

Overview of Investment Controlling Part 1

Version 2.0

Date: April 2010

Produced by: Dr. Stefan J. Illmer



Agenda

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 - 1.1. Definition of investment controlling
 - 1.2. Investment controlling: the big picture
 - 1.3. Client's versus asset manager's view
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Agenda

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- 2.5. Performance reporting
- 2.6. Performance analysis
- 2.7. Performance review
- 3. Example of a performance review
 - 3.1. Performance review
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 - 3.3. Management effects over time
 - 3.4. Sector weights over time
 - 3.5. Ex-ante risks over time

Agenda

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3.6. Conclusion

3.7. What can investment controlling achieve?

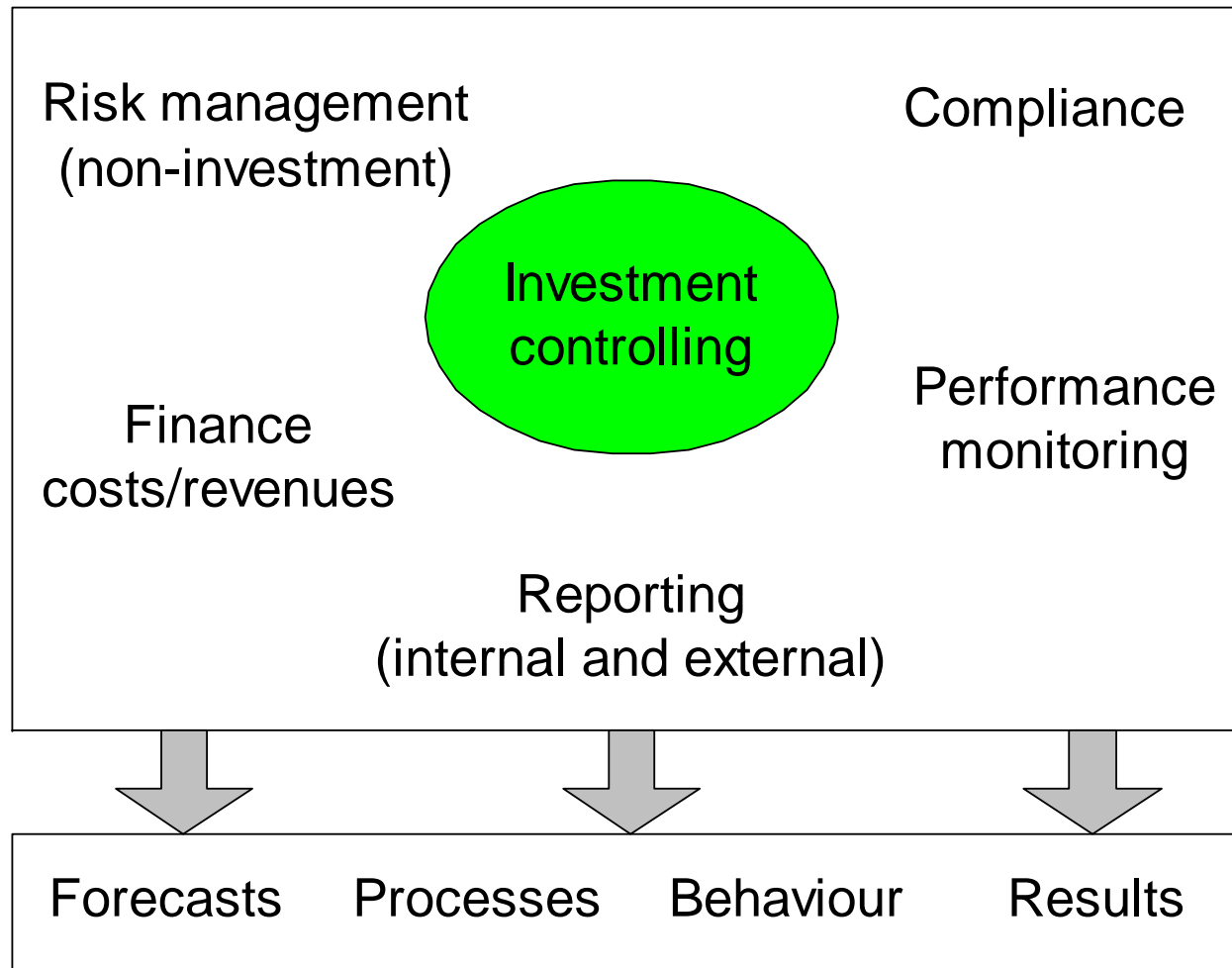
3.8. What can investment controlling not achieve?

1. Investment controlling and the investment process

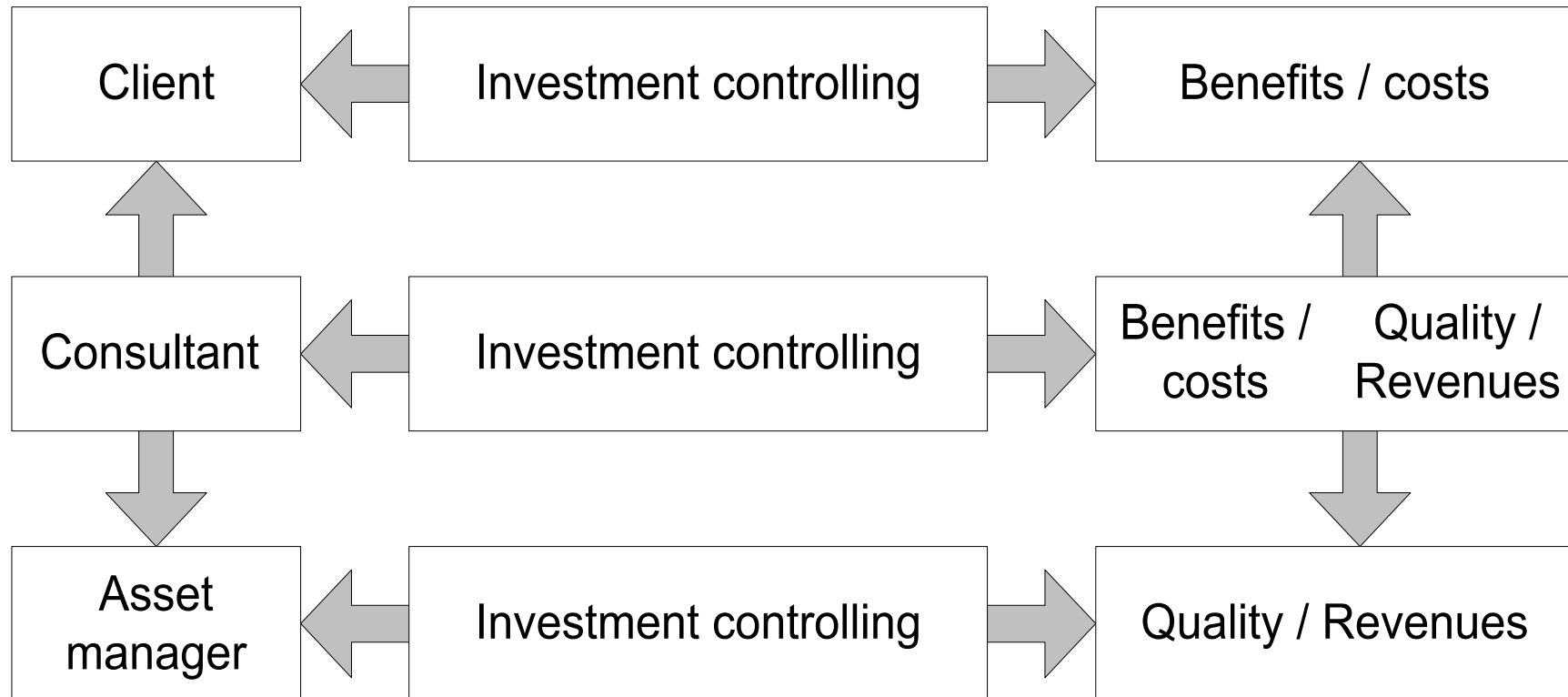
Definition of investment controlling

- Investment controlling is concerned with independently supervising and monitoring the quality of asset management accounts with the aim of ensuring performance and quality in order to provide the required benefit for the client.
- Dependent of setup, investment controlling not only encompasses controlling activities but also can include areas from compliance to performance review.
- Investment controlling aspects can also be taken into consideration by clients or advisers and consequently it is possible that they also perform certain investment controlling activities.

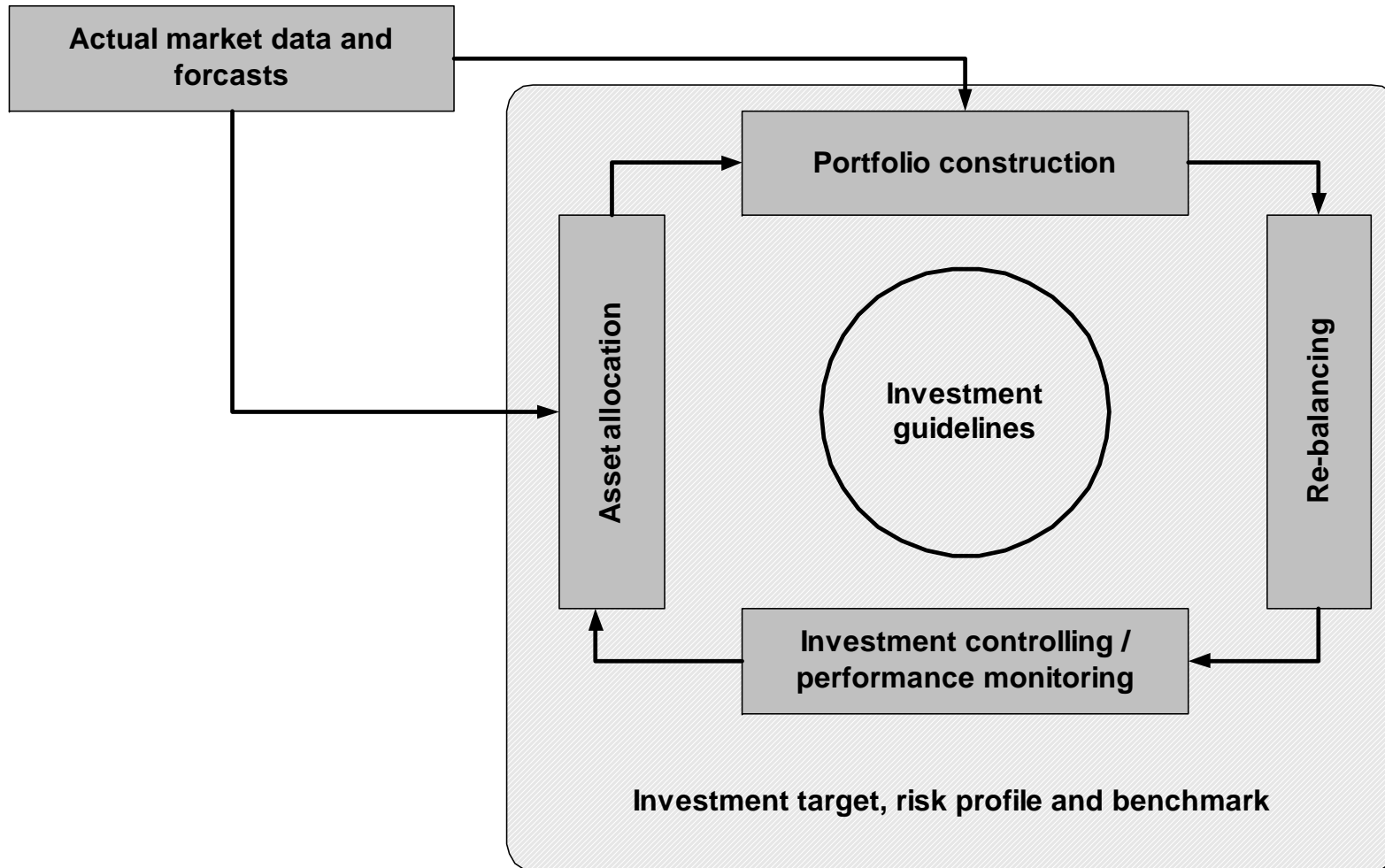
Investment controlling: the big picture



Client's versus asset manager's view

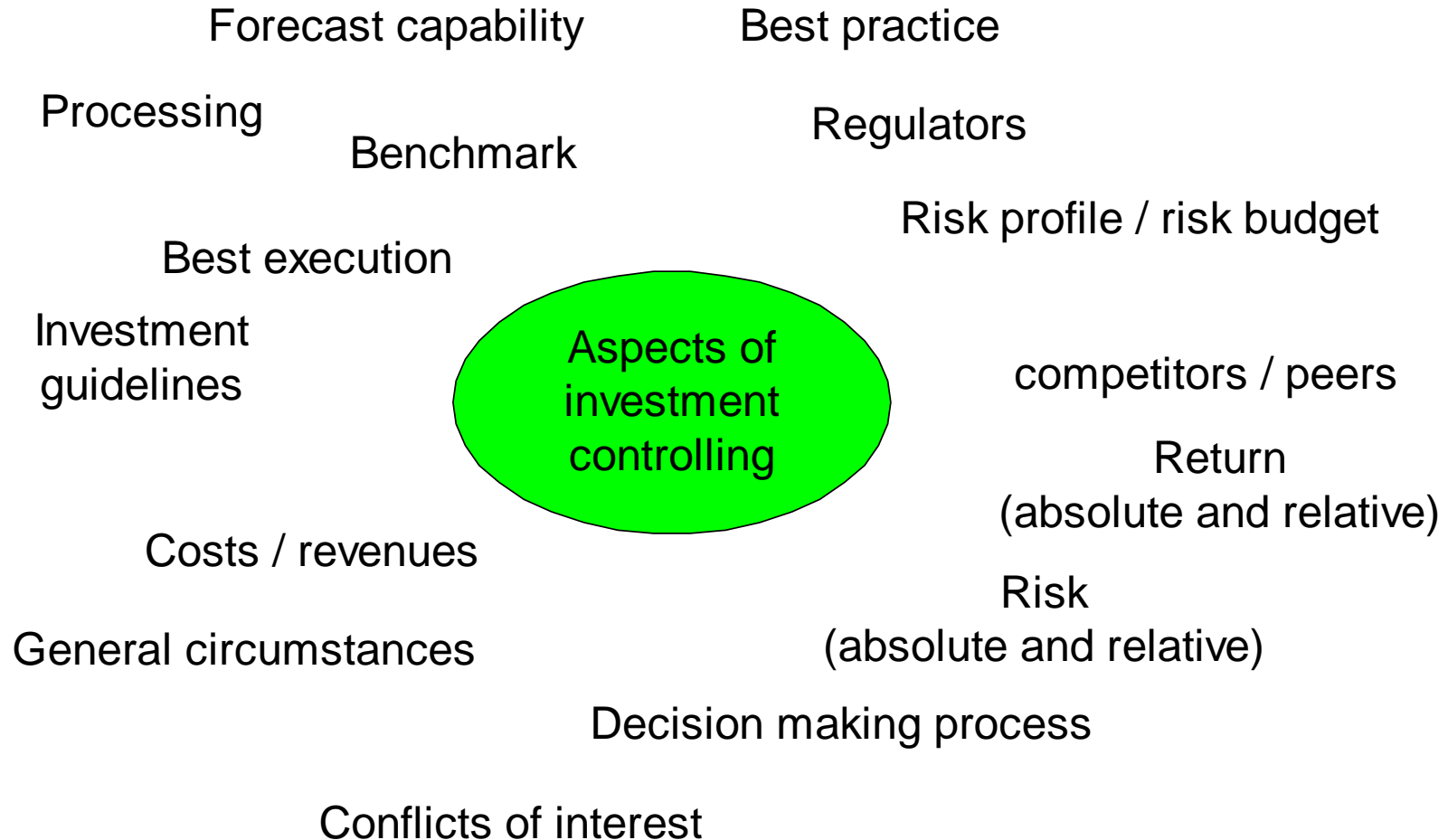


Integration into the investment process

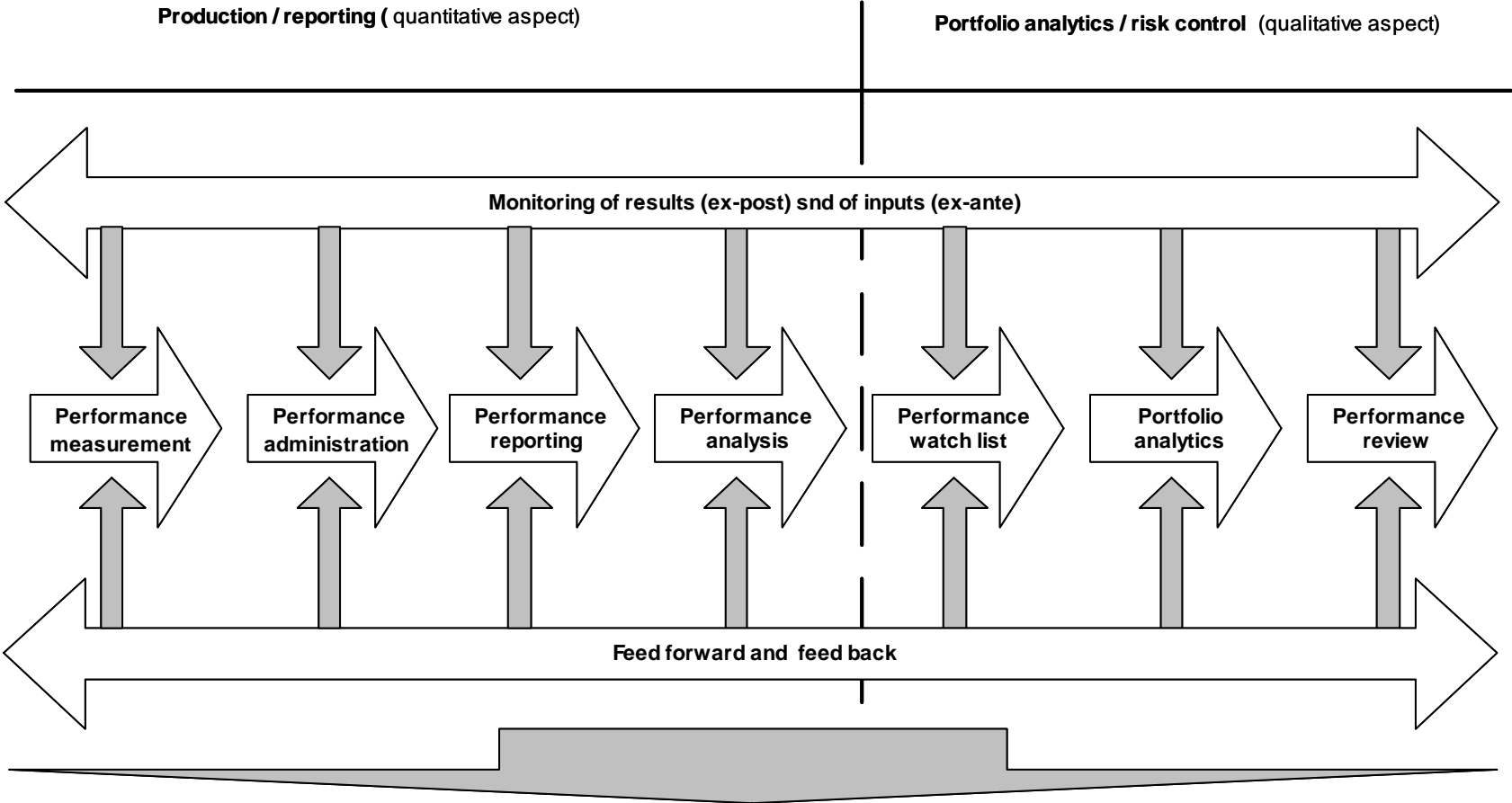


2. Building blocs and setup of the investment controlling

Aspects of investment controlling



Performance monitoring process



Efficient controlling of forecast and of investment process outcome

Performance measurement

PORTFOLIOREPORT

Nur für internen Gebrauch

Portfolio Manager: PM XY
Depotbezeichnung: Kunde XY
Reporting Priorität: 3

Depotnummer: XYZ
Referenzwährung: CHF
Benchmark: BM XY

Datenbasis für die Periode 31.12.00 - 31.03.01

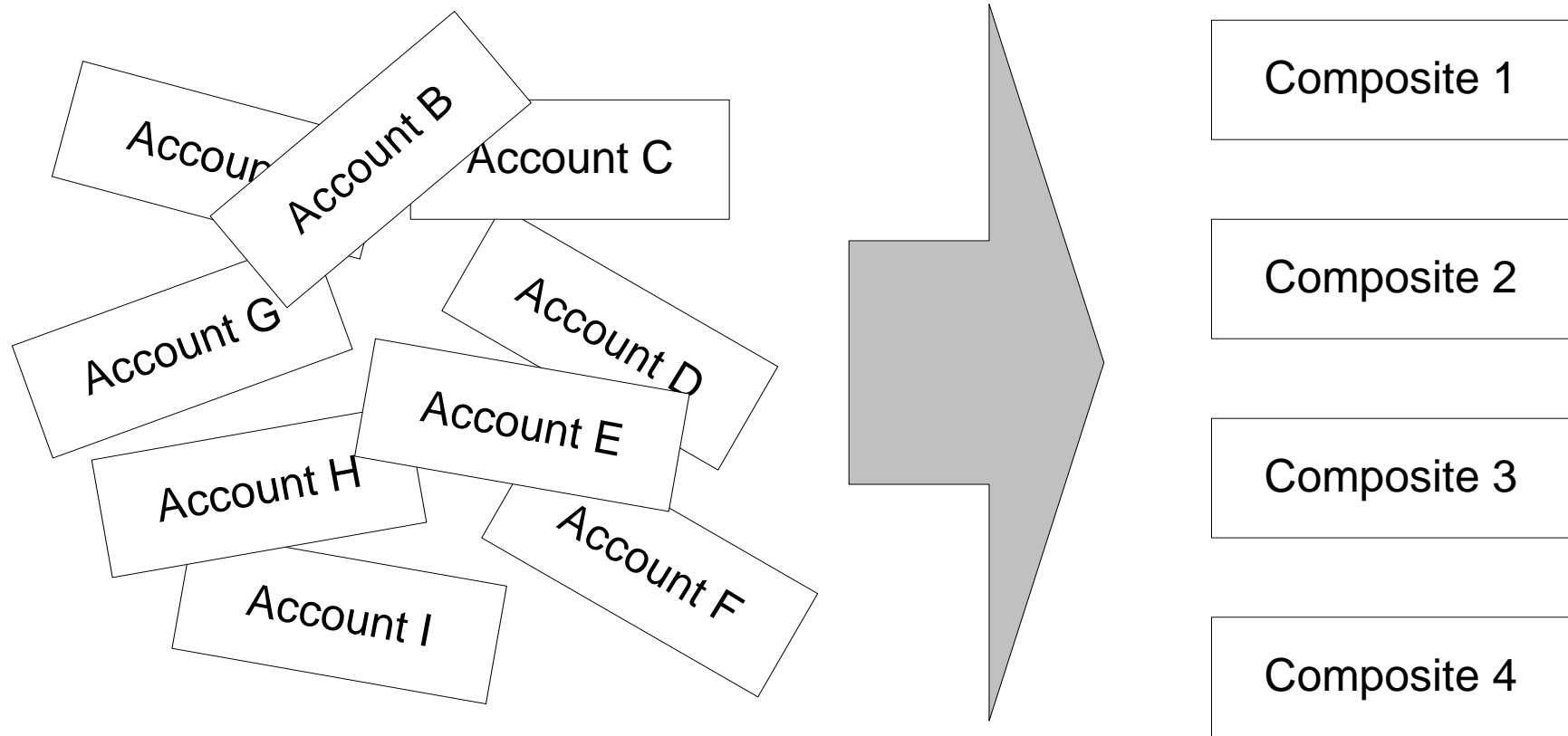
Datum	Bestand inkl. MZ	G/V Termin	Opt./Dev.	Wertber.	Datum MF	Betrag MF	Mittelflussart	Brutto	YTD	Netto	YTD	BM	YTD
31.12.00	481'943'544	0	0	0									
					04.01.01	-1'200'000.00	Geldabfluss (-)						
					15.01.01	-495'687.50	Einbeh. QST ohne Valutadatum (PE02) (-)						
					15.01.01	-700'000.00	Geldabfluss (-)						
					24.01.01	-3'889.30	Bel. Depot/ Verw./ Handlungsgebühr (-)						
					24.01.01	-1'080.35	Bel. Depot/ Verw./ Handlungsgebühr (-)						
					30.01.01	-12'048.60	Belastete Management Fee (-)						
					30.01.01	-8'634.80	Belastete Management Fee (-)						
31.01.01	482'678'447	0	0	0				0.66%	0.66%	0.65%	0.65%	0.75%	0.75%
					02.02.01	-6'000'000.00	Geldabfluss (-)						
					14.02.01	-1'243'403.00	Einbeh. QST ohne Valutadatum (PE02) (-)						
					15.02.01	800'000.00	Geldzufluss (+)						
					23.02.01	-25'692.25	Bel. Depot/ Verw./ Handlungsgebühr (-)						
28.02.01	477'733'408	0	0	0				0.32%	0.98%	0.31%	0.97%	0.30%	1.05%
					05.03.01	-2'500'000.00	Geldabfluss (-)						
					12.03.01	-1'000'000.00	Geldabfluss (-)						
					15.03.01	-533'093.75	Einbeh. QST ohne Valutadatum (PE02) (-)						
					15.03.01	-25'429.00	Bel. Depot/ Verw./ Handlungsgebühr (-)						
31.03.01	478'459'778	0	0	0				1.01%	2.00%	1.00%	1.98%	1.02%	2.08%

Total für die ausgewählte Periode

Total Mittelflüsse (PE02 konform): -10'600'000.00
Total einbehaltene Quellensteuer: -2'272'184.25
Total Fees: -76'774.30
Total übrige Mittelflüsse: 0.00

Datum: _____ **Visum PM:** _____

Performance administration



=> e.g. also in accordance with the GIPS Standards

Performance reporting

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Performance Presentation Standards Report ASSET MANAGEMENT COMPANY

Equities World BM MSCI active Mandates direct

Reporting Currency CHF Inception Date 01 Jan 1997
Benchmark MSCI World (rt) in CHF Creation Date 01 Jan 1997

Period	Total Return (%)	Benchmark Return (%)	Number of Portfolios	Composite Dispersion (%)	Total Assets at End of Period (millions)	Percentage of Firm Assets (%)	Total Firm Assets at End of Period
YTD Dec 03	18.0	19.6	5	0.2	84.3	<0.10	88'286.5
2003	18.0	19.6	5	0.2	84.3	<0.10	88'286.5
2002	-35.3	-33.0	8	0.7	126.6	0.1	86'626.3
2001	-16.0	-14.5	8	1.5	233.0	0.2	106'555.1
2000	-13.5	-11.8	7	1.3	202.1	0.2	106'690.7
1999	60.2	46.1	3	2.6	143.7	0.2	88'097.4
1998	21.3	17.5	<3	N/A	62.8	<0.10	67'797.0
1997	22.5	26.3	<3	N/A	16.1	<0.10	49'514.7

Accompanying Notes

Compliance Statement

Asset Management Company has prepared and presented this report in compliance with the Global Investment Performance Standards (GIPS (TM)), the Swiss Performance Presentation Standards (SPPS) and the Performance Presentation Standards of the Association of Investment Management and Research (AIMR-PPS (TM) as the U.S. and Canadian version of the GIPS (TM)). The Swiss Banking Association and AIMR have not been involved with the preparation or review of this report.

Definition of the Firm

Asset Management Company is an independent investment management firm established in 1997. Asset Management Company manages a variety of equity, fixed income, and balanced assets for primarily Swiss and European clients.

Benchmark

If the composite has a customized benchmark or a single index allocation has changed in history, the details are not shown in the above report title. However the full details are available on request. Sources of foreign exchange rates may be different.

Dispersion

The dispersion of the annual returns is measured by the standard deviation across asset-weighted portfolio returns represented within the composite for the full year.

Fees

Performance figures are presented gross of management fee, custodial fees and withholding taxes, but net of all trading commissions. There are no non-fee paying accounts in this composite.

List of Composites

A complete listing and description of all composites is available on request.

Verification

Asset Management Company is verified by an independent external auditor on an annual basis from 1997. The performance figures for the year 2002 and thereon have not yet been verified and therefore minor revisions of distributed composites presentations might be possible.

Fee Schedule

The standard fixed management fee for accounts with assets under management of up to CHF 50 mio. is 0.35% p.a.

Disclaimer

Past performance is no guarantee of future results.

Performance reporting

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Equities World BM MSCI active Mandates direct

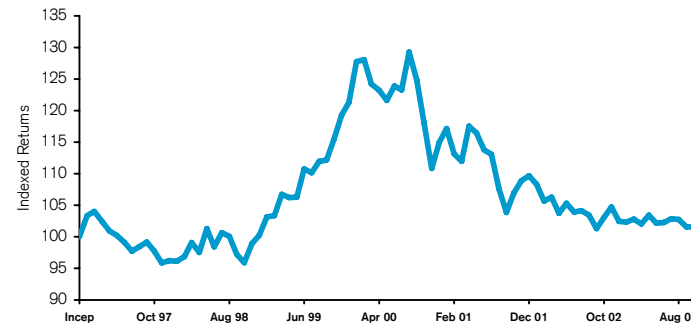
Benchmark MSCI World (ri) in CHF **Series Type** Asset Weighted Gross Return **Reporting Currency** CHF
No. of A/Cs 5 **Inception Date** 01 Jan 1997 **Market Value (m) End of Period** 84.27
Composite Code ZU-COMP250 **Reporting Date** 31 Dec 2003

	Periodical Returns in %		
	Composite	Benchmark	Relative
1 Month	1.67	1.69	-0.03
3 Months	6.60	7.11	-0.50
6 Months	8.43	9.58	-1.15
1 Year	17.98	19.64	-1.66
2 Years	-12.65	-10.46	-2.18
3 Years	-13.77	-11.82	-1.96
4 Years	-13.70	-11.83	-1.87
5 Years	-2.33	-2.46	0.13
Since Incep.	4.05	3.93	0.12

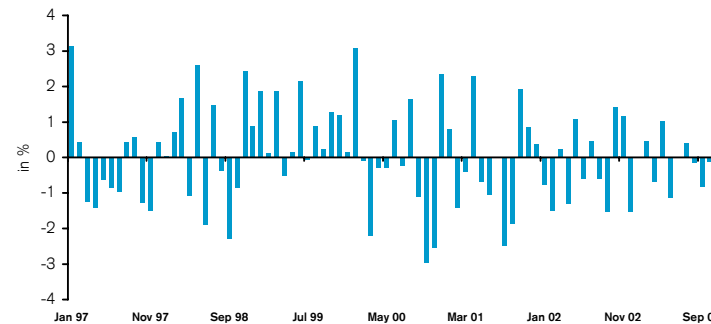
	Calendar Year Returns in %		
	Composite	Benchmark	Relative
YTD	17.98	19.64	-1.66
2003	17.98	19.64	-1.66
2002	-35.32	-32.99	-2.33
2001	-15.99	-14.47	-1.52
2000	-13.46	-11.84	-1.62
1999	60.21	46.07	14.14
1998	21.29	17.51	3.78
1997	22.50	26.25	-3.75

Annual Risk Figures in %	Composite	Benchmark
Volatility over 1 Year	16.90	15.80
Volatility Since Inception	22.98	20.80
Sharpe Ratio over 1 Year	1.06	1.24
Sharpe Ratio Since Inception	0.10	0.10
Tracking Error over 1 Year	2.12	N/A
Tracking Error Since Inception	4.69	N/A
Information Ratio over 1 Year	-0.78	N/A
Information Ratio Since Inception	0.03	N/A
Correlation over 1 Year	0.99	N/A
Correlation Since Inception	0.98	N/A

Indexed Cumulative Relative Returns



Monthly Relative Returns

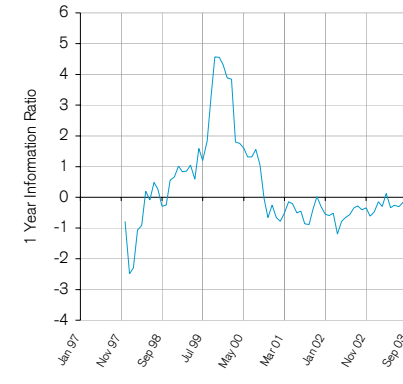
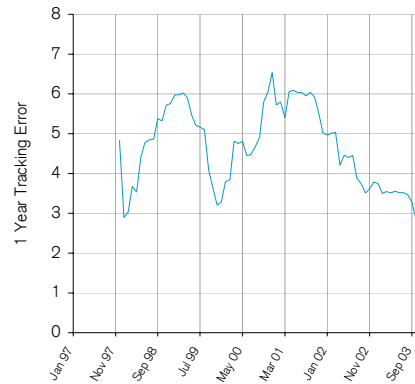
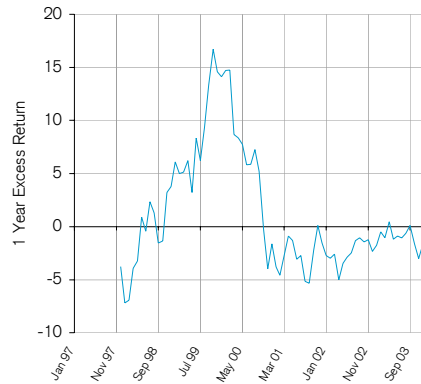
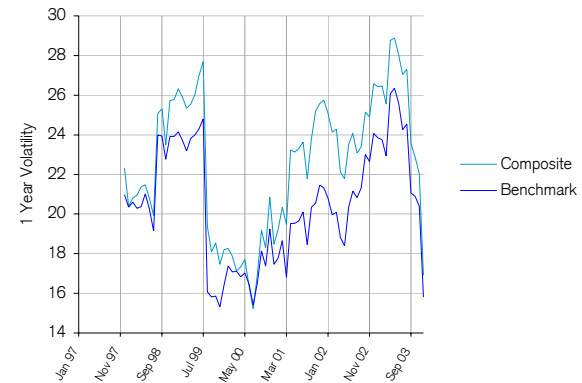
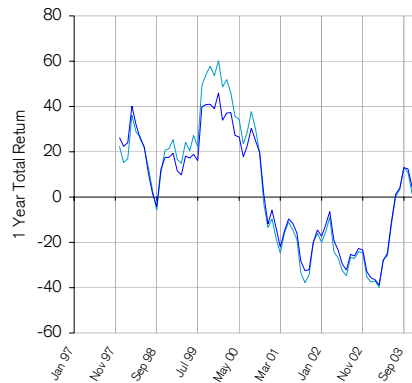


Performance reporting

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Equities World BM MSCI active Mandates direct

Benchmark	MSCI World (ri) in CHF	Performance Type	Asset Weighted Gross Return	Base Currency	CHF
No. of A/Cs	<5	Inception Date	01 Jan 1997	Market Value (m)	84.27
Composite Code	ZU-COMP250	Date	31 Dec 2003		

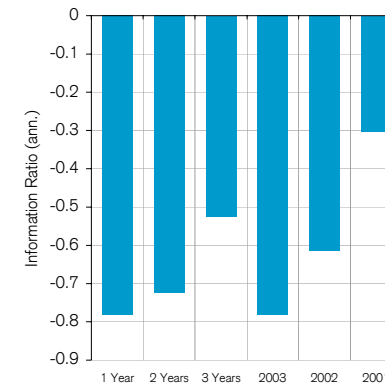
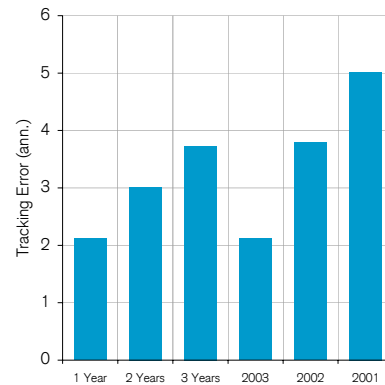
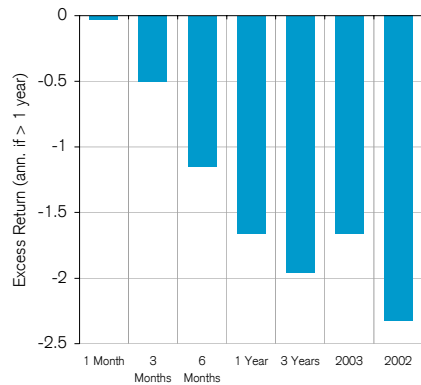
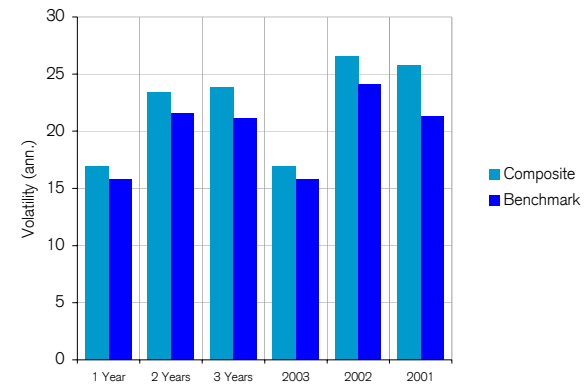
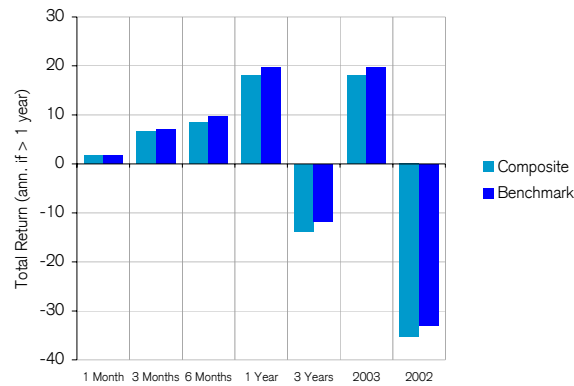


Performance reporting

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Equities World BM MSCI active Mandates direct

Benchmark	MSCI World (ri) in CHF	Performance Type	Asset Weighted Gross Return	Base Currency	CHF
No. of A/Cs	<5	Inception Date	01 Jan 1997	Market Value (m)	84.27
Composite Code	ZU-COMP250	Date	31 Dec 2003		



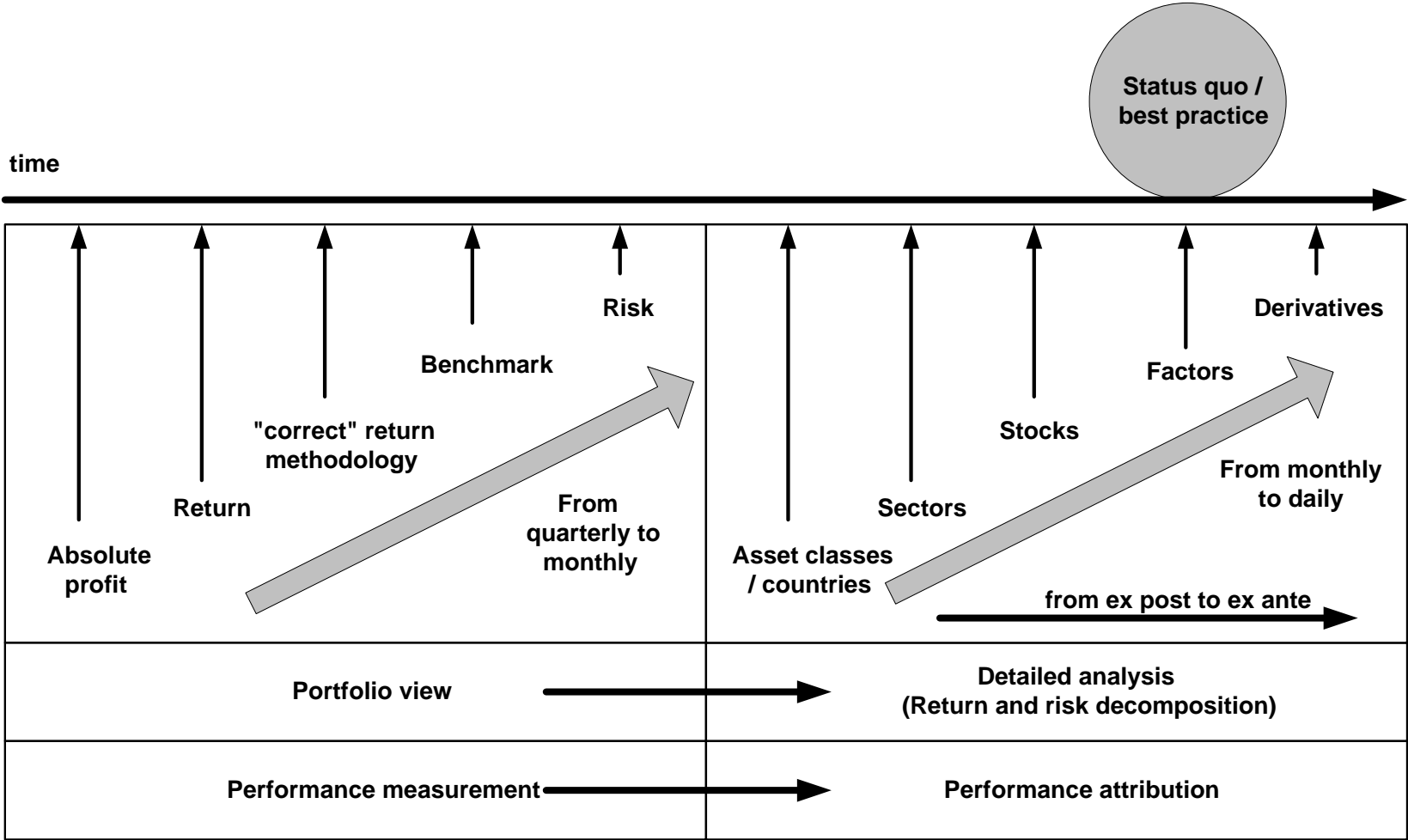
Performance analysis

(1/11)

- Performance analysis and also performance attribution is the measurement and quantification of the historical as well as expected return and risk contributions of the individual steps of the investment process as well as of the applied financial instruments.
- We distinguish between return and risk contribution and attribution, whereby performance contribution is a more or less arbitrary breakdown of the performance using a given breakdown of the investment universe and performance attribution is a decision oriented decomposition of the performance.

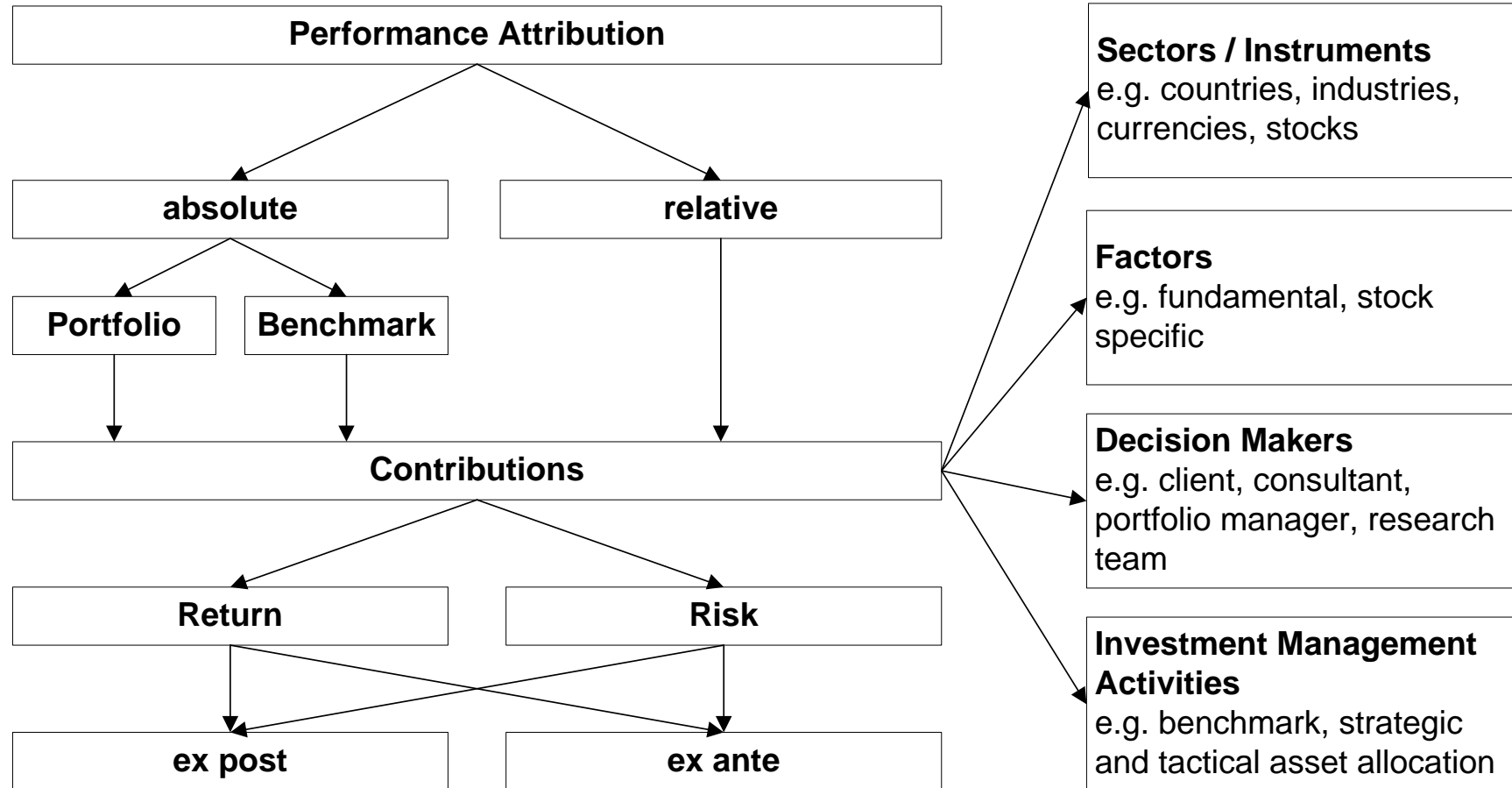
Performance analysis

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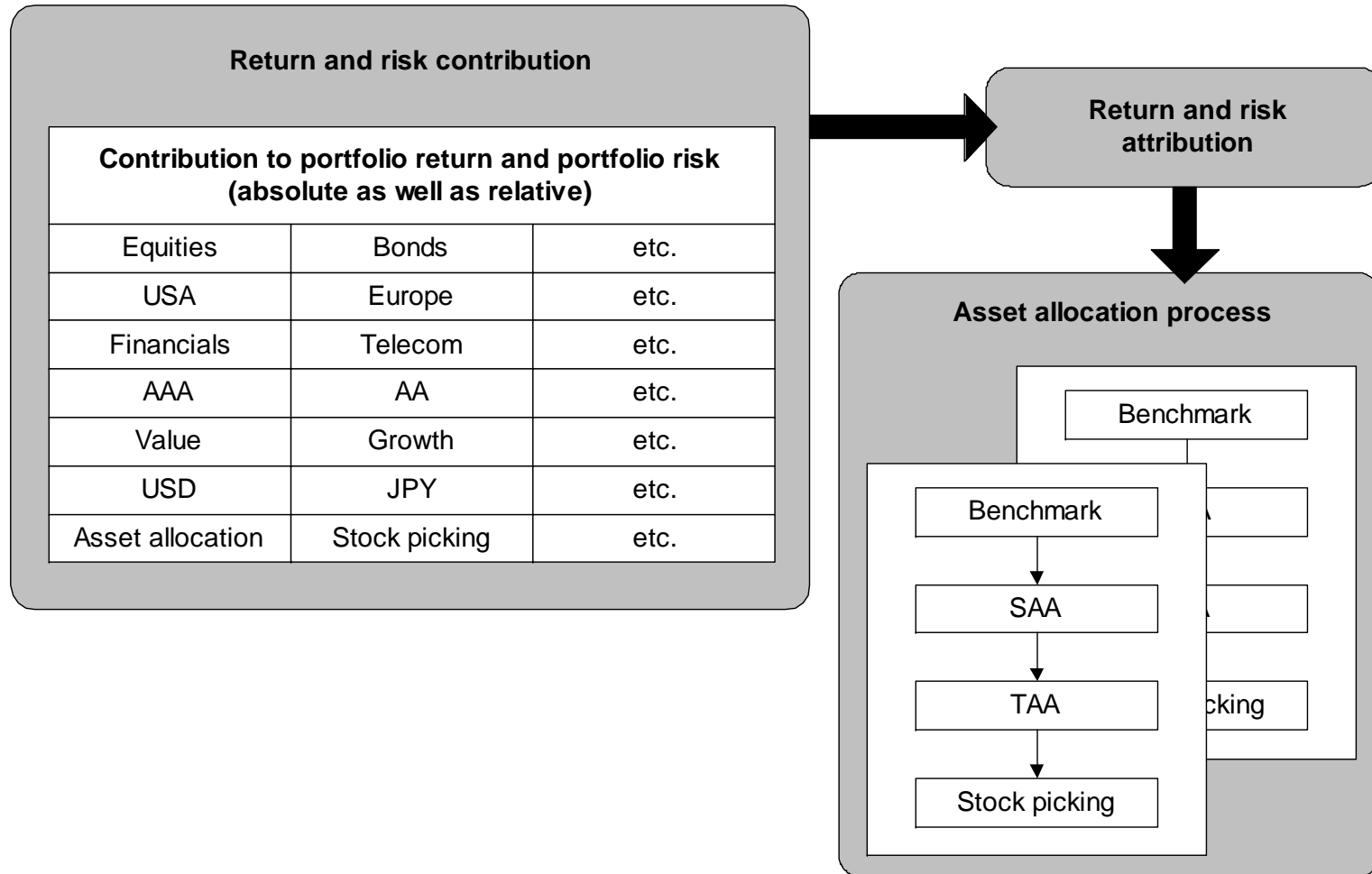
Performance analysis

(2/11)



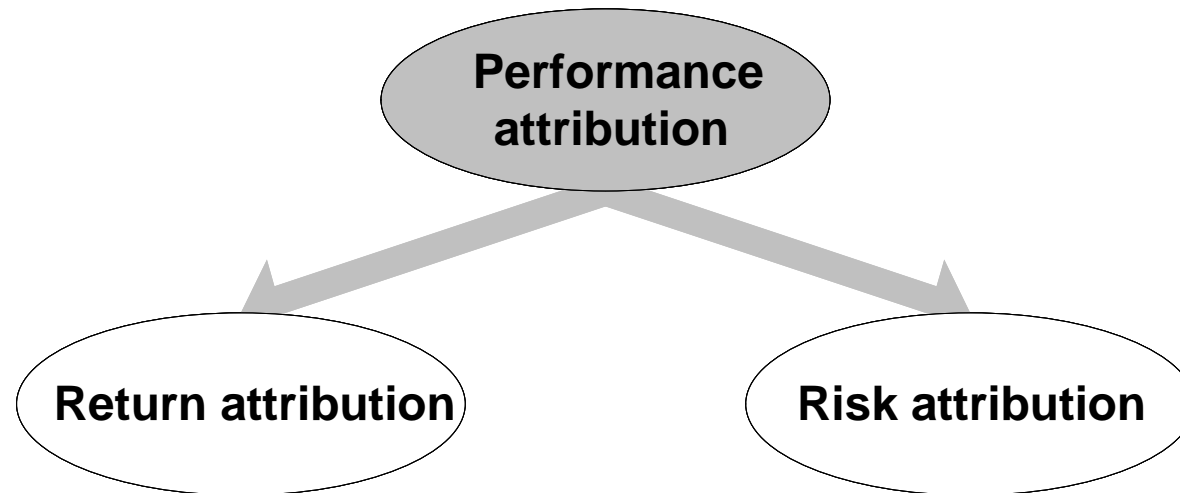
Performance analysis

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Performance analysis

(4/11)



i.e.

Groups of FT Sector	Asset Allocation	Stock Selection	Interaction	Total
Basic Industries	0.07%	-0.04%	0.01%	0.04%
Cyclical Consumer Goods	-0.21%	0.26%	-0.11%	-0.06%
Cyclical Services	-0.05%	0.00%	-0.09%	-0.13%
Finance	0.00%	0.11%	0.00%	0.11%
General Industries	0.10%	-0.19%	-0.14%	-0.22%
Information Tech	0.23%	-0.36%	0.06%	-0.07%
Non Cyclical Cons. Goods	-0.28%	-0.15%	0.01%	-0.41%
Non Cyclical Services	-0.38%	-0.13%	0.00%	-0.51%
Resources	-0.22%	-0.02%	0.00%	-0.24%
Utilities	-0.13%	0.00%	-0.01%	-0.14%
Other Assets	0.08%	0.00%	0.01%	0.09%
Total	-0.79%	-0.52%	-0.25%	-1.56%

i.e.

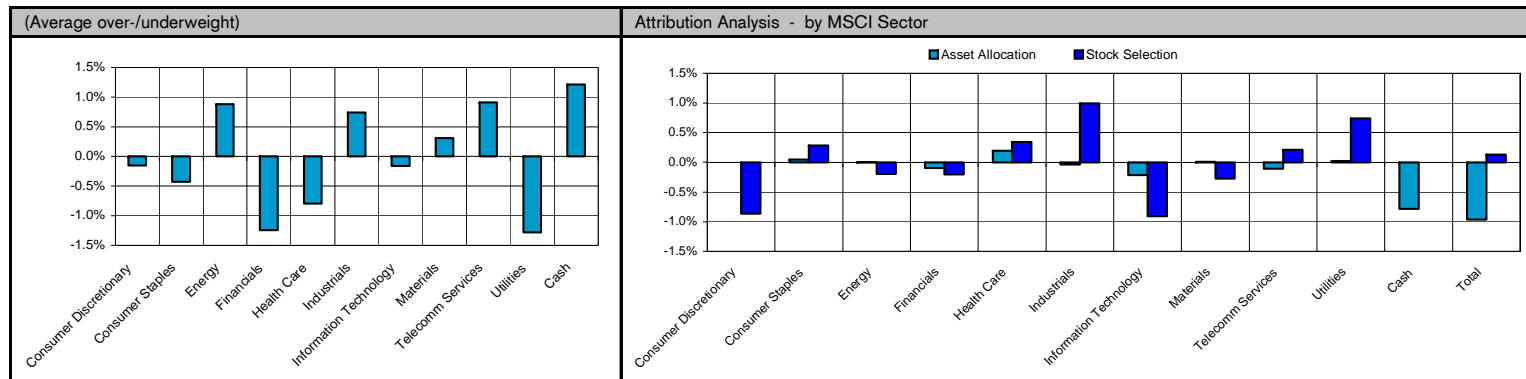
Risk Model : Global	Portfolio	Benchmark
Number of Securities	99	576
Portfolio Value	227'447'728	
Total Risk (ex-ante)	15.76%	15.31%
- Factor Specific Risk	15.53%	15.20%
- Stock Specific Risk	2.72%	1.83%
Tracking Error (ex-ante)	2.35%	
Relative Value at Risk	10'878'425	
R-squared	0.98	
Beta-adjusted Risk	15.59%	15.31%
Predicted Beta	1.02	
Predicted Dividend Yield	2.22	2.37
P/E Ratio (E: 12 months)	38.19	29.42
P/B Ratio (B: year-end)	5.34	4.68

Risk Model : Global	Portfolio	Tracking Error
Total Risk (ex-ante)	15.76%	2.35%
Factor Specific Risk	15.53%	1.40%
- Region	12.40%	0.19%
- Country	9.06%	1.13%
- Industry	3.07%	0.72%
- Fundamental	1.10%	0.48%
- Currency	4.38%	0.52%
- Covariance (+/-)	4.93%	0.60%
Stock Specific Risk	2.72%	1.89%

Performance analysis

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Portfolio		Return		Attribution Effects	Attribution by MSCI Sector	Attribution by 5 World Regions
NAME (ID)	Composite World MSCI, active, mandates	Currency	CHF	Asset Allocation	-0.96%	-1.01%
PM	AMPE	Return Portfolio	18.28%	Stock Selection	0.13%	-0.59%
BENCHMARK	MSCI World in CHF	Return Benchmark	19.60%	Interaction	-0.49%	0.28%
PERIOD	31.12.2002 - 31.12.2003	Return Relative	-1.32%	Total	-1.32%	-1.32%



Risk Analysis (end period)	Portfolio	Benchmark	Attribution Analysis - by 5 World Regions
Number of Securities	67	1'550	
Number of Currencies	8	0	
Portfolio Value	84'334'091		
Total Risk (ex-ante)	18.81%	18.21%	
- Factor Specific Risk	18.66%	18.18%	
- Stock Specific Risk	2.39%	1.02%	
Tracking Error (ex-ante)	2.57%		
Value at Risk (at 95%)	3'570'469		
R-squared	0.98		
Beta-adjusted Risk	18.64%	18.21%	
Predicted Beta	1.02		
Predicted Dividend Yield	1.86	2.01	
P/E Ratio (E: 12 months)	28.39	26.00	
P/B Ratio (B: year-end)	2.58	2.56	
			Important Remark: Differences between attribution returns and the returns of the official performance measurement tool are usual. They can be explained by the two systems using two different methodologies and by intraday trading gains or losses. Above figures are subject to future changes.

Performance analysis

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by MSCI Sector	Average PF Weight	Average BM Weight	Relative Weight	Absolute PF Return	Absolute BM Return	Difference PF-BM	Difference BM-BM Tot
Consumer Discretionary	12.03%	12.18%	-0.15%	15.58%	23.07%	-7.49%	3.47%
Consumer Staples	8.83%	9.26%	-0.43%	7.74%	5.09%	2.65%	-14.51%
Energy	8.29%	7.41%	0.88%	10.51%	13.30%	-2.79%	-6.30%
Financials	21.70%	22.94%	-1.24%	23.90%	24.94%	-1.04%	5.34%
Health Care	11.73%	12.53%	-0.80%	9.60%	7.31%	2.29%	-12.30%
Industrials	10.45%	9.71%	0.74%	34.93%	24.08%	10.85%	4.48%
Information Technology	12.33%	12.49%	-0.16%	25.06%	32.79%	-7.73%	13.19%
Materials	4.84%	4.53%	0.31%	23.11%	30.33%	-7.22%	10.73%
Telecomm Services	6.15%	5.24%	0.91%	15.02%	12.64%	2.38%	-6.96%
Utilities	2.44%	3.72%	-1.28%	34.09%	15.45%	18.64%	-4.15%
Cash	1.21%	0.00%	1.21%	8.94%	0.00%	8.94%	-19.60%
Total	100.00%	100.00%	0.00%	18.28%	19.60%	-1.32%	0.00%

Import remarks:

- The **weight numbers** gives an overview of the average weight invested in the different groups (e.g. sectors) with daily weights averaged over the chosen period.
- The **absolute return numbers** give an overview of the group's absolute performance (e.g. sector) within the chosen time period (portfolio and benchmark)
- The **difference PF-BM** compares the group's performance of the portfolio to the group's performance in the benchmark within the chosen time period.
- The **difference BM-BM Tot** compares the group's performance in the benchmark with the performance of the total benchmark within the chosen time period.

Please note that cash is included in the relevant country or regional groups and shown as "other assets" else (e.g. in sectors). Concerning derivatives, only futures are split up at the moment; derivatives (call or put options) are not yet included. Moreover, illiquid securities as private placements are not yet taken into account.

Performance analysis

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by MSCI Sector	Asset Allocation	Stock Selection	Interaction		Total
Consumer Discretionary	0.00%	-0.86%	-0.03%		-0.89%
Consumer Staples	0.05%	0.28%	0.03%		0.36%
Energy	0.00%	-0.19%	-0.02%		-0.21%
Financials	-0.10%	-0.21%	0.01%		-0.30%
Health Care	0.20%	0.35%	-0.03%		0.52%
Industrials	-0.04%	0.99%	0.12%		1.07%
Information Technology	-0.21%	-0.91%	0.01%		-1.11%
Materials	0.01%	-0.28%	-0.08%		-0.35%
Telecomm Services	-0.11%	0.21%	-0.08%		0.02%
Utilities	0.02%	0.74%	-0.41%		0.35%
Cash	-0.78%	0.00%	0.00%		-0.78%
Total	-0.96%	0.13%	-0.49%		-1.32%

Import remarks:

Asset Allocation Effect is the portion of portfolio excess return that is attributable to taking different group bets from the benchmark. An overweight of a group (e.g. SPI sector "Chemicals") that outperforms the whole benchmark (e.g. SPI) will generate a positive asset allocation effect.

Security Selection Effect is the portion of portfolio excess return attributable to choosing different securities within groups from the benchmark. An overweight of a well-performing security (e.g. Novartis) in comparison to its group benchmark (e.g. SPI sector "Chemicals") will generate a positive stock selection effect.

Interaction Effect is the portion of the portfolio excess return which is not attributable to asset allocation not stock selection.

Performance analysis

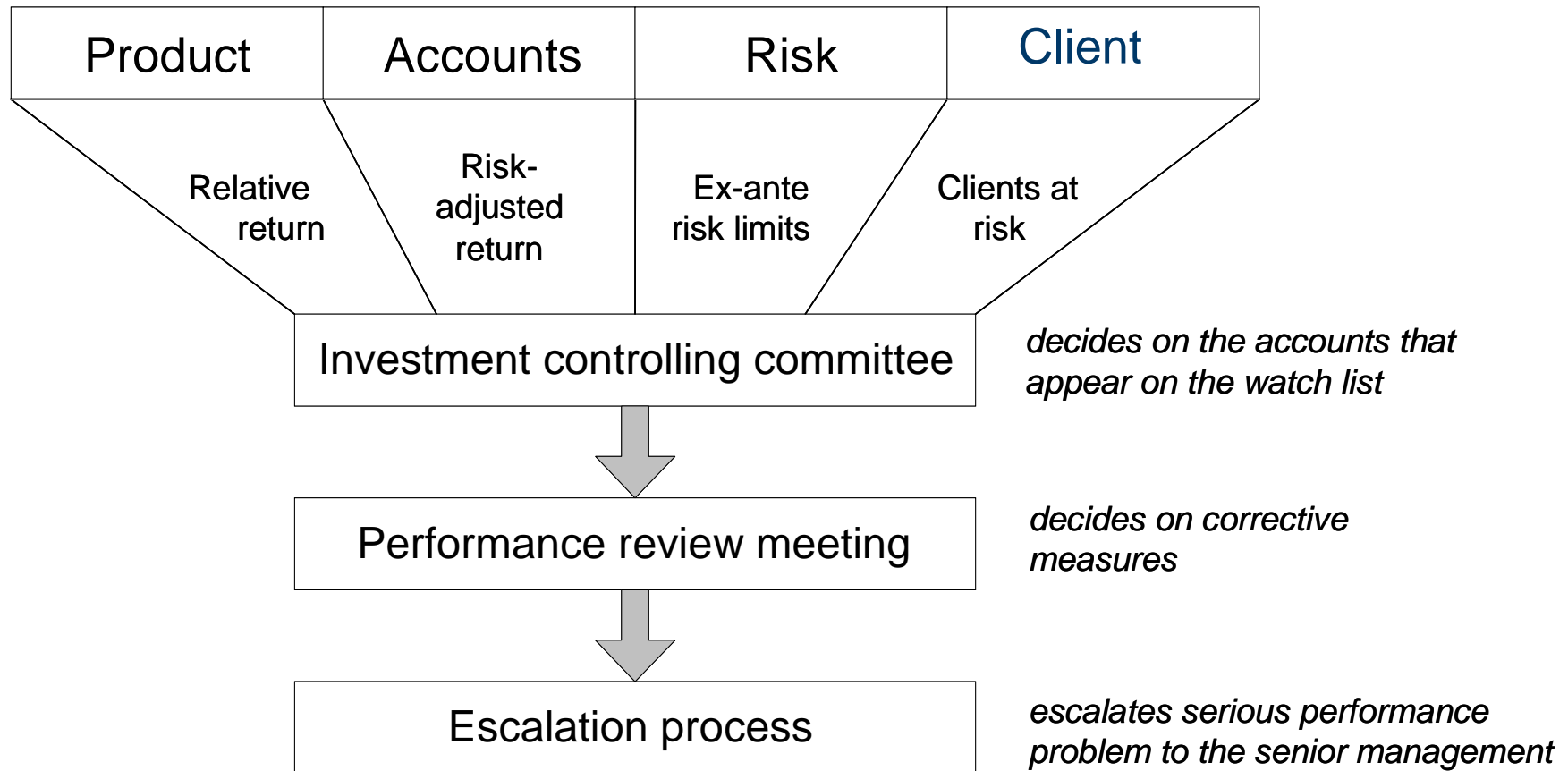
(10/11)

Risk Model: Global	Portfolio	Benchmark
Number of Securities	67	1'550
Number of Currencies	8	0
Portfolio Value	84'334'091	
Total Risk (ex-ante)	18.81%	18.21%
- Factor Specific Risk	18.66%	18.18%
- Stock Specific Risk	2.39%	1.02%
Tracking Error (ex-ante)	2.57%	
Relative Value at Risk	3'570'469	
R-squared	0.98	
Beta-adjusted Risk	18.64%	18.21%
Predicted Beta	1.02	
Predicted Dividend Yield	1.86	2.01
P/E Ratio (E: 12 months)	28.39	26.00
P/B Ratio (B: year-end)	2.58	2.56

Risk Model: Global	Portfolio	Tracking Error
Total Risk (ex-ante)	18.81%	2.57%
Factor Specific Risk	18.66%	1.50%
- Region	11.50%	0.18%
- Country	6.98%	0.83%
- Industry	2.64%	0.77%
- Fundamental	1.44%	0.78%
- Currency	8.42%	0.27%
- Covariance (+/-)	9.35%	0.52%
Stock Specific Risk	2.39%	2.08%

Explication of risk model: Factor risk is a standard deviation that is measured by multiplying the 5-year exposure of the components of a portfolio to each risk factor and by multiplying these figures by the externally determined risk of each factor. The Tracking Error is measured similarly except that it is the *difference* between portfolio and benchmark exposure that is multiplied. Specific Risk is the standard deviation that measures the volatility of the risk not captured by the factor model. The model consists of 3 regional, 21 country, 38 industry and 8 fundamental factors (market cap, 4-year E/P growth, E/P, B/P, 5-year yield, long term debt, 5-year ROE variability and 5-year earnings variability).

Performance review

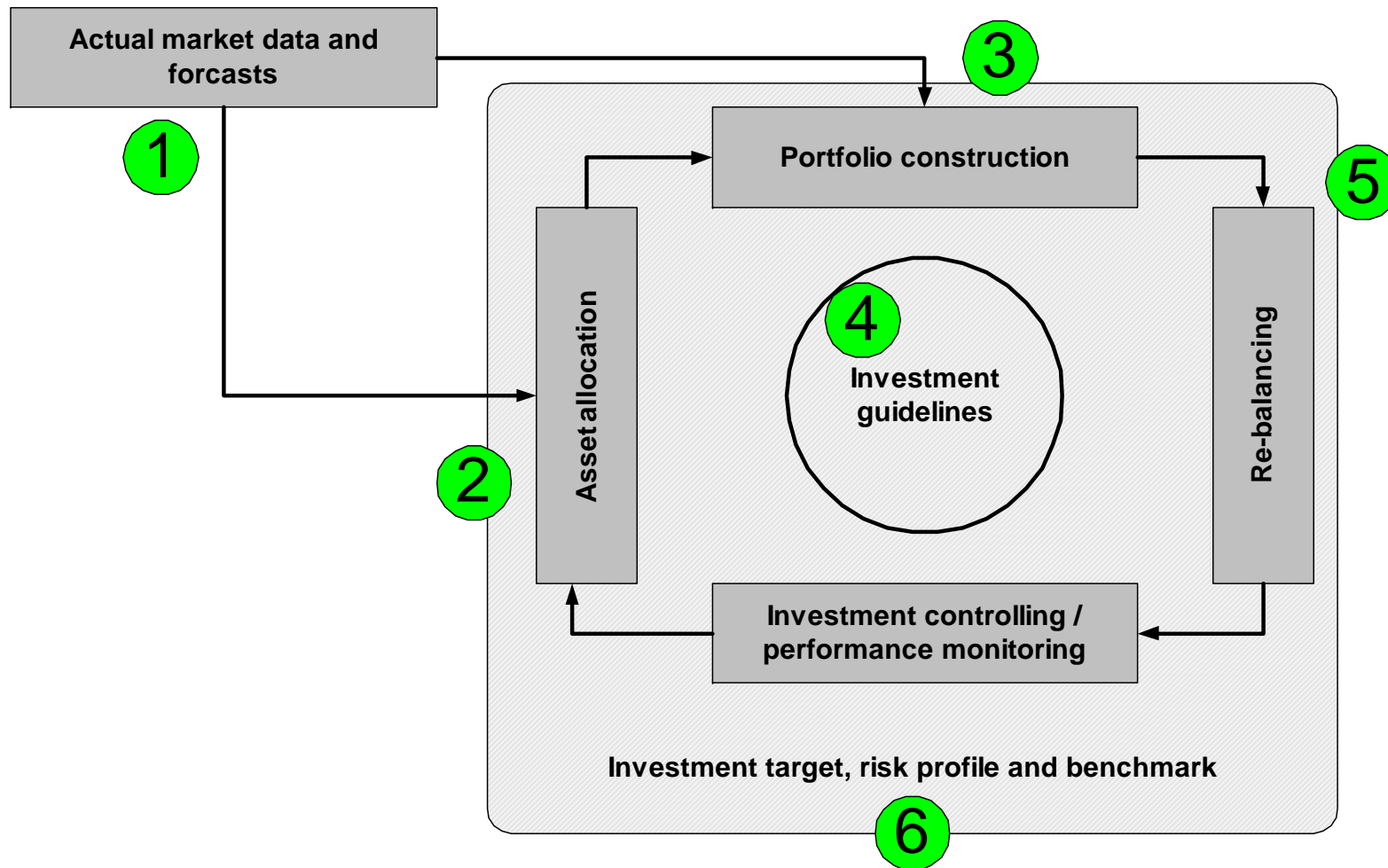


3. Example of a performance review

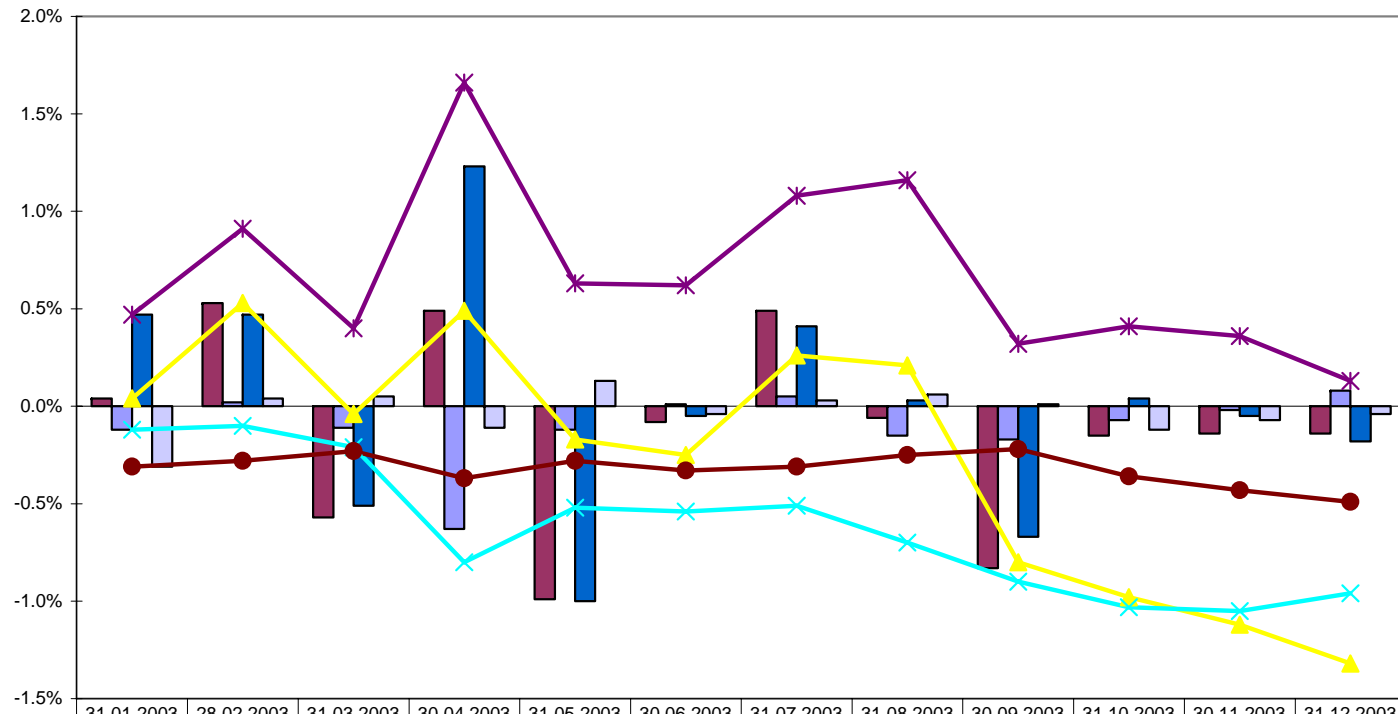
Performance review

- Where does the return come from or from which decision does the return originate?
- What risks have been taken (relative / absolute)?
- Is the choice of the benchmark sensible? Are the general circumstances still valid or reasonable?
- Are the investment guidelines still reasonable and have they been respected?
- What was the impact of the costs on the overall return?
- Is the risk profile and risk budget still appropriate?
- What was the performance of the competitors or the peers?
- Etc.

Investment controlling and the investment process

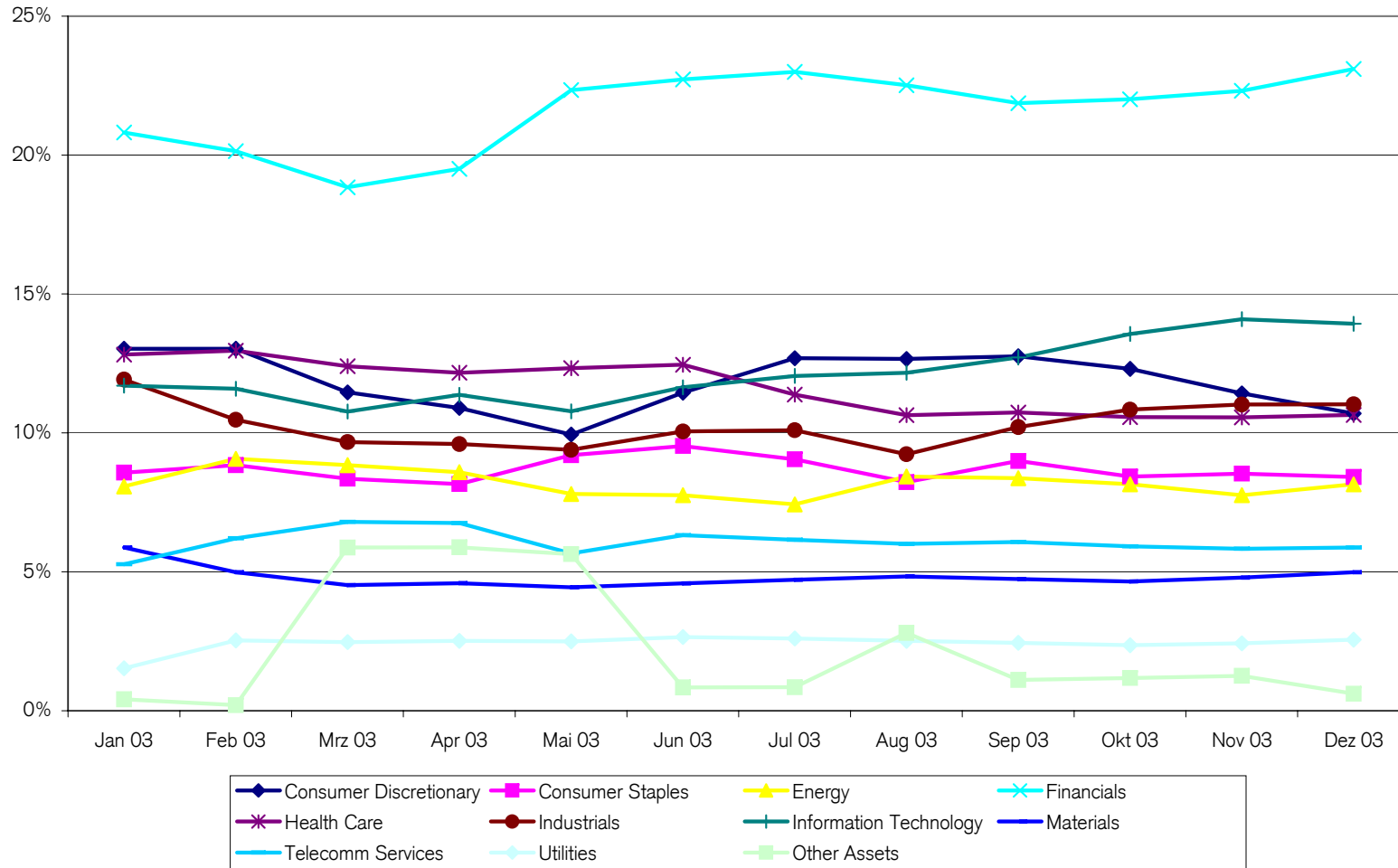


Management effects over time

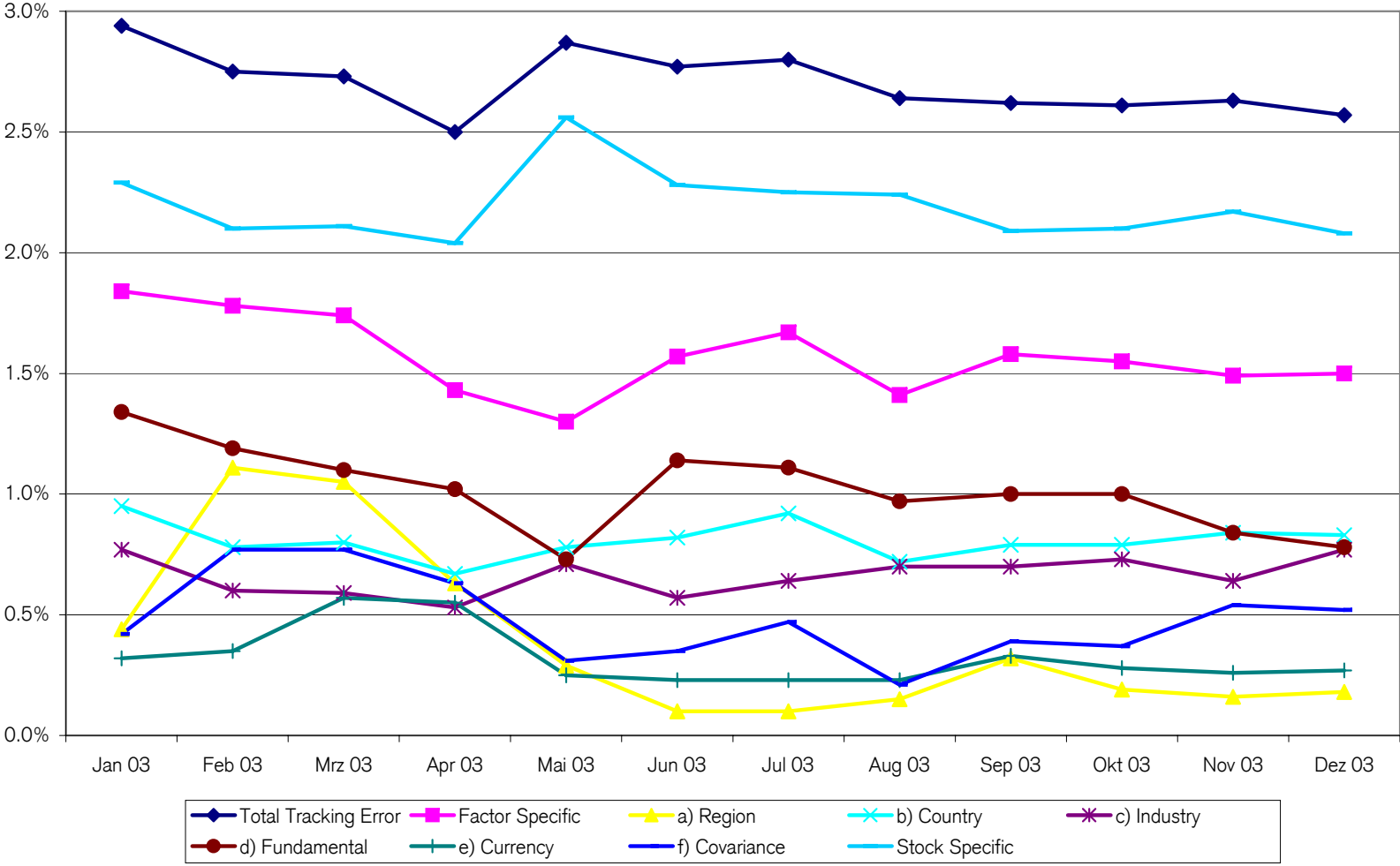


	31.01.2003	28.02.2003	31.03.2003	30.04.2003	31.05.2003	30.06.2003	31.07.2003	31.08.2003	30.09.2003	31.10.2003	30.11.2003	31.12.2003
Total Monthly	0.04%	0.53%	-0.57%	0.49%	-0.99%	-0.08%	0.49%	-0.06%	-0.83%	-0.15%	-0.14%	-0.14%
Asset Allocation Monthly	-0.12%	0.02%	-0.11%	-0.63%	-0.12%	0.01%	0.05%	-0.15%	-0.17%	-0.07%	-0.02%	0.08%
Stock Picking Monthly	0.47%	0.47%	-0.51%	1.23%	-1.00%	-0.05%	0.41%	0.03%	-0.67%	0.04%	-0.05%	-0.18%
Interaction Monthly	-0.31%	0.04%	0.05%	-0.11%	0.13%	-0.04%	0.03%	0.06%	0.01%	-0.12%	-0.07%	-0.04%
Total Cumulated	0.04%	0.53%	-0.04%	0.49%	-0.17%	-0.25%	0.26%	0.21%	-0.80%	-0.98%	-1.12%	-1.32%
Asset Allocation Cumulated	-0.12%	-0.10%	-0.21%	-0.80%	-0.52%	-0.54%	-0.51%	-0.70%	-0.90%	-1.03%	-1.05%	-0.96%
Stock Picking Cumulated	0.47%	0.91%	0.40%	1.66%	0.63%	0.62%	1.08%	1.16%	0.32%	0.41%	0.36%	0.13%
Interaction Cumulated	-0.31%	-0.28%	-0.23%	-0.37%	-0.28%	-0.33%	-0.31%	-0.25%	-0.22%	-0.36%	-0.43%	-0.49%

Sector weights over time



Ex-ante risks over time



Conclusion

(1/2)

- No big sector bets
 - Maximum underweight 1.28%
- No big country Bets
 - Maximum underweight 1.30%
- Big security specific-bets
 - 67 versus 1550 securities in the benchmark
- Big security specific-risk
 - Stock specific risk 2.08% versus factor specific risk 1.50%

=> The asset manager pursued a stock picking approach with neutral sector and country bets!

Conclusion

(2/2)

- **Biggest return contributions**
 - Overweight cash => - 0.78%
 - Stock selection
 - Consumer discretionary => - 0.86%
 - Information technology => - 0.91%
 - Industrials => + 0.99%
 - Utilities => + 0.74%
 - Interaction utilities => - 0.41%
- **Biggest relative risk contribution**
 - Stock specific risk => 2.08%

=> Stock picking effect that did not pay out!

What can investment controlling achieve?

- Realistic discussion of performance.
- Reduction of undesired or unintended risks.
- Performing an independent review.
- Focusing on ex-ante risk and decision making process.
- Early awareness of potential problems.
- Supervision of correct implementation of investment decisions.

What can investment controlling NOT achieve?



That what the professional may not be able to achieve!