



Fully Integrated Social Responsibility Investment

Sustainable Value Creation through
Qualified Portfolio Management

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Agenda

- ◆ Investing with Responsibility
- ◆ Integrated Social Responsibility
Financial Analysis
- ◆ Integrated Social Responsibility
Portfolio Management



For What Am I Held Responsible as Portfolio Manager?

- ◆ One has to leave home and fill a lottery ticket, in order to win at the lottery: Success requires performance!
- ◆ Does this imply, that the effort of going to the lottery box was at the same time the cause for winning?

Investing with Responsibility


Social Responsibility Investment? Yes, but ...

- ✓ ... for “good” reasons:

“Touting for business does not comply with the idea”

- ✓ ... in the “right” manner:

“He that is without sin among you, let him first cast a stone at her ” (Gospel acc. to Saint John 8:7)



What is the meaning of “responsible”?

- ◆ Managing in a sustainable way implies: *Satisfying the needs of today’s claimants in an optimal way, without jeopardizing resources for satisfying demands of future rightful claimants.*
- ◆ In the Anglo-Saxon sphere this interpretation has been labelled Corporate Social Responsibility (CSR).



Appearance or Action?

- ◆ CSR concepts in particular are often pursued by companies in a spontaneous way for primarily marketing purposes.
- ◆ It is important to integrate the idea into corporate model, strategy and value creation processes of the company managed for sustainability. Does this hold true for investment management companies?

Nature, Human Beings & Finance

- ◆ Sustainability not only affects the classical production factors:
Land (Ecology) and
Work (Human Resources),
- ◆ But also one's dealing with the
Resource: "Capital"!



Sustainable Investment

- Client oriented investments: risk management
- Sustainable business processes: transparent, documented, repeatable as prerequisite for learning
- Transparency & accountability against abuse of power
- **“SRI” means: ecological, social, ethical issues are integrated in the whole investment process!**

What is the meaning of Integration?

- ◆ Costs, which a company has “externalised” should be quantified and “internalised” through the company research or in the rating.
- ◆ With „Social Responsibility Investment Funds“, the asset management industry bandwagons the preceding development of „Corporate Social Responsibility“ in the corporate sector.



Integrated Social Responsibility Financial Analysis



The Ethical Value Integrated Model



Agenda

- ◆ **Integrated SR Financial Analysis**
How to quantify and to integrate qualitative CSR criteria into the cash flow based analysis of companies with the aim of a fully integrated financial analysis as well as a discussion of the benefits of real options
- ◆ *Integrated SR Portfolio Management*

Managing with Responsibility

Companies' ethics

- ◆ Persons, Elements
- ◆ Companies
- ◆ Group - Portfolios
- ◆ Clubs, States
- ◆ Society

Self-Management, Discipline

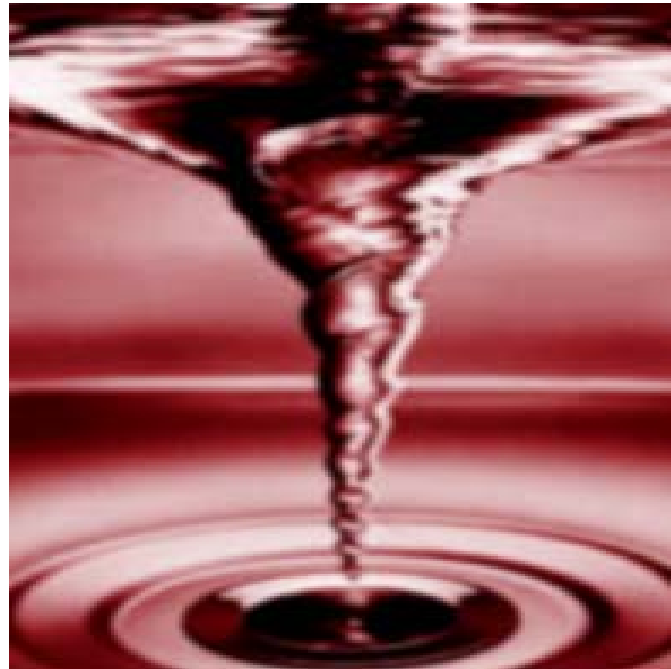
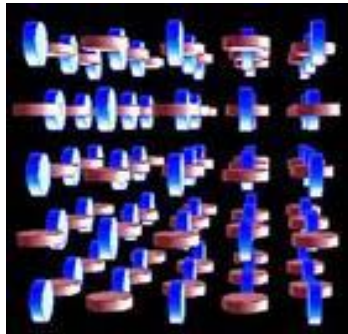
,Market Ethics'

- ◆ Phenomena
- ◆ Markets, Fields
- ◆ Financial portfolios
- ◆ Groups, People
- ◆ Community

Participation, Independence

Physics of Markets

- ◆ Elements
- ◆ Stream/flow
- ◆ Wave/shaft



Market Players, Cash Flow and Options

- ◆ **Elements**

Points or Strings

- ◆ **Stream/flow**

Keeping level

- ◆ **Wave/shaft**

Amplifying,
but also Neutralising

- ◆ **Persons**

Character or Nature

- ◆ **Cash Flows (weighted)**

Correlation

- ◆ **Options (directional)**

Possibility of
compensation

The Investment Process

| | | | |
|------------------------|--------------------|--|--|
| Strategic Level | Planning | Investor Analysis | Utility Function & Measurement Variables |
| | | Financial Analysis | Analysis/Forecast of Utility Variables (Targets) |
| | | Portfolio Planning/ -construction | Integrating Targets & Conditions to Portfolio Weights |
| | | Portfolio Revision | |
| Operating Level | Realisation | Timing | Short term Market Aspects |
| | | Trading | |
| | Controlling | Results | Measuring level of achieved utility |
| | | Reporting | |

Amending the Magic Triangle ...



... resulting into Process Orientation

Why Process Orientation?

- ◆ The process of value creation extends beyond the bounds of the “non-autarkic” company.
- ◆ By analysing along the process lines, I automatically “internalise” effects, which a company organised along functional lines typically “externalises”.
- ◆ The company represents the process, not its workforce. They only drive the process.

Aside: Function versus Process Responsibility

- ◆ Company is a vehicle in the process
- ◆ Employees drive the company
- ◆ Employees are responsible for the whole process
- ◆ Employees share power and freedom
- ◆ Employees are stuck in the company
- ◆ The company drives its employees.
- ◆ The company is responsible for business processes
- ◆ Employees fight for power, position and freedom

Strategic Level in Theory and Practise

| | Traditional Theory | Current Practise | CSR Integrated | Sustainability Relevance |
|---|---|----------------------------------|--|--|
| Target | Individual Utility Maximisation (personal Wealth) | Rarely determining explicitly | Increase & participate in social welfare over long term horizons | Long term and socially oriented goals Justice (social, across generations) - Transparency (against abuse of power) - Documentation (against arbitrariness) Capacity to learn can be measured (quantified forecasts) can be repeated (mode consistency) Documentation Reflection - adaptable - flexible (change) |
| Measurement | Market value of portfolio | Market value of portfolio | risk adjusted profit aggregated over all companies in the portfolio | |
| Research/Forecasts of Target Variables | Price potential & Volatility & correlations of market prices | Intransparency & Incomparability | risk adjusted profit potential based on corporate strategy & Volatility & correlation of profits | |
| Portfolio planning/-construction | Quadratic optimisation | ad hoc & intuitive | Optimisation (Algorithm of choice) | |
| Revision | Adjusting when divergent market development (disruptive factor) | spontaneous or interference | focus on long term fundamental influences on value drivers | |

“Fundamental” Shareholder Value

- ◆ EVA
(Economic Value
Added)

Other Cash and
Market Approaches

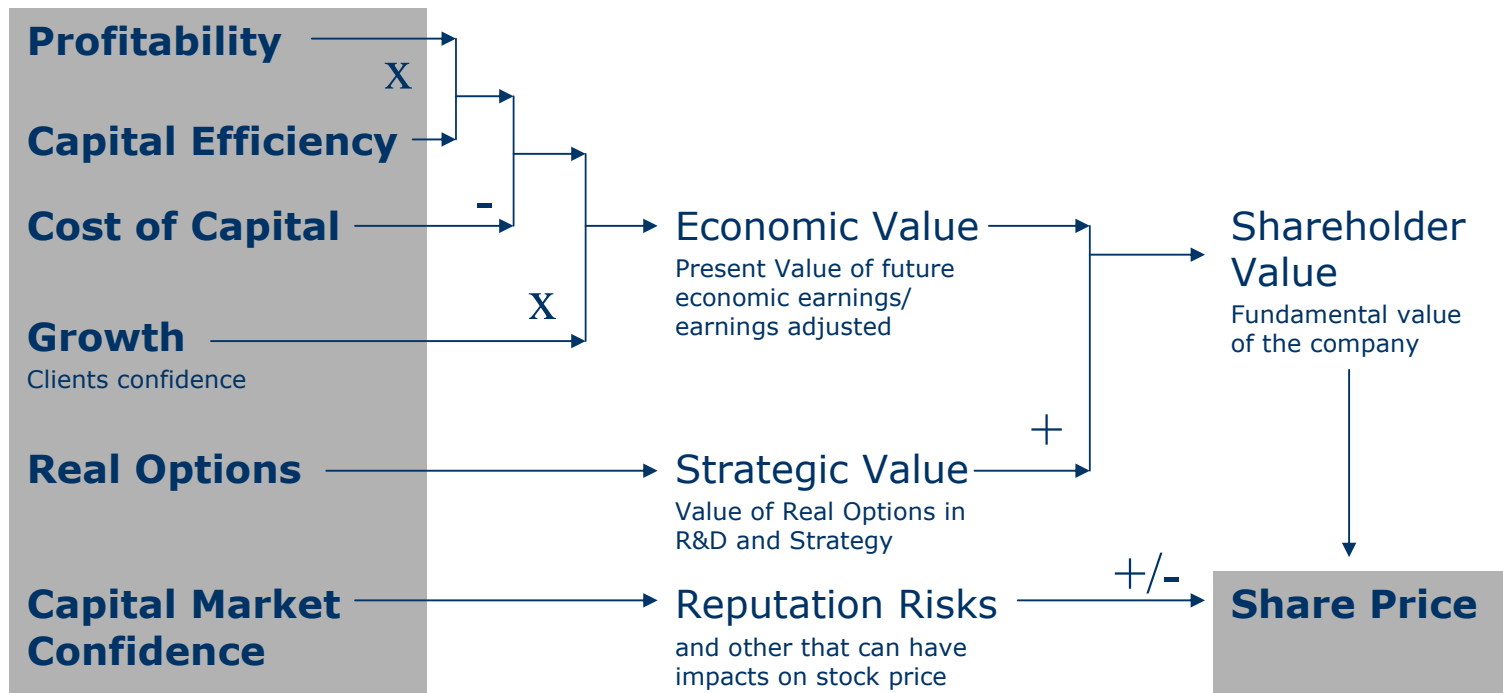
- ◆ DCF
(Discounted Cash
Flow)
 - Entity Approach
 - Equity Approach
 - Adjusted Present
Value Approach

Environmental SHVModels

| Author | Subject | Influences on Value Drivers (identified) | Model |
|--------------------------|--|---|-------------------------------------|
| Müller/Sturm (1996) | Value oriented management of ecological issues | Ecologically induced technical innovation, avoiding costs or risks | DCF Rappaport |
| Hummel/Schmidt (1997) | Corporate protection of environment, internalising of external effects | Ecologically induced technical innovation, avoiding costs or risks | DCF Rappaport, Valcor-Matrix et al. |
| Schaltegger/Figge (1998) | Value oriented management of ecological issues, external analysis of companies | ... in addition environmental risks affecting <u>specific</u> company risk and cost of debt | DCF Rappaport |
| Wipfli/Hauser (1998) | Value oriented management of ecological issues, external analysis of companies | ... in addition stakeholder aspects of product features, managing of ecologically induced risks | DCF Rappaport |
| Epstein/Young (1998) | Value oriented management of ecological issues | Ecologically induced technical innovation, avoiding costs or risks | EVA |
| Reed (1998) | Value oriented management of ecological issues | ... in addition compliance and development of new markets | EVA |
| Kiernan (2001) | External analysis of companies, „ecological value“ | ... in addition Macro-Mega-Trends such as globalisation, human capital etc. | n.d. |

Sustainability and EVA

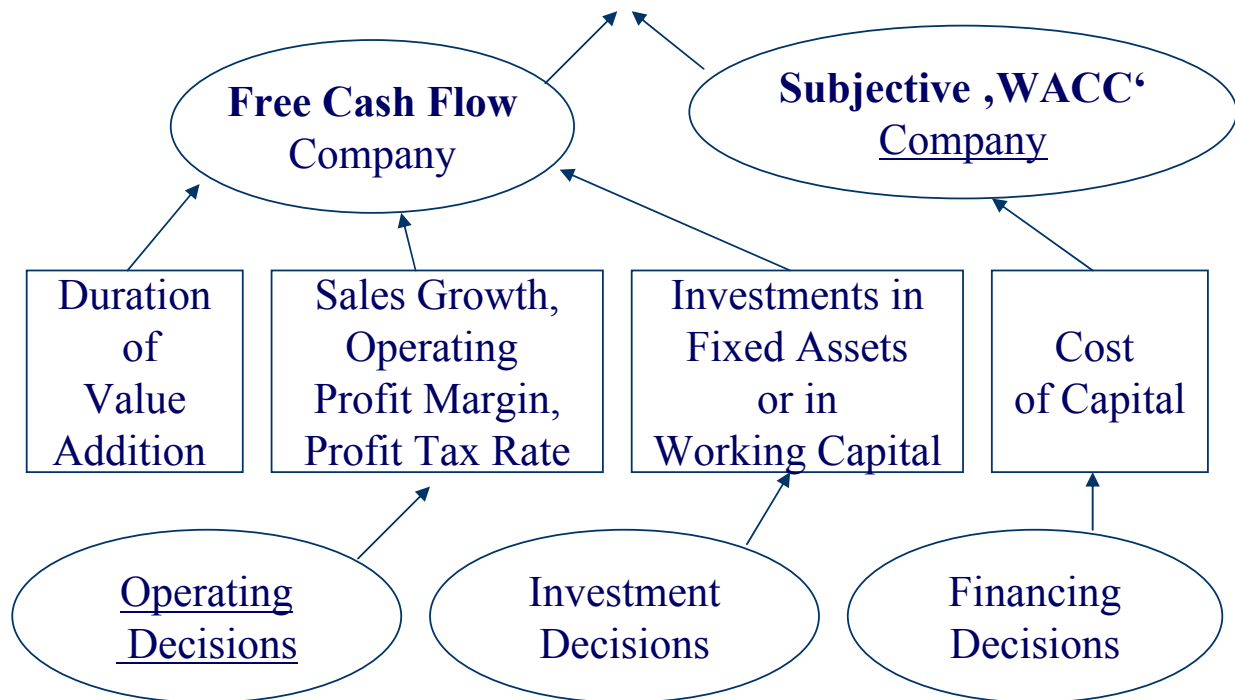
Value Drivers



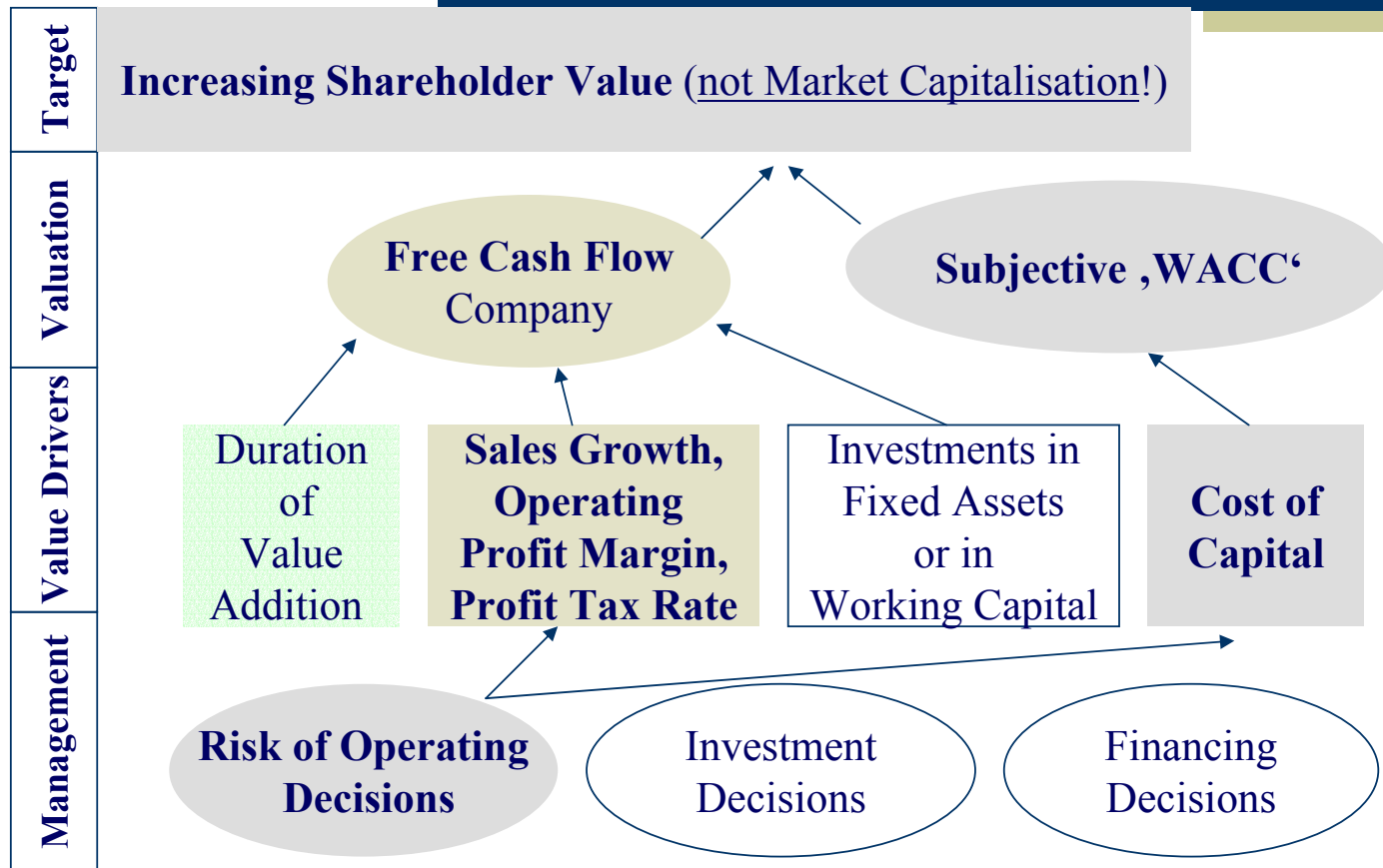
Sustainability and DCF

Target
Valuation
Value Drivers
Management

Increasing Shareholder Value (not Market Capitalisation!)



Sustainability and Risk



From Risk Weighted Cash Flows to Penalising Taxes

- ◆ Projected cash flows should always be weighted with their probabilities (Cash at Risk)
- ◆ Calculated (pro forma) costs should be employed for provisions for liability, compensation for environmental damage
- ◆ Calculated (pro forma) income for ,social welfare` enhancing strategies, see ,work of housewives (-men)`
- ◆ Calculated (pro forma) change in sales from change in public perception
- ◆ Profit or other tax rates for penalties, based on legal practice and principles, see ,children work`
- ◆ Duration and WACC as drivers in cases of intransparency
- ◆ Subjective cost of equity instead of markets` WACC

Risk Factors Affecting Volatility of Cash Flows

Examples for external factors:

- ◆ Business cycle
- ◆ State intervention
- ◆ Availability of Resources
- ◆ Technical progress
- ◆ Labour power
- ◆ Suppliers' power
- ◆ Change in competitive constellation
- ◆ Reputation, Image

Examples for internal factors :

- ◆ Stage in product life
- ◆ Innovation strength
- ◆ Control over process
- ◆ Client orientation
- ◆ Qualification of employees
- ◆ Management capabilities
- ◆ Motivation of employees
- ◆ Training of employees
- ◆ Structures

Scoring Model for Estimating Cost of Equity I

| Exemplary Criteria Risk Premium | Impact on Volatility of Profit | | | | | |
|--|--------------------------------|----------|---|---|---|----|
| | 1 | High = 5 | | | | |
| Influences from business cycle | | | x | | | |
| Risks from liability | x | | | | | |
| Sensitivity to state intervention | | x | | | | |
| Change in competitive constellation | | | | x | | |
| Investment failures | | | x | | | |
| Volatility in manager capabilities | | | | | x | |
| Volatility in employees' capabilities | | | | | | |
| Volatility in employees' motivation | | x | | | | |
| Calculated penalties | | | | x | | |
| (Here unweighted = Only one dimensional) | 1 | 4 | 6 | 8 | 5 | 24 |

Scoring Model for Estimating Cost of Equity II

Result

Conversion here unweighted - e.g. normal distribution may adjust risk premium

| | | | | | | | | | | | | | |
|-------------------|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Risk Premium in % | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Total Score | 9 | 10-12 | 13-15 | 16-18 | 19-21 | 22-24 | 25-27 | 28-30 | 31-33 | 34-36 | 37-39 | 40-42 | 43-45 |

In addition Management interviews may adjust risk premium and increase acceptance

| | | | | |
|-------------|------------------|--------------|----------------------|------------|
| | Risk Free Return | Risk Premium | Total Cost of Equity | |
| Result in % | 4,3 | 5 | = | 9,3 |



Subject: Modelling

- ◆ Translating a question from the „rest of the world“ into the language of mathematics always requires a simplification!
- ◆ We thus must ask:
How much is adequate?
What consequences are implied in simplicity?

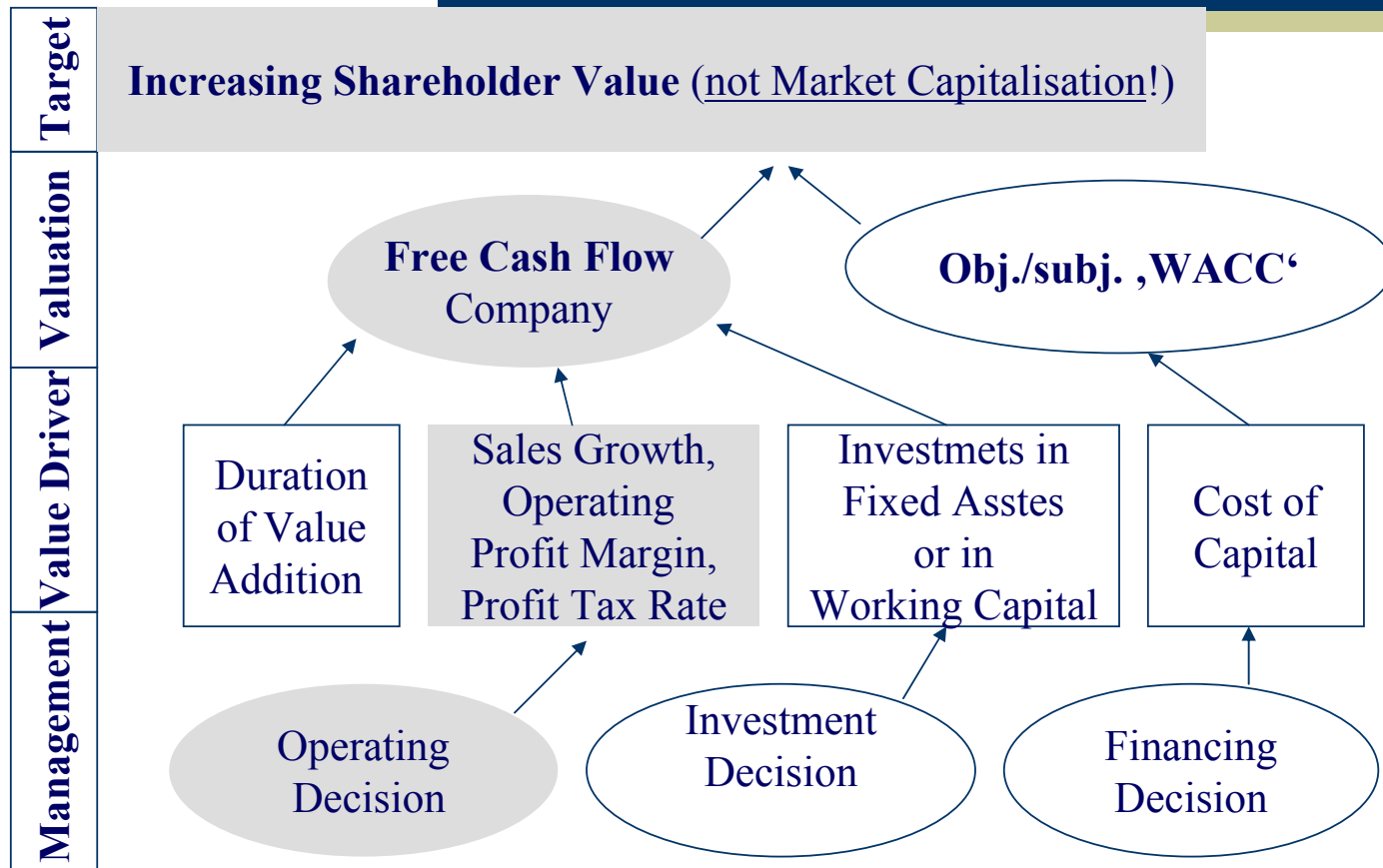
e.g. the Question of Fermi

- ◆ How many piano tuners are there in Chicago?
- ◆ From common sense (or specialist knowledge in teams), plausible assumptions and subordinated questions towards a model
- ◆ Inhabitants, households, pianos per household, tuning need, pianos per tuner, capacity per year, ... 10 (5/100)

Simple operating Human Factors deducted from Evident Variables

| Operating Variable Influenced | Value Driver | Occurrence | Quantitative Measurement |
|--------------------------------------|---------------------|------------------------------|--|
| Variable Compensation | Sales Growth | Increase in Sales | Number of Employees with Variable Compensation |
| | | Acceleration of Sales Growth | Share of these Employees in Total Staff |
| Cost of Fluctuation | Operating Margin | Reduction in Costs | Total Cost of Fluctuation |
| | | | Cost of Fluctuation per Employee |
| | | | Rate of Fluctuation |
| Absences | Operating Margin | Reduction in Costs | Cost of Sick Leave |
| | | | Share of Sick Leave in Total Staff |
| | | | Share of Accidents |

Sustainability and SHV



Human Capital Management

Theodore Schultz, 1979 Nobelprize:

„Es ist ... davon auszugehen, dass alle menschlichen Fähigkeiten entweder angeboren oder erworben sind. Jeder Mensch kommt mit einer genetischen Grundausstattung zur Welt, die seine angeborenen Fähigkeiten bestimmt ... In diesem Buch werden die angeborene Bevölkerungsqualität, soweit sie bewertbar ist, und durch geeignete Investitionen erworbene und vermehrte Bevölkerungsqualität zusammen als Humankapital bezeichnet“

(Schultz, 1986, *In Menschen investieren*).

Increasing Importance of Intangible Assets

- ◆ The sum of intangible assets of many companies exceeds the sum of tangible assets by a wide margin.
- ◆ It is necessary to evaluate the most important intangible assets of a company, in order to identify the essential value drivers and thus facilitate an allocation of resources compliant with economic rationality (Human capital about 40-65% of total intangible assets).
- ◆ Redundancies for the purpose of cost reduction needs checking and considering of accompanying value destructing side effects. It is not sufficient to consider ‚Total Cost Productivity‘.

Basic Evaluation Methods for Intangible Assets

- ◆ **Market Value**

Valuation is based on market prices and comparable transactions (e.g. multipliers)

- ◆ **Cost Based Approach**

Valuation is based on cost of re-producing or re-purchase, taking depreciation and aging into consideration

- ◆ **Return Based Approach**

Valuation =

Present value of ,responsible' cash flows or cost savings resulting from the ownership of an asset

Analogue to license pricing

Residual Value Approach

Real Options Approach

Valuation of Human Capital

- ◆ **Output Models**

Define human capital through estimates of future returns to be generated by employees, shareholders or other stakeholders of the company.

- ◆ **Input Models**

Include valuation formulas for human capital, which compound all investments made in personnel.

- ◆ **Indicator Models**

Try to describe the influences of various factors such as management performance, qualification and motivation on a company's result.

- ◆ **Comparable Value Models**

e.g. the higher the difference between market capitalisation and cumulated investments in personnel, the larger the value of human capital.

Valuation of Human Capital

- ◆ **Market Oriented Approaches**
The basic formula includes: market capitalisation, book value of assets and number of employees.
- ◆ **Accounting Oriented Approaches**
The basic formula includes: personnel expenses and depreciations.
- ◆ **Value Added Approaches**
Value Added is the difference between Output and Input.
- ◆ **Return Oriented Approaches**
The basic formula includes: discounted returns and cost of capital.
- ◆ **Mixed Approach such as „Saarbrücker Formel“ (formula)**

Human Capital as Capacity Value according to „SF“

Valuation Principles

Value Base

Market Orientation

Loss of Value

Accounting Aspect

Value Strength (Risk)

Indicator

$$\sum_i^g \left[\left(FTE_i * l_i * \frac{w_i}{b_i} + PE_i \right) * M_i \right]$$

Saarbrücker Formel,
Prof. Dr. Scholz

Personnel-
economical
Principles

Staff Grouping
Market Wages

Relevancy of
Knowledge vs.
Employee Development

Motivation,
Commitment,
Retention

Industry Specific Duration of Knowledge

| Industry | Duration of Knowledge |
|---|------------------------------|
| Chemical/Pharmaceutical | 5 Years |
| Capital Goods | 8 Years |
| Electrical Engineering | 6 Years |
| IT | 2 Years |
| Transportation & Traffic | 7 Years |
| Financial Services | 7 Years |
| Energy | 8 Years |
| Consumer Goods | 8 Years |
| Mechanical Engineering/Metal Processing | 6 Years |
| Services (general) | 7 Years |
| Media/ Telecommunication | 3 Years |
| Trading (general) | 9 Years |
| Civil Services | 10 Years |

Further Parameter in SF

- ◆ Staff Grouping (Sum i to g)
- ◆ Market Orientation
Market standard approach to volume: calculating of FTE with „market benefits = return to be expected“
- ◆ Accounting Aspect
Deprecation of assets as ‚duration of knowledge‘ divided by ‚time to stay‘ + ‚sum of all measures to maintain and update knowledge: PE‘
- ◆ Indicator
Performance as motivating factor (want-can-become)

Importance for the Company

- ◆ There is scientific evidence, that investing in education and motivation generated higher sales and reduced absences and fluctuation. *Fritz, 2006*
- ◆ Research showed an increase in realised innovation and an „improved sustainability“. *Friedrichs, 2004*

Quantitative Risk Analysis with DCF

- ◆ Cash at Risk (flows and correlations)
- ◆ Monte Carlo Simulation (objectivity)
- ◆ Value at Risk (restrictions/limitations)
- ◆ Decision Tree (this gets ,discret`)
- ◆ Real Options Theory
(waves and compensation)

Critical Issues with DCF-Approaches

- ◆ Cash flow forecasts/segmentation
- ◆ Traditional risk adjusting of discount rate
- ◆ Discount rate CAPM
- ◆ Monte-Carlo-Simulationen and estimation of auto-correlations
- ◆ Value at Risk looks at one side only
- ◆ Decision tree gets intransparent

Why Real Options?

- ◆ Management often command over flexibility in decisions to adopt to change in conditions; increasing communication over large distances.
- ◆ Processes exist in a linear manner, but also in a discret one.
- ◆ Options premit: enlarge, stop or postpone, reduce, compensate for risks; that is to drive a „flowing process“.

Real Options, the Future?

- ◆ If management can act flexibly, the strategic „value“ of any decision taken under risk/uncertainty can be influenced. **Financial analysis must consider this possibility.**
- ◆ Real options allow to compensate for risks internally as externally – renunciation of bans.
- ◆ Options not only make asset liability matching easier, but also the real compensation through space and time (trust in strangers/future strengthens the readiness to invest. **Are they being employed?**

Comparison to Financial Options I

| Call Option on Equity Stock | Real Option |
|---|--|
| Right to purchase the basic stock against payment of option premium | Right to purchase the cash flows resulting from an investment project against payment of an investment |
| Base price of the option (X) | Investment payment |
| Current price of stock (S_0) | Present value of cash flows from the investment project |
| Duration of the option (t) | Duration of acting flexibility during the investment or time until the investment opportunity expires |
| Volatility of stock price (s) | Volatility of present value of cash flows |
| Risk free interest rate (z) | Risk free interest rate |
| Dividend (d) | Loss of value in the investment project from entering competition, pay out of free cash flows |

Comparison to Financial Options II

| Put Option on Equity Stock | Real Option |
|---|--|
| Right to sell the basic stock at agreed price | Right to sell the cash flows resulting from an investment project at residual-/placement value |
| Base price of the option (X) | Residual value, placement value |
| Current price of stock (S_0) | Present value of cash flows from the investment project |
| Duration of the option (t) | Duration of acting flexibility during the investment |
| Volatility of stock price (s) | Volatility of present value of cash flows |
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Implications for the Integrated Financial Analysis

- ◆ **CSR Objective Function:**
Increase and participate in social welfare over long term horizon (total process)
- ◆ **Measurement Variable:**
Risk adjusted profit aggregated over all companies in a portfolio
- ◆ **Analysis/Forecasts of Target Variables:**
Risk adjusted profit potential based on entrepreneurial strategy & volatility & correlation of profits
- ◆ **Sustainability Aspects:**
 - Long Term Horizon**, social orientation of objectives
 - Justice** (social, across generations)
 - Transparency against abuse of power
 - Documentation against arbitrariness
 - Learning** because of „measurable“ process (quantified forecasts) and repeatable process (fully fundamental: consistency of model)



Integrated Social Responsibility Portfoliomanagement

An Ethical Value Added Model



Agenda

Integrated SR Portfolio Management

Requirements for universe, return and risk forecasts and index to be used in optimisation and proposals how to integrate modern SRI standards: rating/ranking, in return and risk forecasts for a structured investment process

Investment Process

| | | | |
|------------------------|--------------------|--|--|
| Strategic Level | Planning | Investor Analysis | Utility Function & Measurement Variables |
| | | Financial Analysis | Analysis/Forecast of Utility Variables (Targets) |
| | | Portfolio Planning/ -construction | Integrating Targets & Conditions to Portfolio Weights |
| | | Portfolio Revision | |
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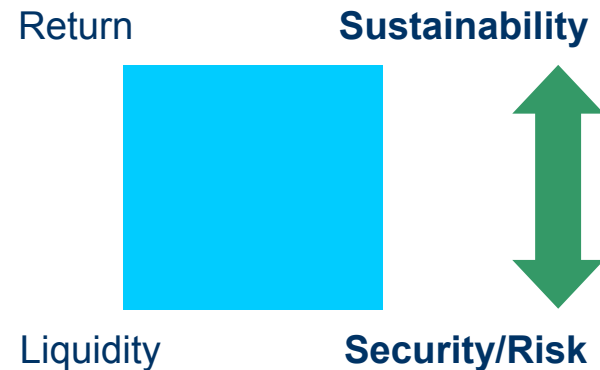
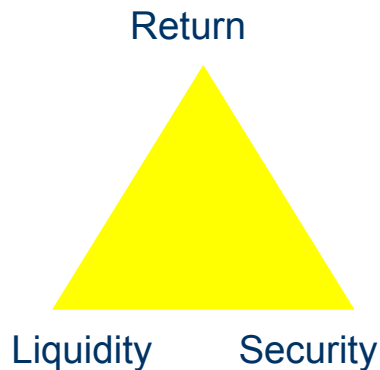
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Operating Level in Theory and Practise

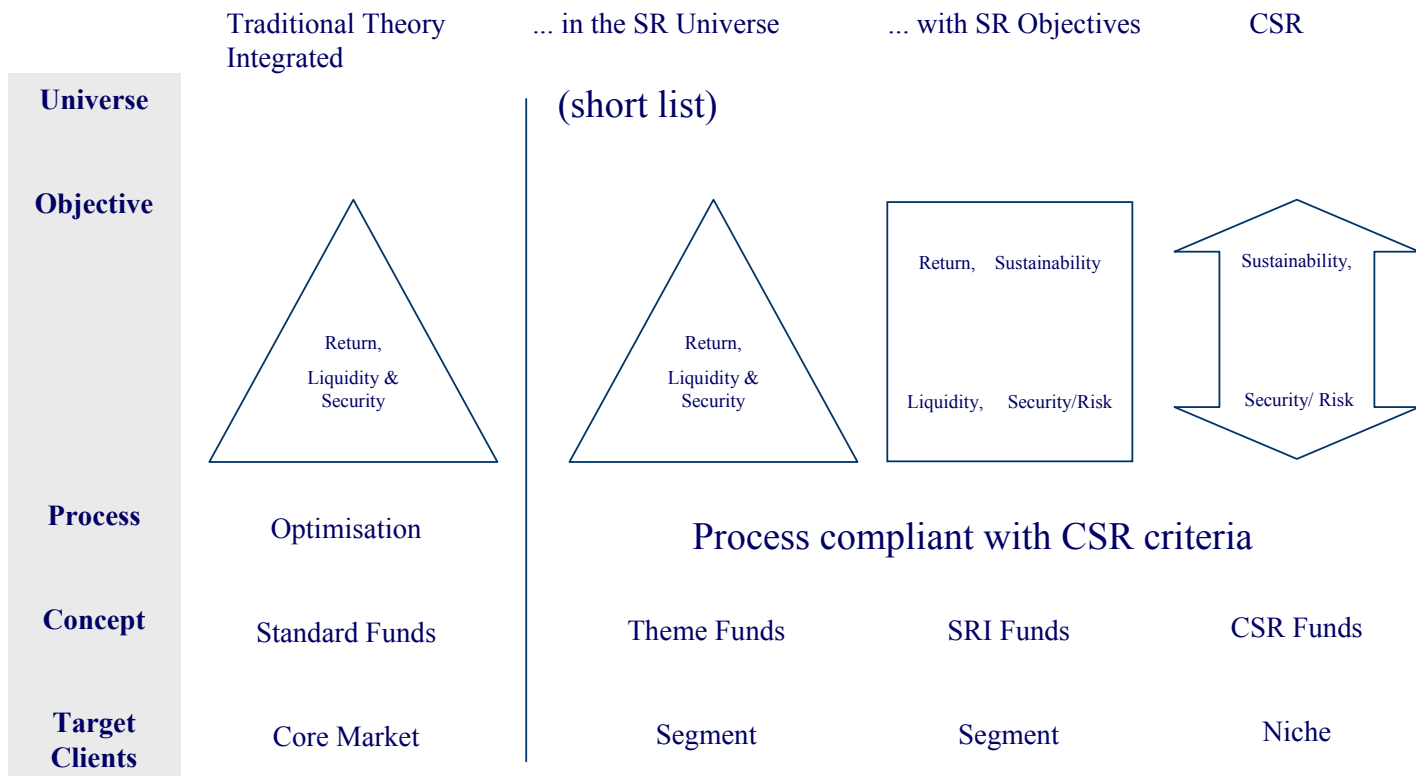
| | | Traditional Theory | Current Practise | CSR Integrated | Sustainability Relevance |
|-----------------|---------------------------|--|---|---|---|
| | | | | | |
| Operating Level | Realisation Timing | No Statement | Developing a Market Price Forecast | Developing a "Value" Forecast | Justice - Transparency (against abuse of power) - Documentation (against arbitrariness) |
| | | Determining Best Trading Date | Priority of PM | Determining Best Trading Date | Capacity to learn |
| | Trading | Best Execution of Each Single Transactions | Priority of PM | Fair & Sincere Trading | can be measured (quantified forecasts) can be repeated (mode consistency) |
| | Controlling | Measuring Success | Price Development of Portfolio Attribution Analysis | Price Development of Portfolio | Fundamental Value Development Gains from Timing Gains from Trading |
| | Reporting | No Statement | Annual Report Interims Report | Report according to Transparency Guidelines | |

Amending the Magical Triangle ...



... concerning the Positioning via/with Process

Positioning and Process





Client Orientation

- ◆ Suppliers in segments lose their niche existence, the niche must be defined anew: demand orientation
- ◆ Sustainability requirement will be recognised by some target and client groups more consciously as a quality feature: process orientation
- ◆ Supply requires wide ranging strategy



Management or Participation

- ◆ Investor relations: necessity conflicts with model of financial markets
- ◆ Individuals direct their decisions increasingly towards „pleasure“: principle of excitement instead of saturation
- ◆ Funds manager rely on sources of information which spread acute effects of incubation



The Ball is Round!

Schulz-Wimmer on the general situation in financial markets:

As in soccer, excitement became more important than information ... Economics used to be to 50% psychology. But nowadays it seems no longer to be clear, which half this is.

The additional Dilemma of SRI Ratings

- ◆ SRI in search of „Best Practice“
- ◆ Looking into the past
- ◆ Punishes the ‚Bad‘
- ◆ Rewards the ‚Good‘
- ◆ Market in search for price „potential“
- ◆ Expected value
- ◆ Punishes the ‚Good‘
- ◆ Rewards the ‚Bad‘

Possible solution in Behavioral Finance?

- ◆ Follow the ‚Good‘
- ◆ Avoid the ‚Bad‘

Where are the Excess Returns?

- ◆ „Hollywood: The good will win in the end!“, state SRI followers.
Does this comply with our world?
- ◆ The market is a trade exchange, in the very short term pricing factors depend on liquidity needs or surpluses, surprises, disappointment, change in taste, propensity to speculate ... on the ‚financial behaviour‘ of all participants.



Behavioral Finance and SRI?

During the last twenty years market participants experienced again and again spectacular examples of huge financial bubbles, price collapses and other inefficient market patterns.

The theory of efficient markets does not seem to hold easily; at least there is need for an amendment with behavioral aspects regarding the ‚formation` of prices.

So called momentum or the tendency of rising prices to trigger more purchases and vice versa, is a phenomenon that results from greed and several forms of fear: another area for SRI and Behavioral Finance?

Perhaps, but only as an ethical impulse:

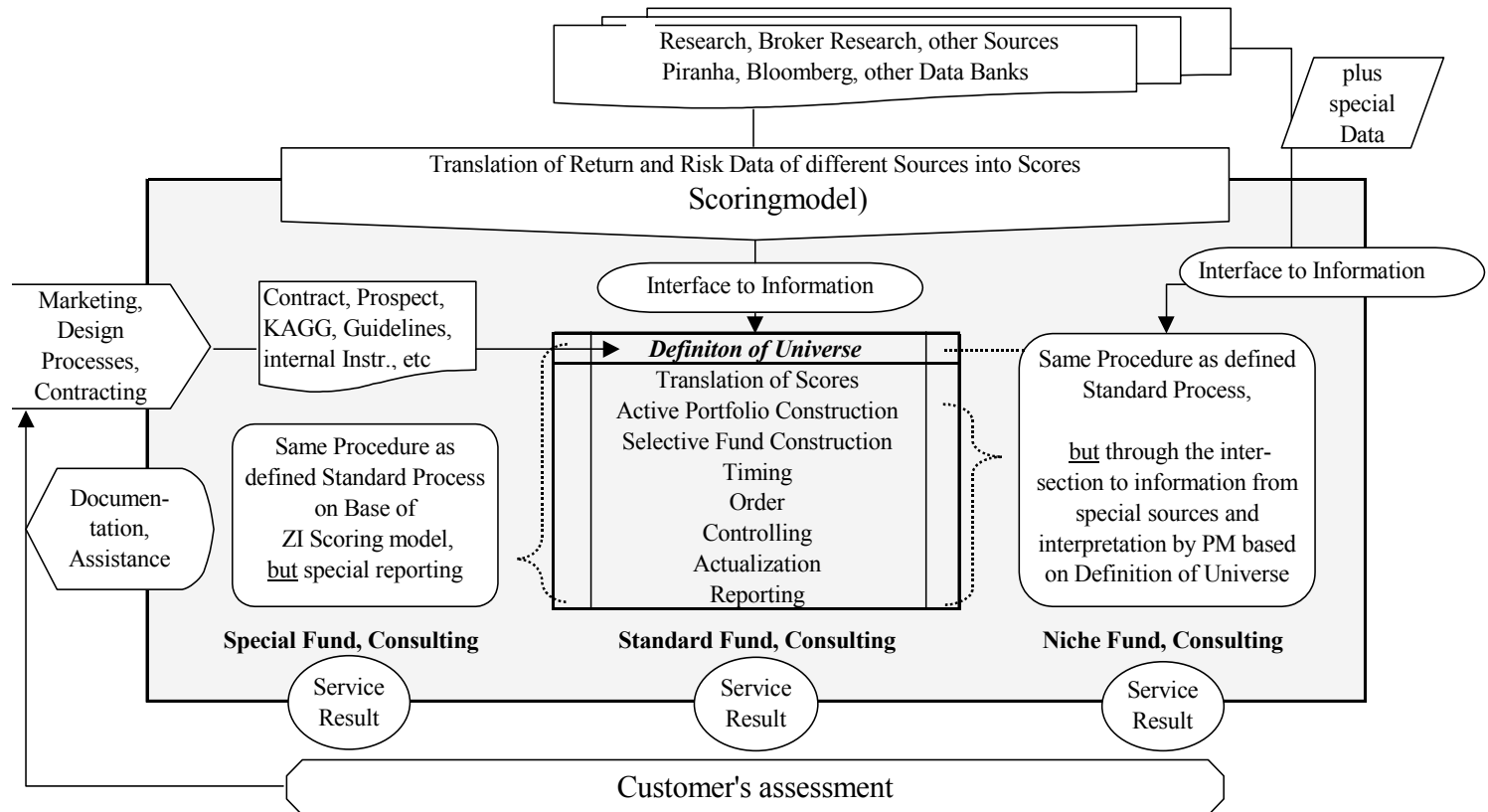
Discipline, Avoiding of Errors, Fairness, ...



Behavioral Finance

- ◆ A young theory, Index already developed
- ◆ Seriously trying to quantify psychological phenomena
- ◆ Speculation on forecast behaviour of market participants (weather forecast)
- ◆ Amplifying instead of keeping still
- ◆ Utility only in avoiding risks

Portfolio Management Process Overview



Multi Factor Models

| Type of Model | Quality of Factors | | | | | |
|---------------------------|-----------------------------------|----------------------------------|-----------------------------------|---|-----------------------------------|-------------------------|
| | High Descriptive Power Short Term | High Descriptive Power Long Term | Stable Over Time, Allows to Learn | Risk Attribution along Investment Process | Risk Factors according to Sectors | Allows to Integrate SRI |
| Statistical Factor Models | X | | | | X | |
| Structural Macro | X | | | | X | |
| Structural Fundamental | | X | yes/no | | X | conditional |
| Fundamental, Macro | X | | X | X | X | conditional |
| Fundamental, Sustainable | | X | X | X | X | X |

And a Matching Risk Model

Idea of Spreading Risk:

“Every additional share reduces the risk!”

Do many shares imply a low portfolio risk?

Stock pickers assume something, that does not apply!

Example: Marching in step across suspension bridge

Legal requirement calls for managing risk according to the principle of mixing them. Current standard means optimisation as e.g. offered by Barra et al:

Correlations must be considered for levelling risk!

Above that: Use of ‘options’ for compensating risk!

Multi Factor Modelling

- ◆ Which factors deem my clients relevant for a sustainable increase in fundamental company value?
- ◆ Which are the factors relevant to me?
- ◆ What real economic factors matter for fundamental risk adjusted profits?
- ◆ How can I reconcile them with market values?
e.g. through longer redemption periods!

Information Processing – „Scoring“

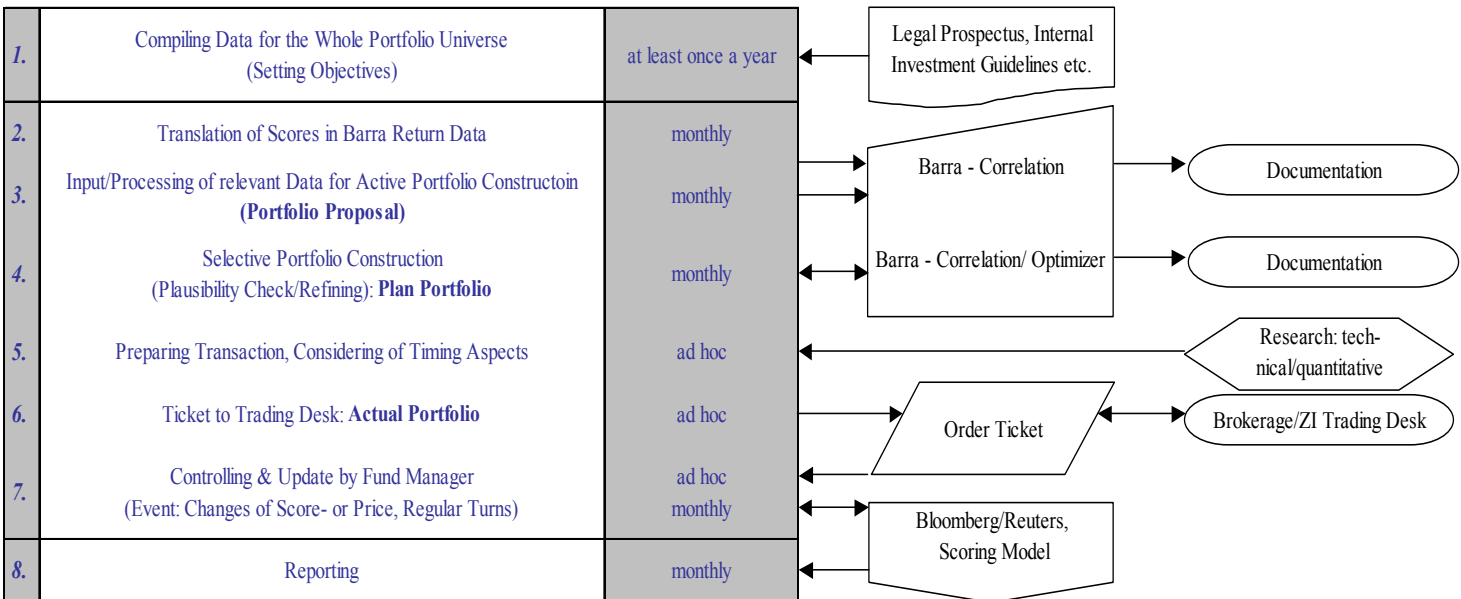
- ◆ Relevant data is analysed in a uniform and systematic way, quality and independence of data rank top
- ◆ Information concerning universe, it will be completely ‚screened‘ according to fundamental variables
- ◆ Available research results, ratings must be included in a consistent manner

Scoring – Adjusting of Raw Data

- ◆ Scoring (narrow sense), independent raw data will be transformed into scores
- ◆ Raw data are ranked in descending order, ranks are converted into scores, e.g. from -3 to +3
- ◆ Normalisation: Should be transformed into a standard normal distribution (mean 0, standard deviation 1)

PM in practise

| <i>Steps</i> | <i>Frequency</i> | <i>Instruments</i> | <i>Interface</i> |
|---|--------------------------------|--------------------|----------------------------------|
| Scoring of Risk and Return Information from different Sources | ad hoc at least once a year | Scoring Model | Research: fundamental/qualitativ |





Real ,meets` irrational

- ◆ Company Universe or Index
- ◆ Fundamental Analysis
- ◆ Fundamental Scoring
- ◆ Fundamental Optimisation
- ◆ Trading: Timing Aspects! Now ...
... Company meets Financial Market



Why Implement a Fundamentally Oriented Process?

- ◆ Complexity of all fundamental and financial markets is maintained (no Reduction to stock bets or stock market)
- ◆ Client oriented portfolio decisions will be documented, become transparent
- ◆ Process can be controlled, repeated and improved
- ◆ Portfolio manager works in a systematic and disciplined manner (SRI, CSR)
- ◆ Differentiation in competition: each portfolio management process is unique, client oriented and can be adopted to specific needs by appropriate risk weightings

What Differentiates an Ethical Investment Process from Others?

- ◆ **Explicit Forecasts of Return and Risk**
 - ◆ Coverage of universe: complete, direct and comparable
 - ◆ Consistent realisation of forecasts in portfolio construction (Optimisation)
 - ◆ Risk management with ex ante consideration of correlation
- ◆ **Implicit and hidden Assumptions**
 - ◆ Incompatible subsets of the universe covered for differing funds
 - ◆ Intuitive and accidental portfolios (traditional approach)
 - ◆ Risk spreading as in lending or insurance

SRI a Large Opportunity for Active Management!

