.

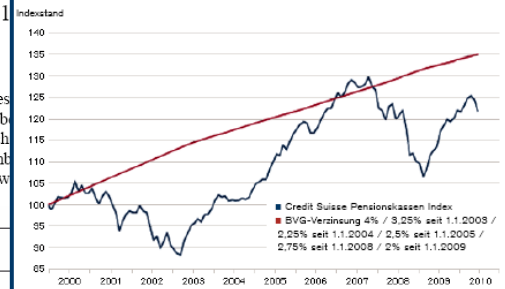
Kumulierte Performance seit 2006



Quelle: UBS

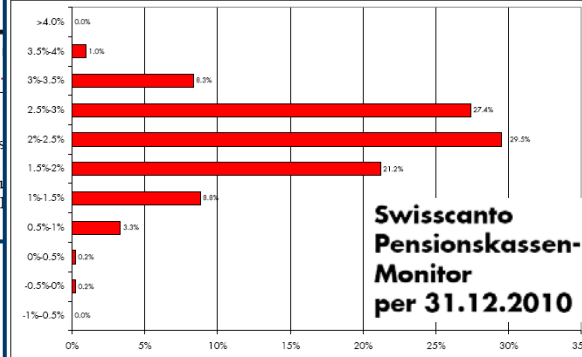
Die Performance aller Pensionskassen hat sich im ersten Quartal 2010 verbessert. Ihre kumulierte Rendite seit Ende 2006 beträgt +8.7% und ist somit höher als die Rendite der Pensionskassen (+6.0%).

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 war.

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



Swisscanto Pensionskassen-Monitor per 31.12.2010

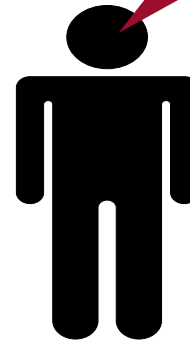
Berechnet von Complementa Investment-Controlling AG

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 privat-rechtlichen 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.

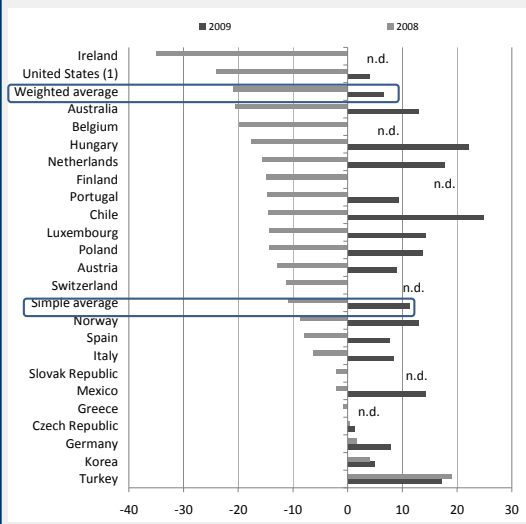
Currency movements went the other way in commodities-rich countries like Australia and Canada in 2009. Aussie investors returned an average 14%, after the Australian dollar soared against most major currencies. The real return in 2008, which included a 5% bump in inflation, was -27%. Canadian pension 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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Pension Markets in Focus: July 2010, Issue 7 - © OECD 2010
 Figure 1: Pension funds' nominal net investment return in selected OECD countries, 2008-2009



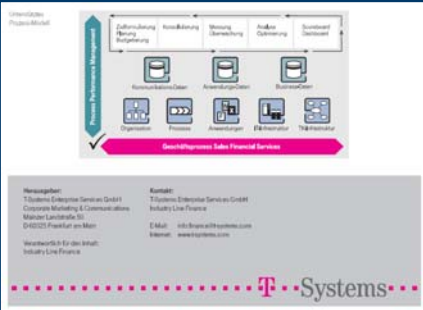
1. Estimated data including IRAs. 2009 data refer to the period January-June 2009. Source: OECD Global Pension Statistics and OECD estimates.

Cause for analysis and research

(2/4)

Process

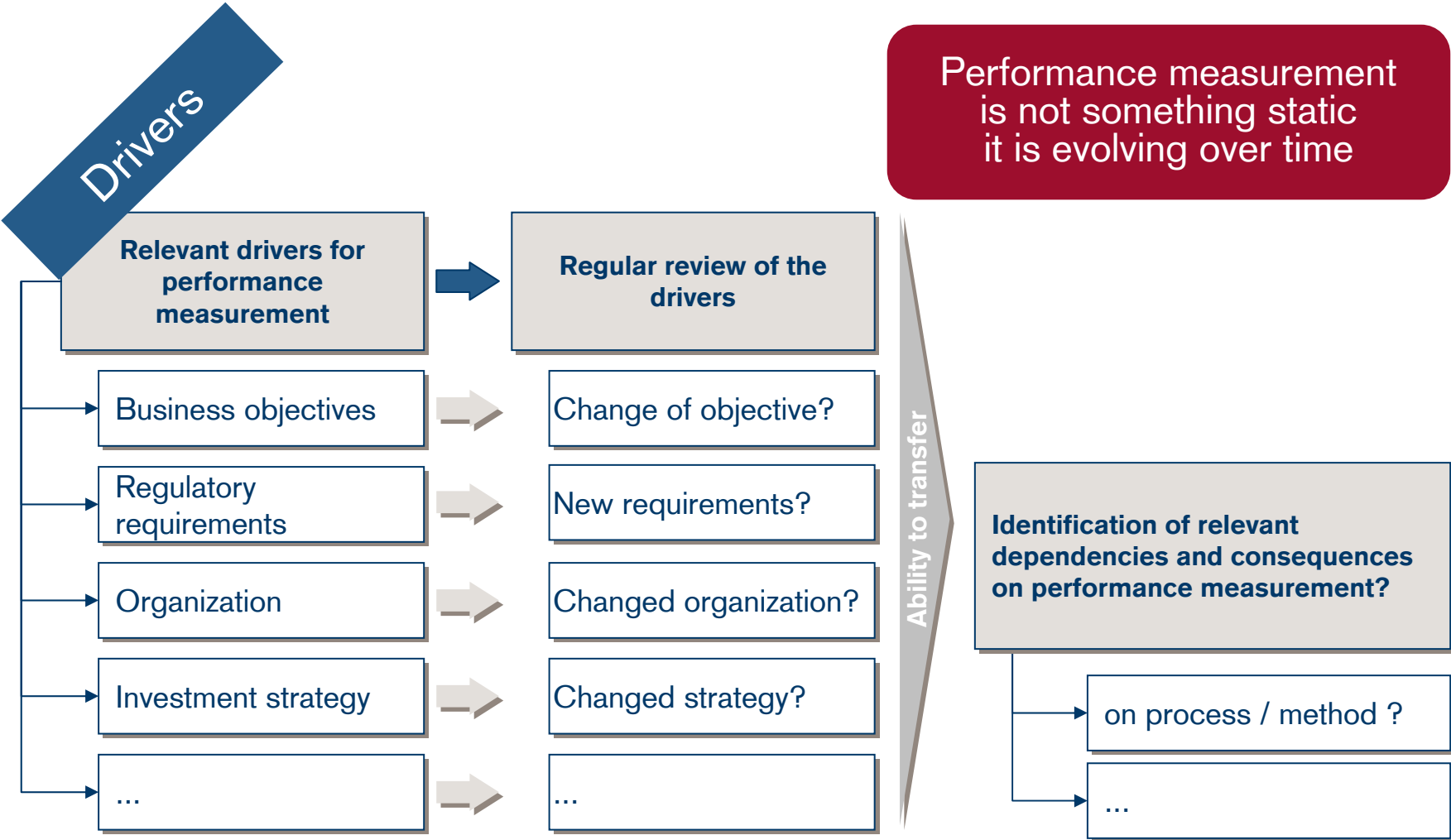
Performance measurement is not unique for investment management



▶ learn from other businesses !

Cause for analysis and research

(3/4)

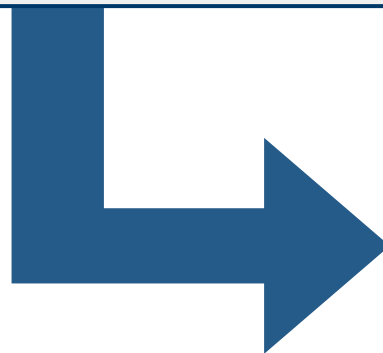


Cause for analysis and research

(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

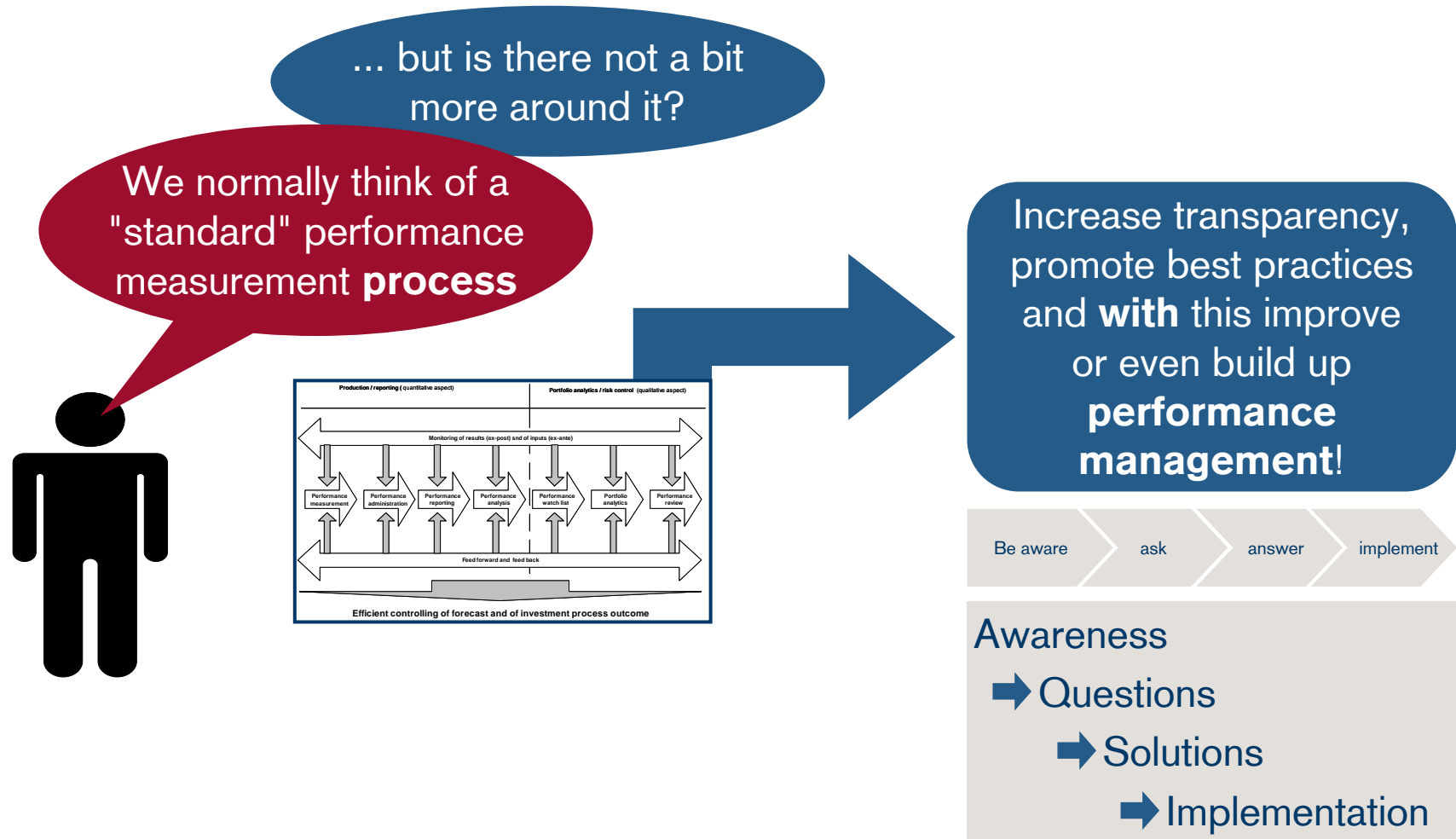


Processes !

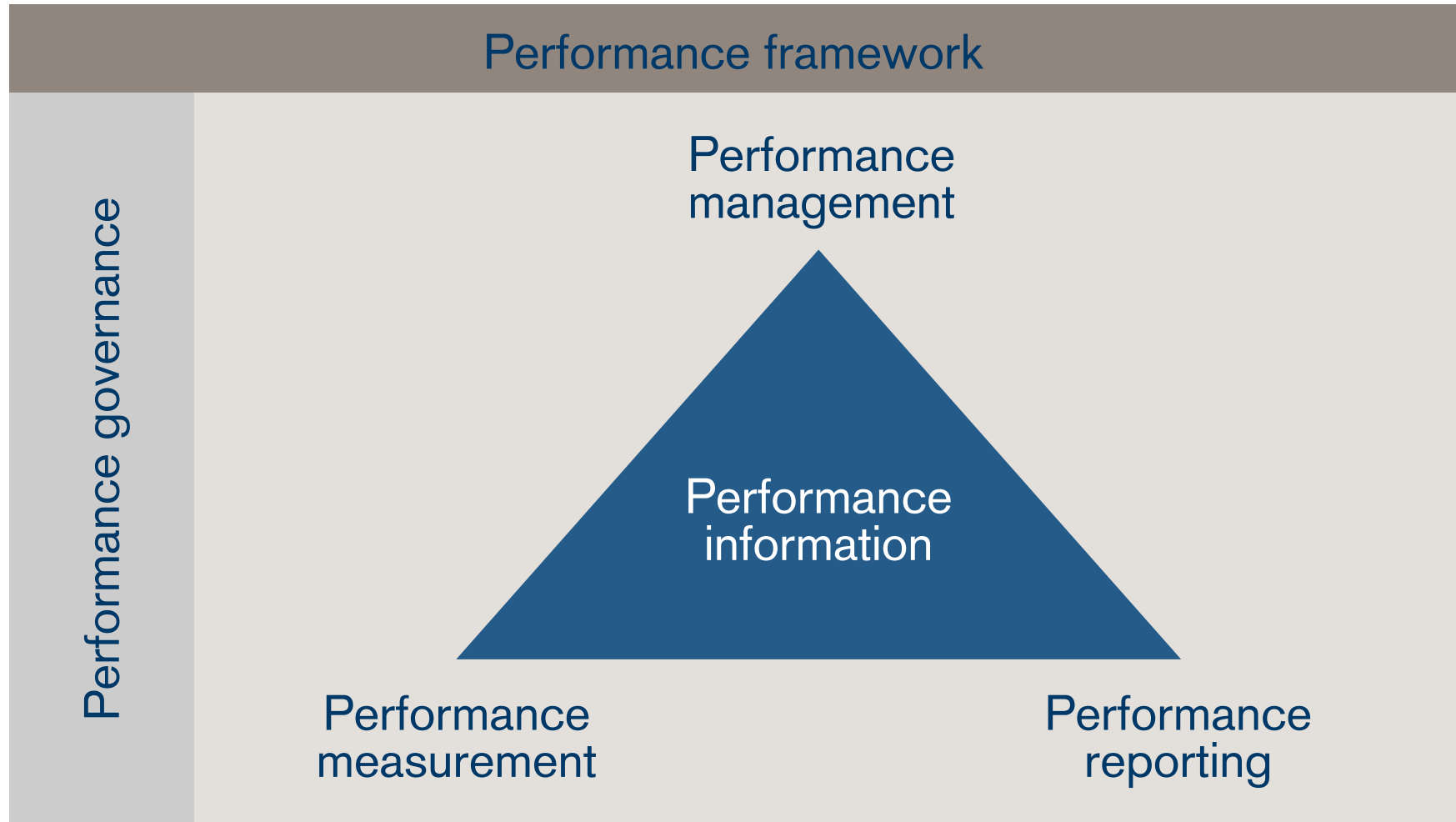
Methods & measures

Conceptual discussion on performance processes

Starting point and objective – processes



Conceptual setup of a performance framework



Derived questions to address

(1/5)

Performance is one of the words which definition is very flexible as everyone places the concept that suits best, and letting the context take care of the definition.

Nevertheless in general terms performance can be seen as the result of activities (e.g. of an organization) over a given period of time.

- What are the overall objectives of the organization?
- How are the overall objectives transferred into performance targets?
- What are the perspectives from which the performance should be measured from?
- What are the relevant decision makers?
- What are the relevant activities and decisions leading to the performance?
- How is risk addressed?
- ...

Be aware

ask

answer

implement

Derived questions to address

(2/5)

Performance measurement is the process of quantifying the efficiency and effectiveness of past action.

More concrete performance measurement is the process of measuring how well organizations are managed against their targets and the value they generate for their stakeholders.

- Who is measuring the performance?
- What type of performance is measured?
- What methods are used?
- How are fees integrated?
- Are valuation principles defined and consistently applied?
- Is the underlying data integer?
- Are relevant and appropriate benchmarks defined?
- How is risk measured and analyzed?
- ...

Be aware

ask

answer

implement

Derived questions to address

(3/5)

Performance measurement and reporting process is a recurring and rolling process to identify, generate, collect, calculate, enhance, analyze, collate and present relevant and reliable **performance information** such as case specific indicators, measures or analytics as well as the respective disclosures.

- Are the performance related processes defined and documented?
- Are the relevant processes reviewed on a regular basis?
- How are conflicts of interest addressed and overcome?
- Is an error handling and correction process defined?
- Are the relevant processes transparent and appropriate for the intended use of the performance information?
- How are risks communicated?
- ...

Be aware

ask

answer

implement

Derived questions to address

(4/5)

Performance management is ensuring that predefined targets are met or exceeded in an efficient and effective manner including activities such as **performance monitoring, performance appraisal or performance review.**

- Are performance monitoring, appraisal or review processes defined and documented?
- Are the drivers for and the processes itself reviewed on a regular basis?
- Are these functions independently carried out?
- Is a performance escalation process defined and implemented?
- Are corrective measures and respective processes defined and lived?
- ...



Derived questions to address

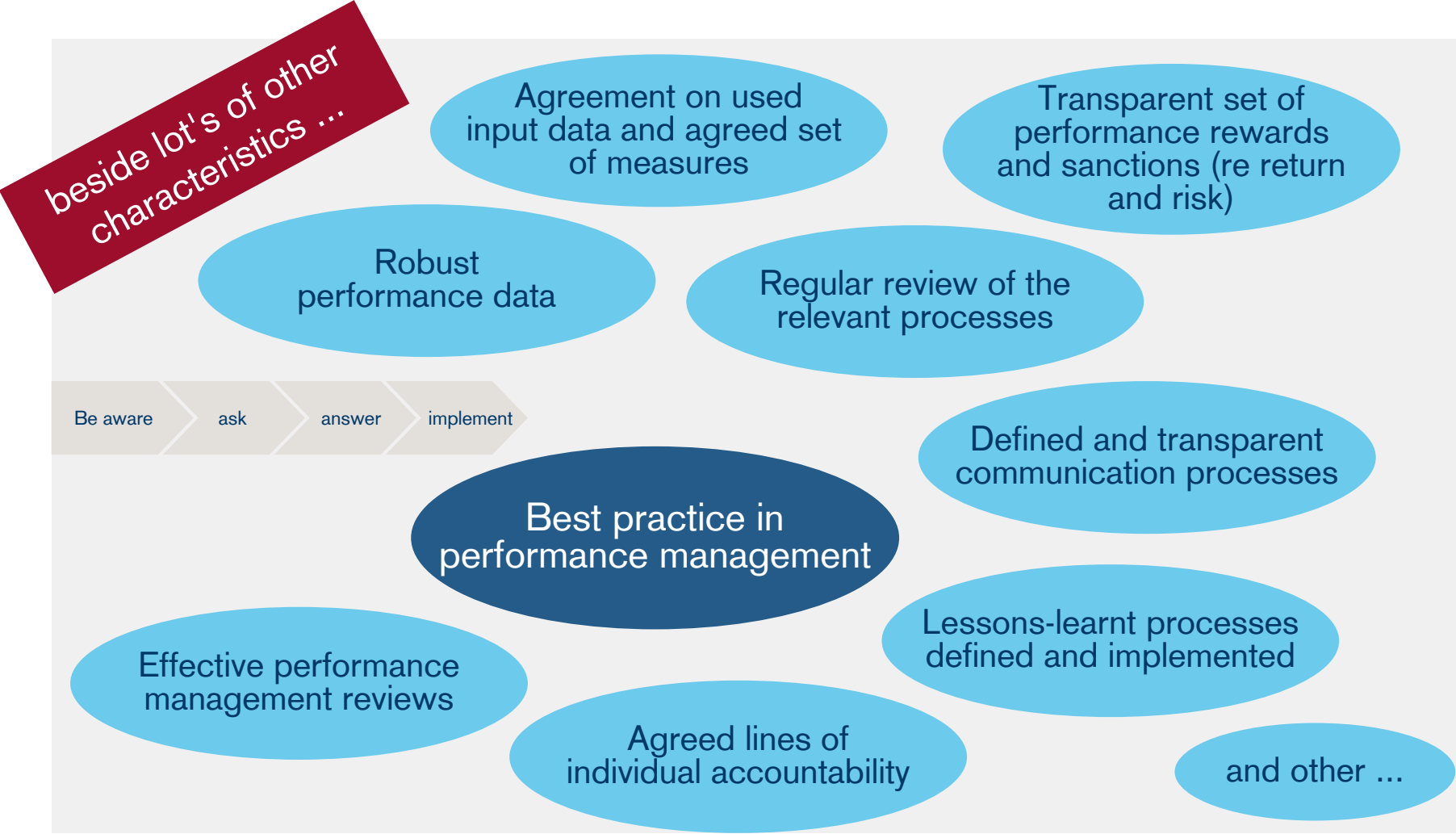
(5/5)

Performance measurement, reporting and management are embedded in the overall **performance governance and framework** defining the respective principles, objectives, structure, setup, process, tools, guidelines, addressees, responsibilities, rules and regulations.

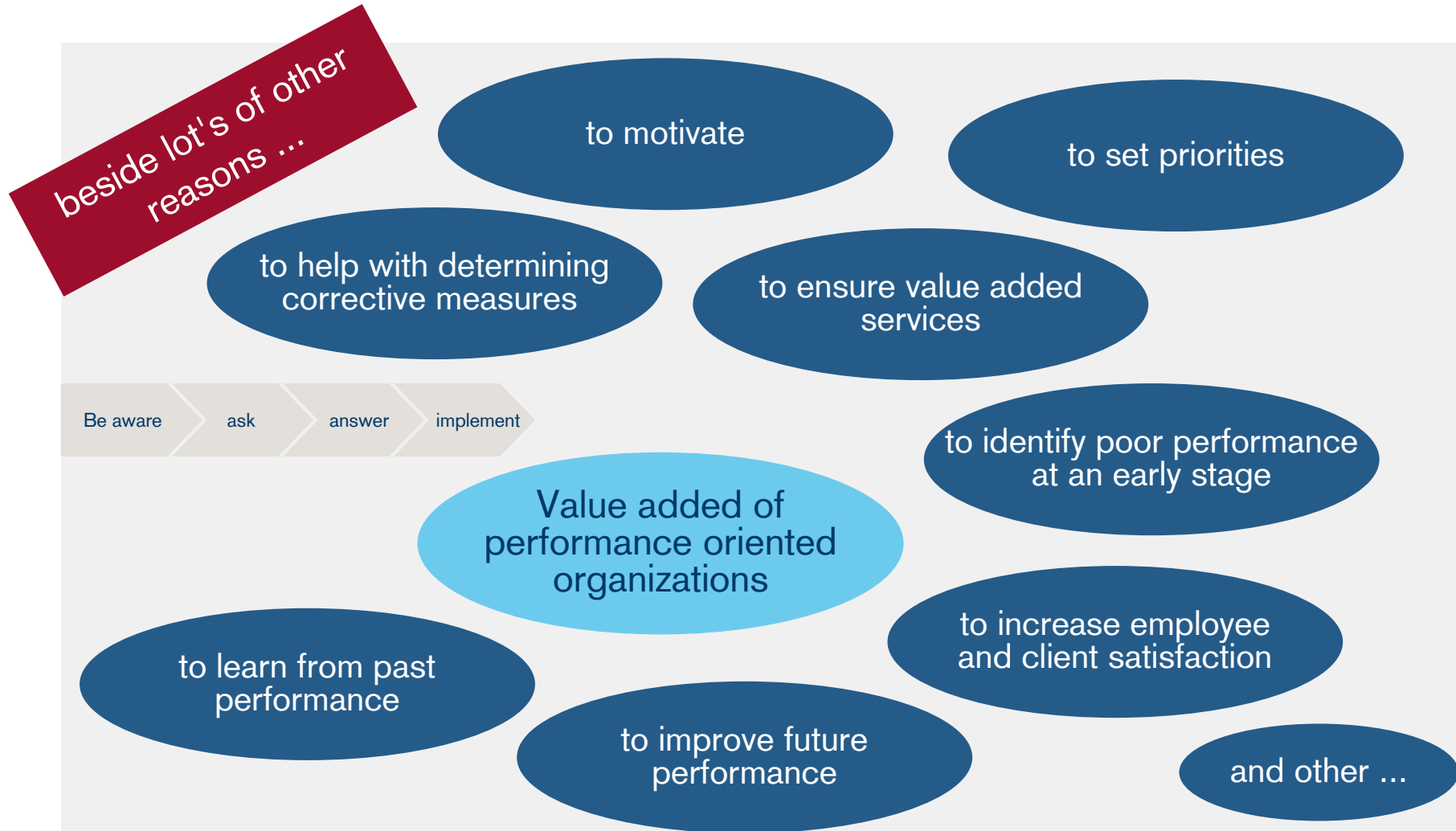
- Is there a performance culture within the organization?
- What are the relevant committees responsible for the performance?
- Are responsibilities defined and clearly assigned?
- Are principles defined for reporting, reviewing and escalating performance?
- Are there any conflicts of interest re performance?
- Is an internal control and monitoring system defined?
- ...



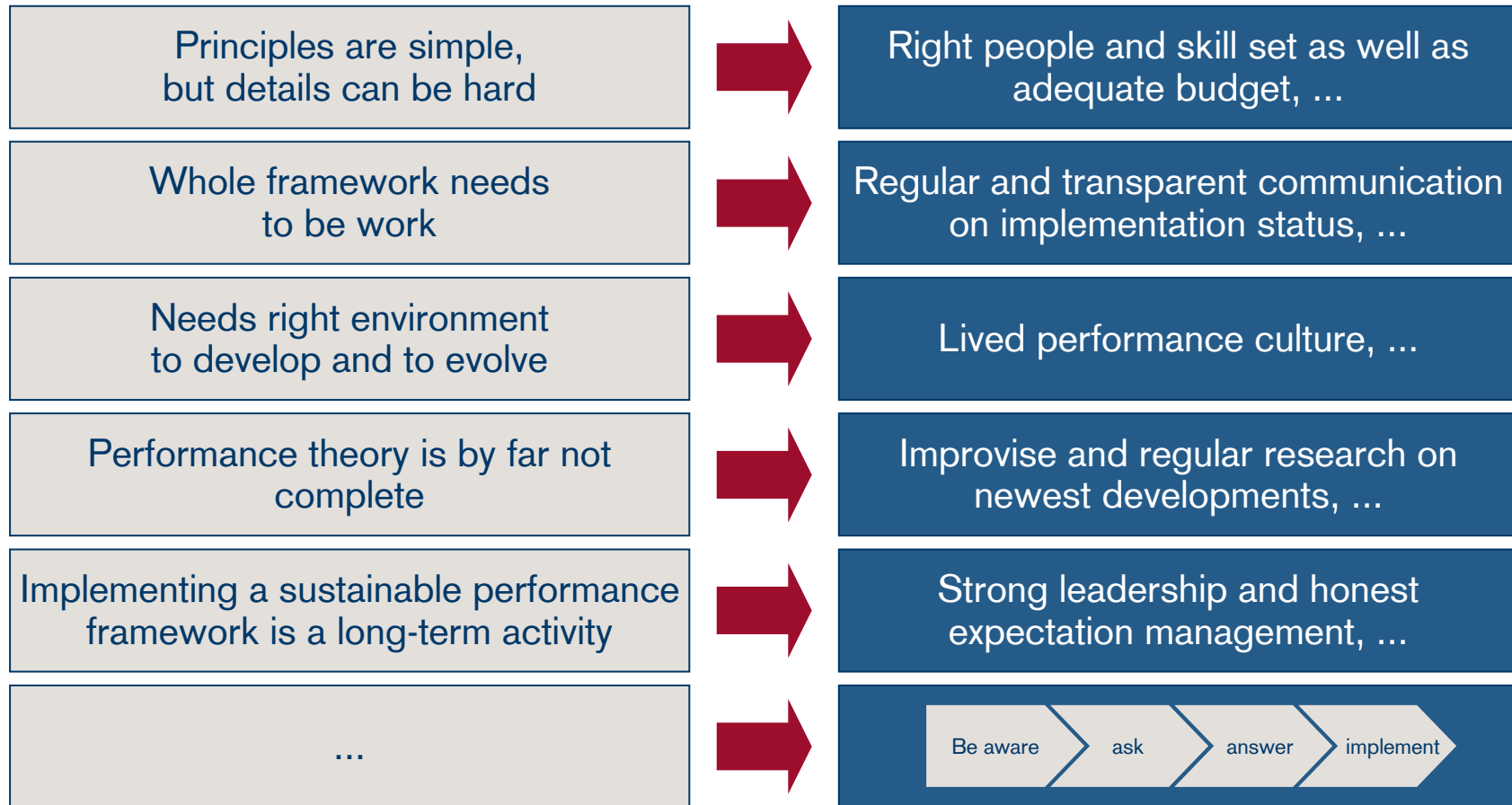
Characteristics of sustainable performing organizations



But ... why is a performance framework important?

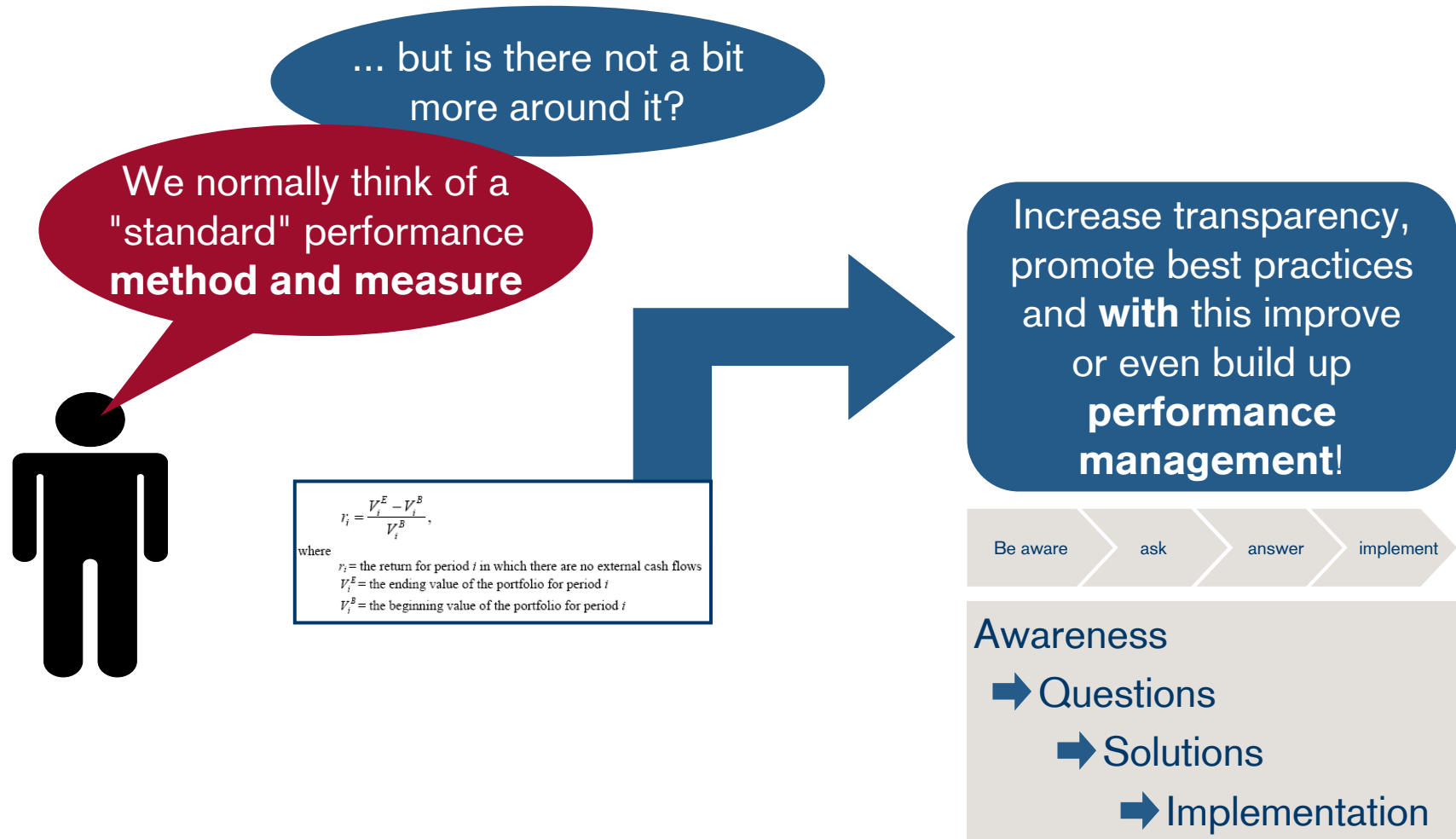


But ... a performance framework is not easy to implement



Conceptual discussion on performance methods & measures

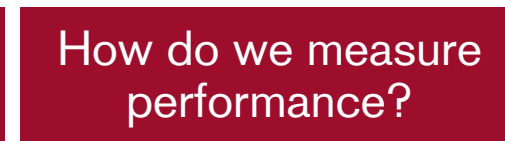
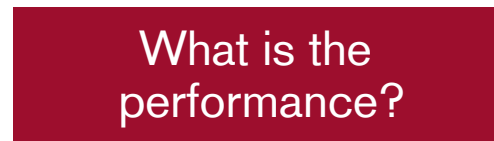
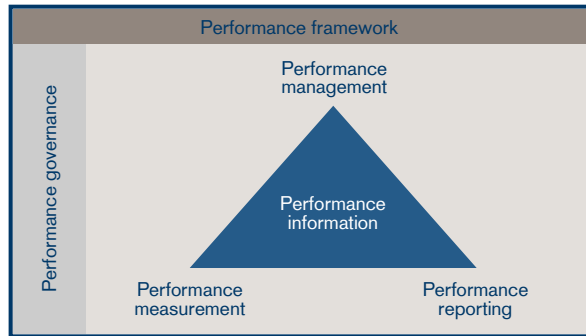
Starting point and objective – methods and measures



$$r_i = \frac{V_i^E - V_i^B}{V_i^B}$$

where
 r_i = the return for period i in which there are no external cash flows
 V_i^E = the ending value of the portfolio for period i
 V_i^B = the beginning value of the portfolio for period i

Topics for discussion



- 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
Δ assets = 10		Δ liabilities = 4 Δ 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% ?/!

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 \neq

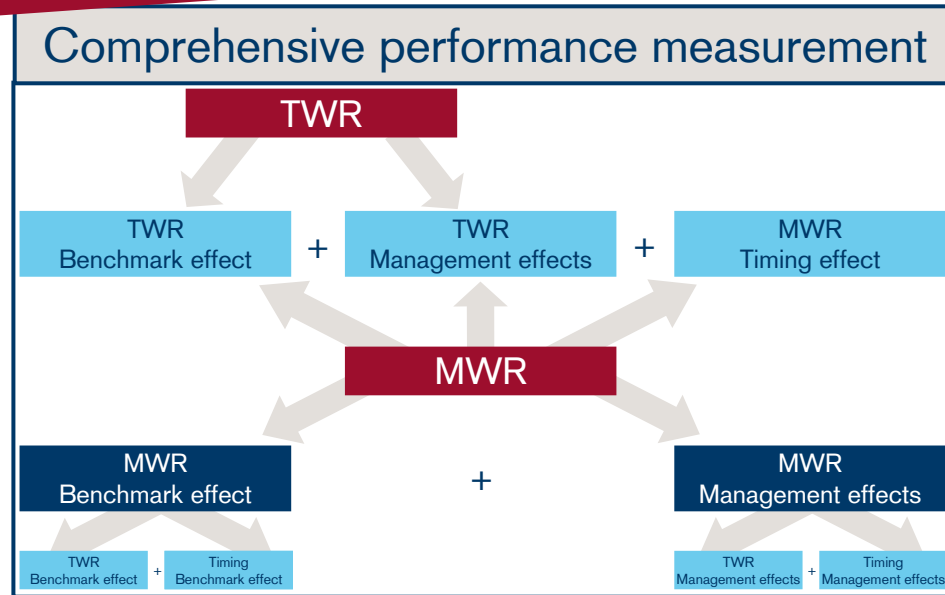
Return on equity (investment management view) = 60.0%
= $(16.0 - 10.0) / 10.0 = 6.0 / 10.0$

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?

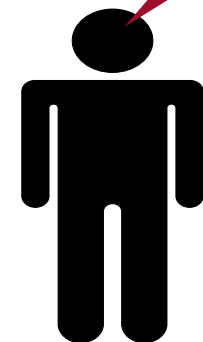
(4/7)

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

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		

$$\text{Return on equity (accounting view)} = 51.5\%$$
$$= (22.5 - 10.0 - 5.0) / \{[(10.0 + 9.5)/2 + (9.5 + 14.0)/2 + (14.0 + 18.1)/2 + (18.1 + 22.5)/2] / 4\} = 7.5 / 14.5$$

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)

$$10.73\% = 3.94\% + 6.79\% \quad (\text{or for P\&L: } 11.8 = 4.3 + 7.5)$$

Return contribution on equity (MWR)

= Return on total capital (MWR)

– Return contribution on total liabilities (MWR)

$$6.79\% = 10.73\% - 3.94\% \quad (\text{or for P\&L: } 7.5 = 11.8 - 4.3)$$

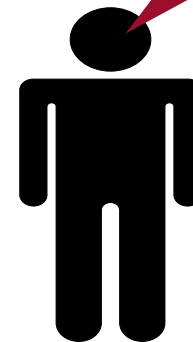
Remark: For the calculation of the return contribution (MWR) see "Decomposing the Money-Weighted Rate of Return – an Update", Stefan J. Illmer, 2009, Journal of Performance Measurement.

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 !



... and for sure additional analysis and research is needed!

References

References

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4. "Decomposing the money-weighted rate of return – an update", Stefan J. Illmer, 2009, Journal of Performance Measurement.
5. and other information on performance measurement and management available on the internet.

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