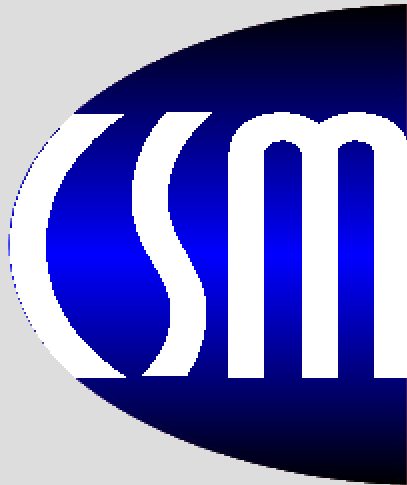


Environmental Shareholder Value



Center for
Sustainability Management e.V.
Centrum für
Nachhaltigkeitsmanagement e.V.

International Workshop on Improved Investment
Analysis Tools: Links to Sustainable Development

Lisbon, Portugal 19-21 November 2001

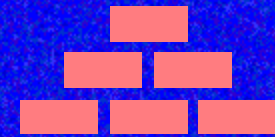
Frank Figge, Tobias Hahn & Stefan Schaltegger

www.csm-ev.org/



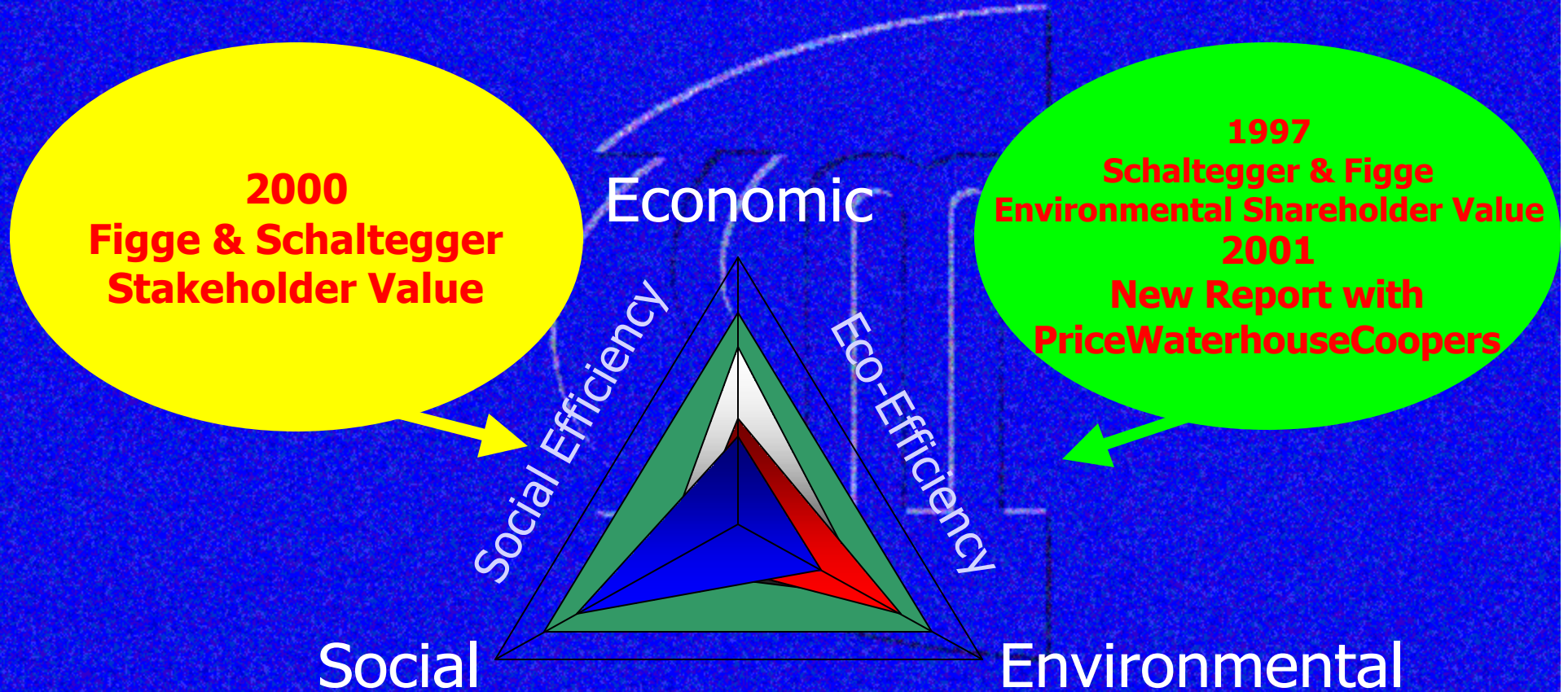
We would like to thank the German Federal Ministry of Education and Research
for funding this training session.

Content.



- Ecological and social efficiency as a conditio sine qua non for business success.
- Environmental Shareholder Value
 - Environmental Value Drivers
 - What kind of environmental protection drives Shareholder Value?
- Stakeholder Value
 - What is Stakeholder Value?
 - How can Stakeholder Value be calculated?

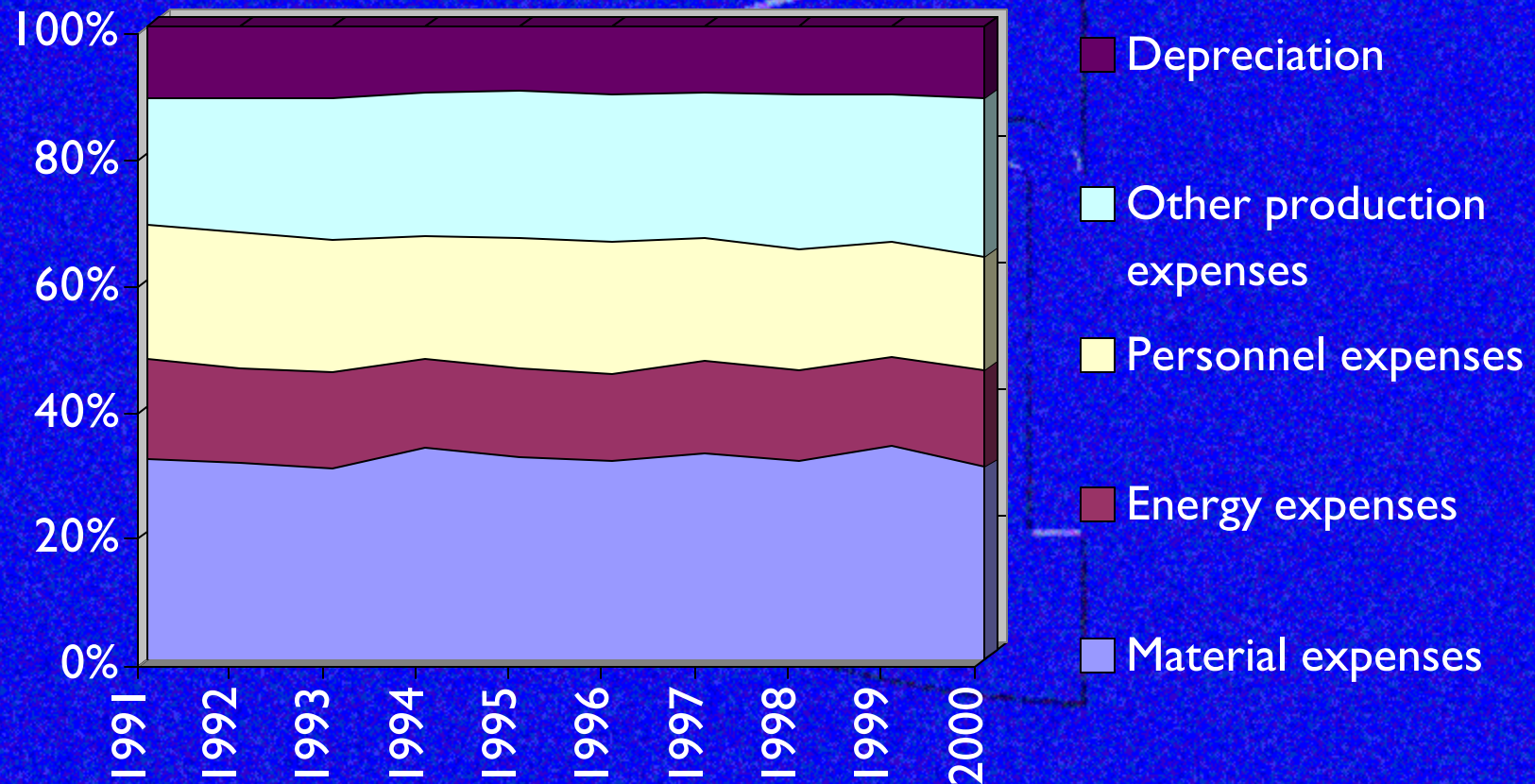
Efficiency is not sufficient - but it's necessary.



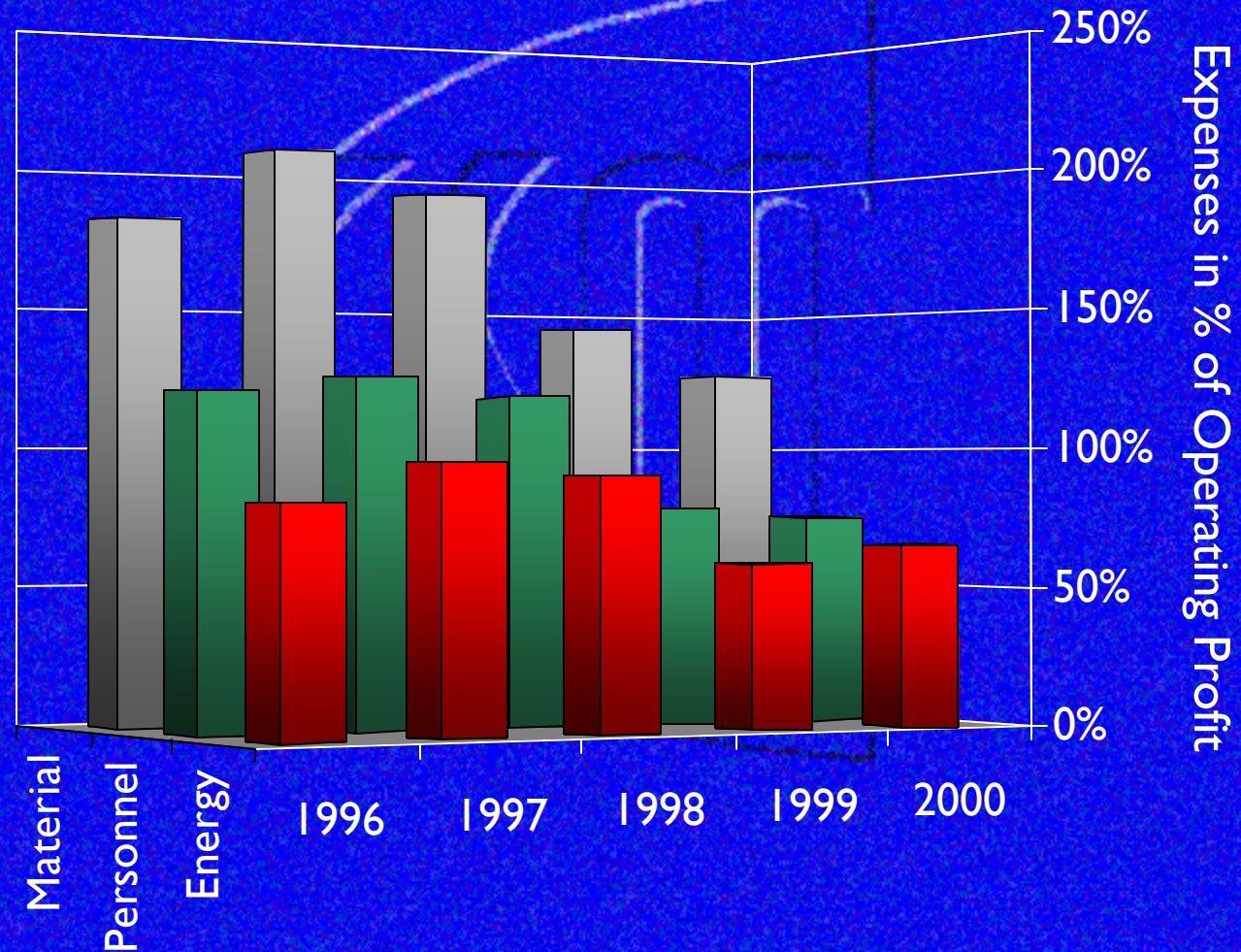
How can companies create value sustainably?

- From the perspective of
 - Shareholder Value,
 - Environmental Shareholder Value and
 - Stakeholder Value Addedthe following holds true:
- Value is created, whenever benefits exceed costs.
- Besides direct costs there are also opportunity costs.
- Opportunity costs correspond to the benefits of the alternatives that have not been pursued.

Expenses at Holcim/Holderbank.



Eco- and Social-leverage at Holcim.



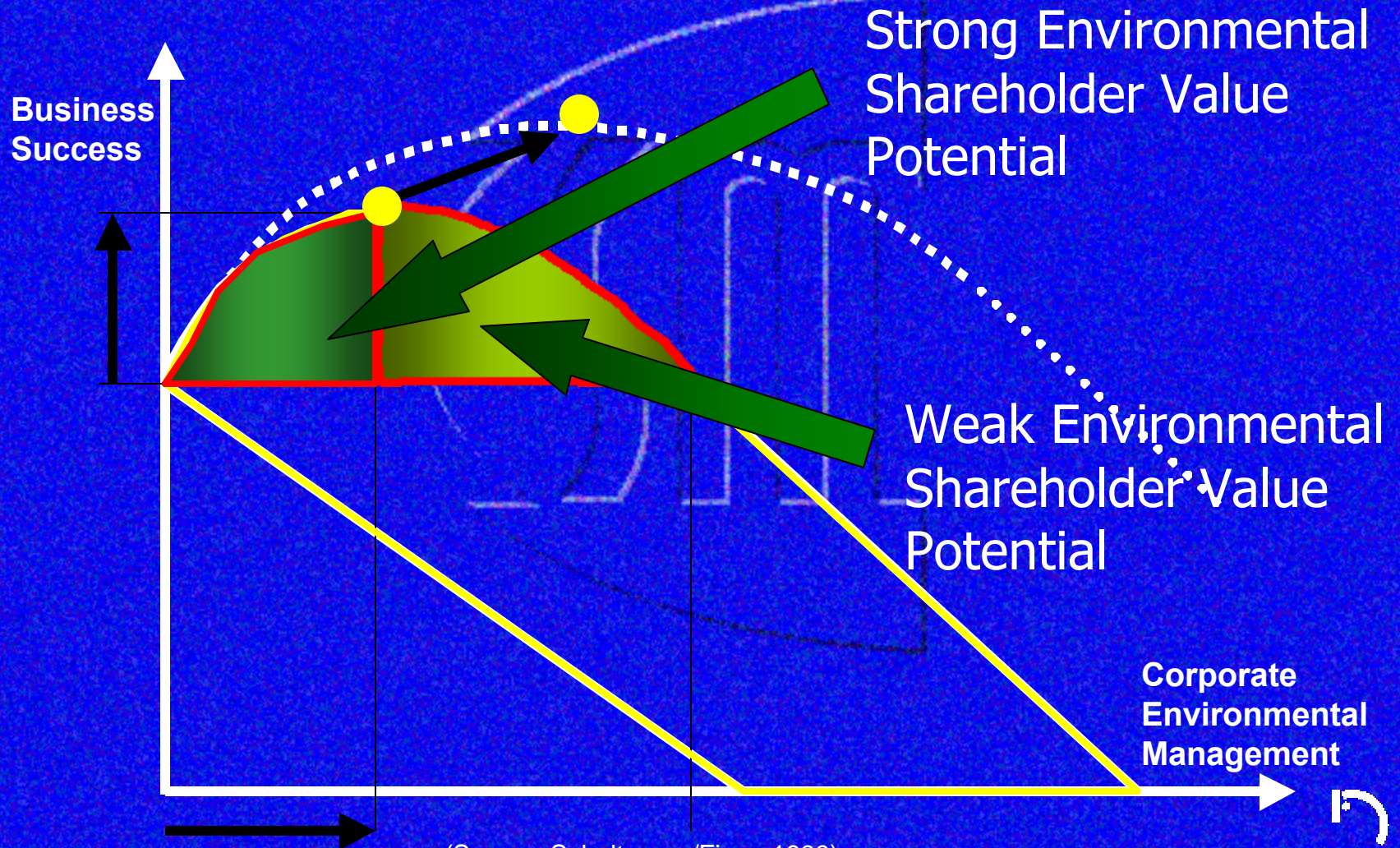
Environmental Shareholder Value.



What is Shareholder Value?

- Shareholder Value is today's value of the future earning streams Shareholders may expect.
- Shareholder Value is often equated with Market Capitalization. Market Capitalization is the financial market's estimate of Shareholder Value.
- Shareholder Value is not the same as Enterprise Value.

Business Success through Corporate Environmental Management?



Correlation is nice - Causality is essential

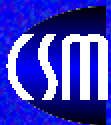
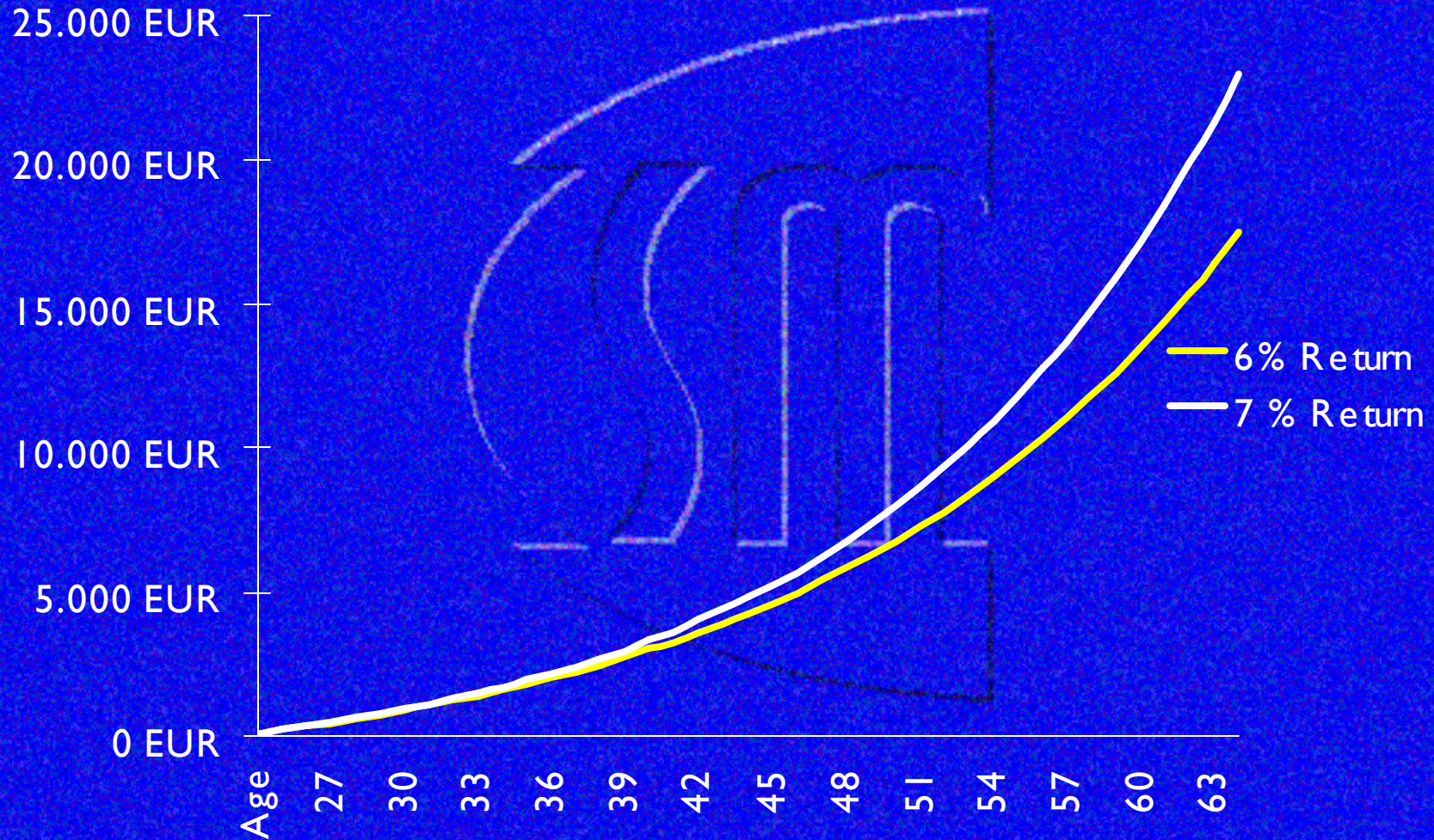
- Looking at the correlation between «environmental performance» and economic performance usually ignores all other aspects that have an impact on the stock price (e.g. mergers, business cycle etc.).
- Arguments based on correlation frequently assume that there is an unambiguous link between «environmental performance» and economic performance (which is not the case in reality).
- Correlation does not tell us why a company has a higher or lower valuation (e.g. Price-to-Book, P/E) than its competitors.
- Correlation usually looks at «how much» as opposed to «what kind of» environmental protection is practised by a company. This is not compatible with the idea of eco-efficiency.
- «Environmental performance» is very often not defined clearly.

How can we become “green” and successful?

- Only «economic» Corporate Environmental Protection can be sustainable.
- Environmental aspects have already an impact on the success of companies.
- Not every kind of Corporate Environmental Management enhances the economic success of companies.
- The key question for companies is therefore:

→ *What kind of Corporate Environmental Management has a beneficial impact on the economic performance of companies?*

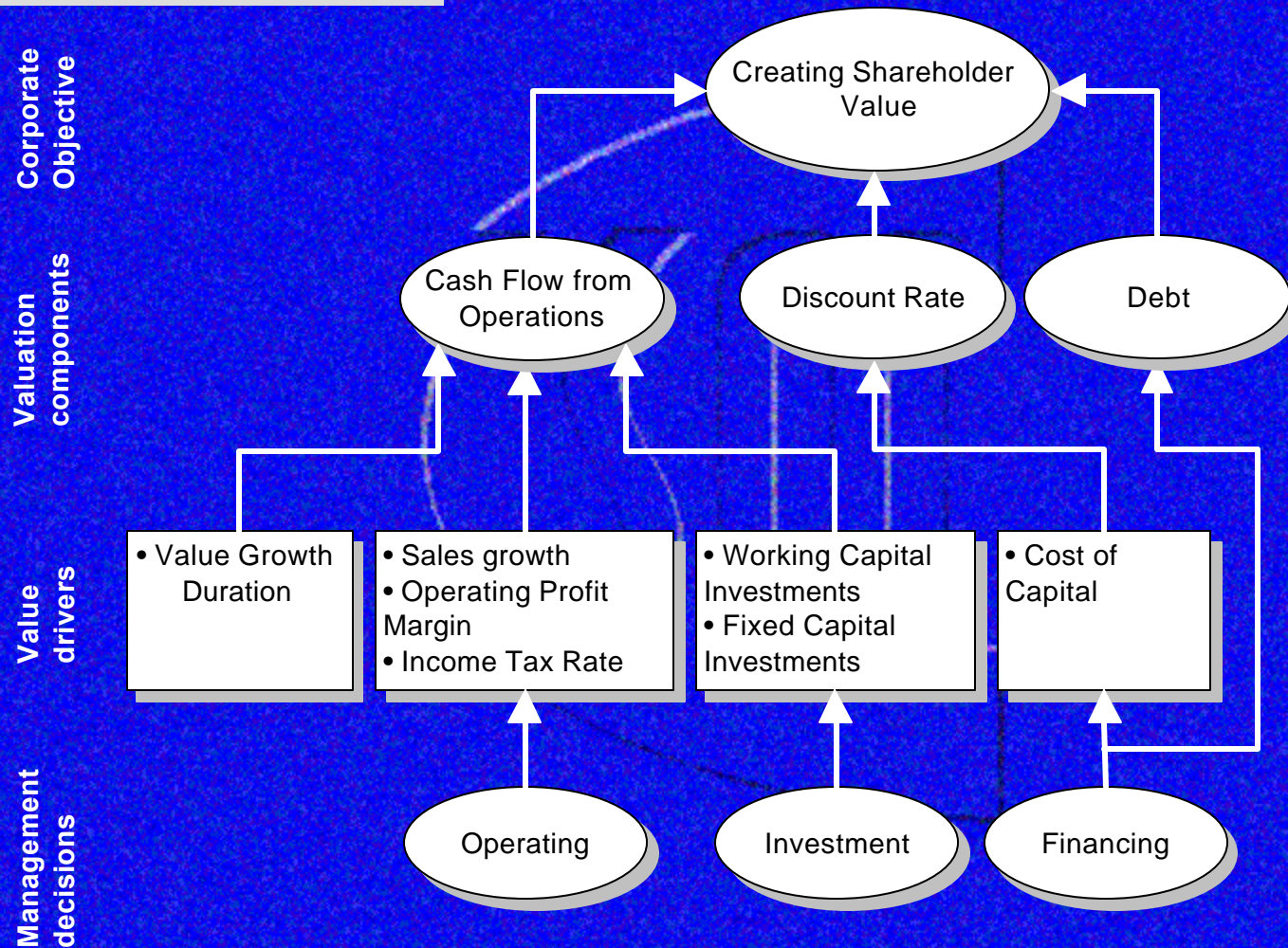
Why do companies/investments need to be successful?



100 € contribution at the beginning of each year
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Value Drivers and Shareholder Value.



(Source: Rappaport 1995)

Operational Management.

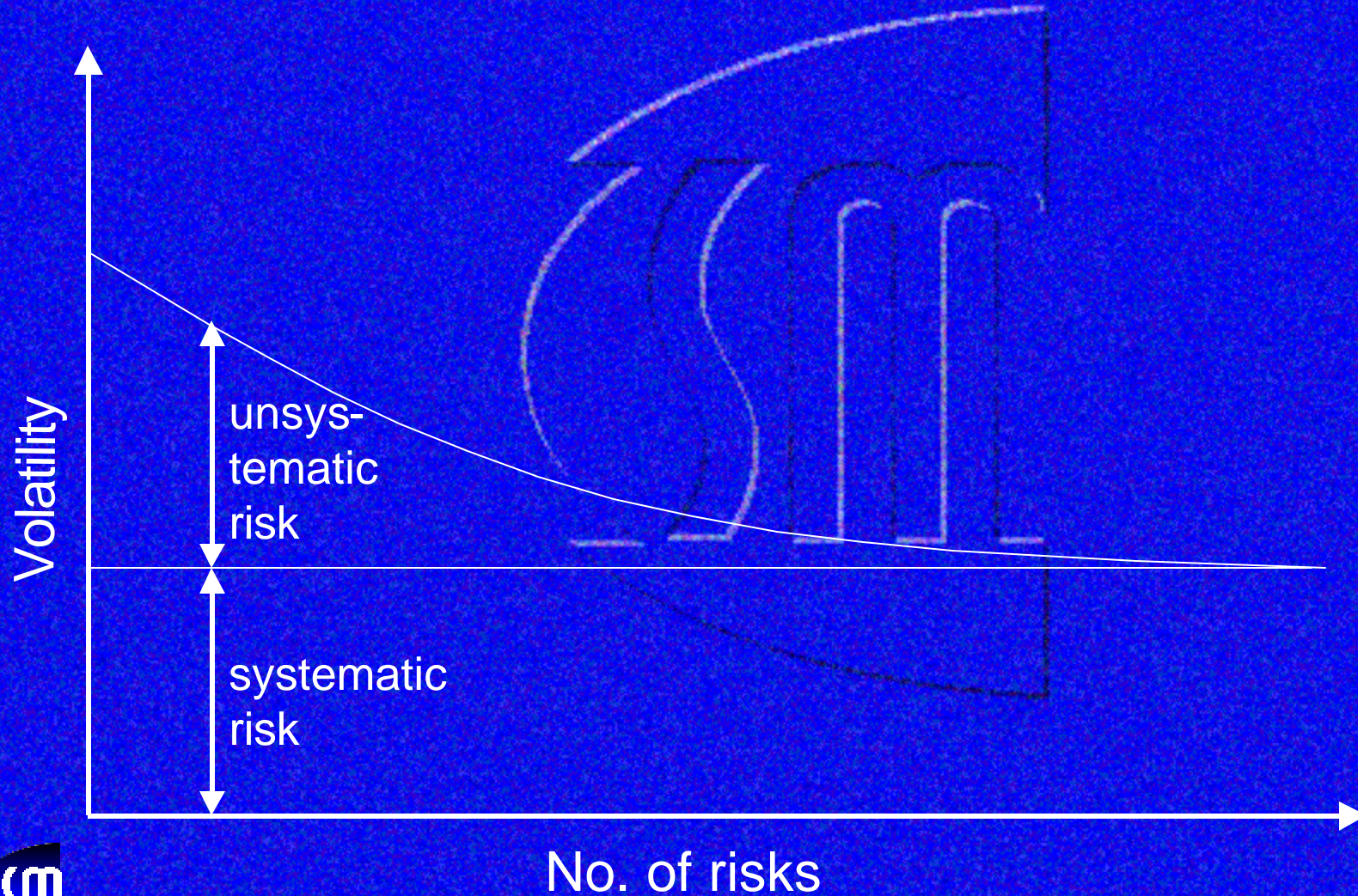
- Price leadership
 - é Management of environmental costs.
- Differentiation
 - é Additional green attributes can help a company to differentiate themselves from their competitors.
 - é „Green“ Products, Labels or certificates.
- Taking advantage of tax benefits and burdens
 - é Issue Management.

Financing.

- Cost of capital
 - Risk free return
 - Risk premium
- Unsystematic risks (e.g. accidents)
 - Can be diversified
 - Do not constitute a risk from an investor's point of view
- Environmental problems can pose systematic risks
 - Energy taxes, Environmental levies etc.
 - Psychological effect: Individual risks are perceived more strongly than „shared“ risks.

☞ Enhancement of Eco-Efficiency (e.g. Energy efficiency)

The role of unsystematic vs. systematic risks.



Value Growth Duration.

Period of time over which it is possible to achieve a return that is above the market average.

é Differentiation, “ecological” Innovations
(e.g. Frosch, Body Shop)

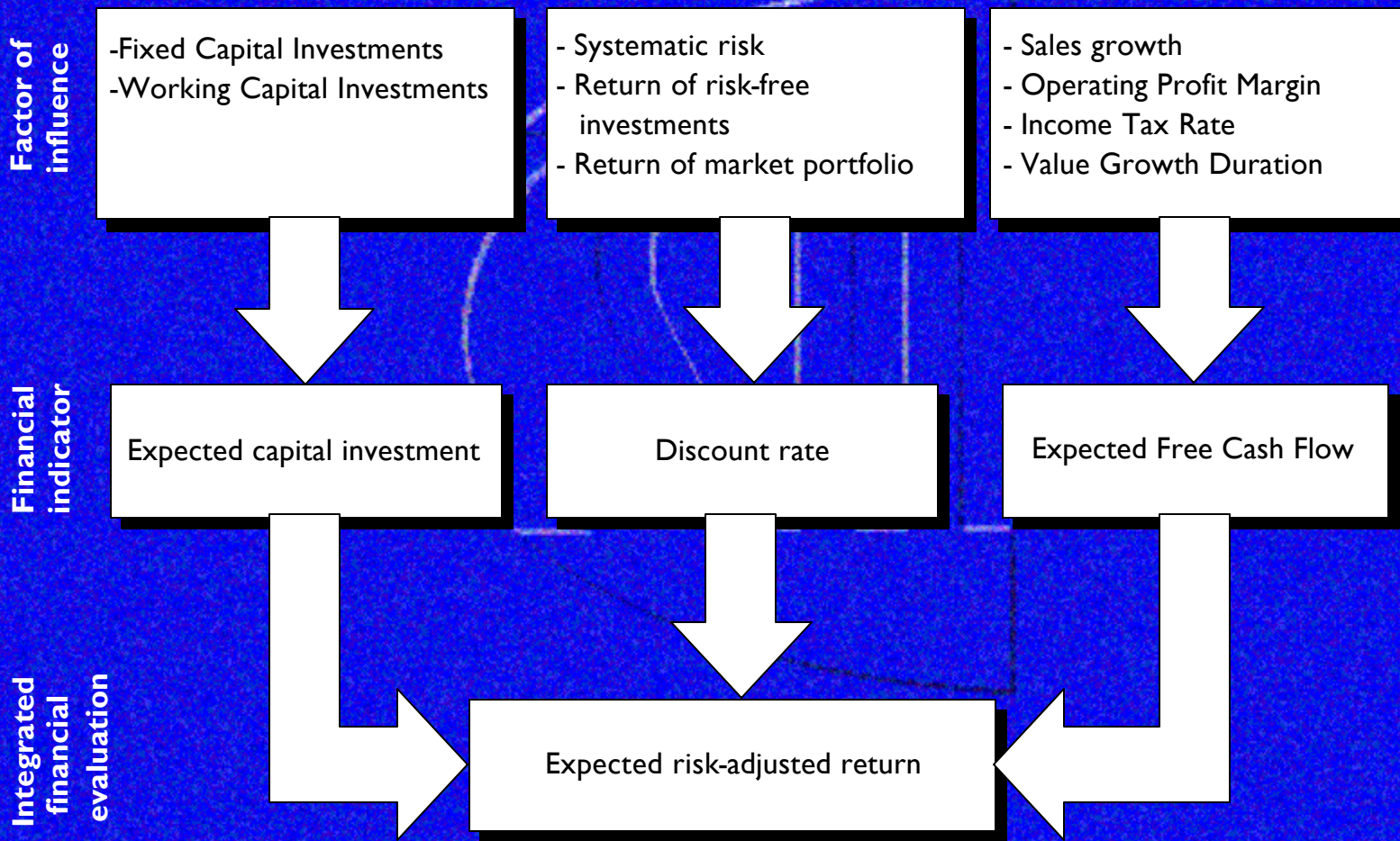
What Kind of Environmental Management Increases the Shareholder Value?

- *Capital-extensive*: software rather than hardware ('smarter', smaller, cheaper installations);
- *Low material consumption*: reduced throughput (lower purchase, storage, and depreciation costs);
- *Sales-boosting*: increasing the benefit and attraction to customers (more desirable products and services for more customers);
- *Margin-widening*: increasing the benefit to customers and reducing the costs of producing the respective products and services (higher prices due to greater benefit and lower operating costs by improved operating efficiency);
- *Safeguarding the flow of finance*: confidence of the capital market (lower and more unsystematic risks and 'green bonus');
- *Long-term enhancement of value*: anticipation of future costs and earnings potential

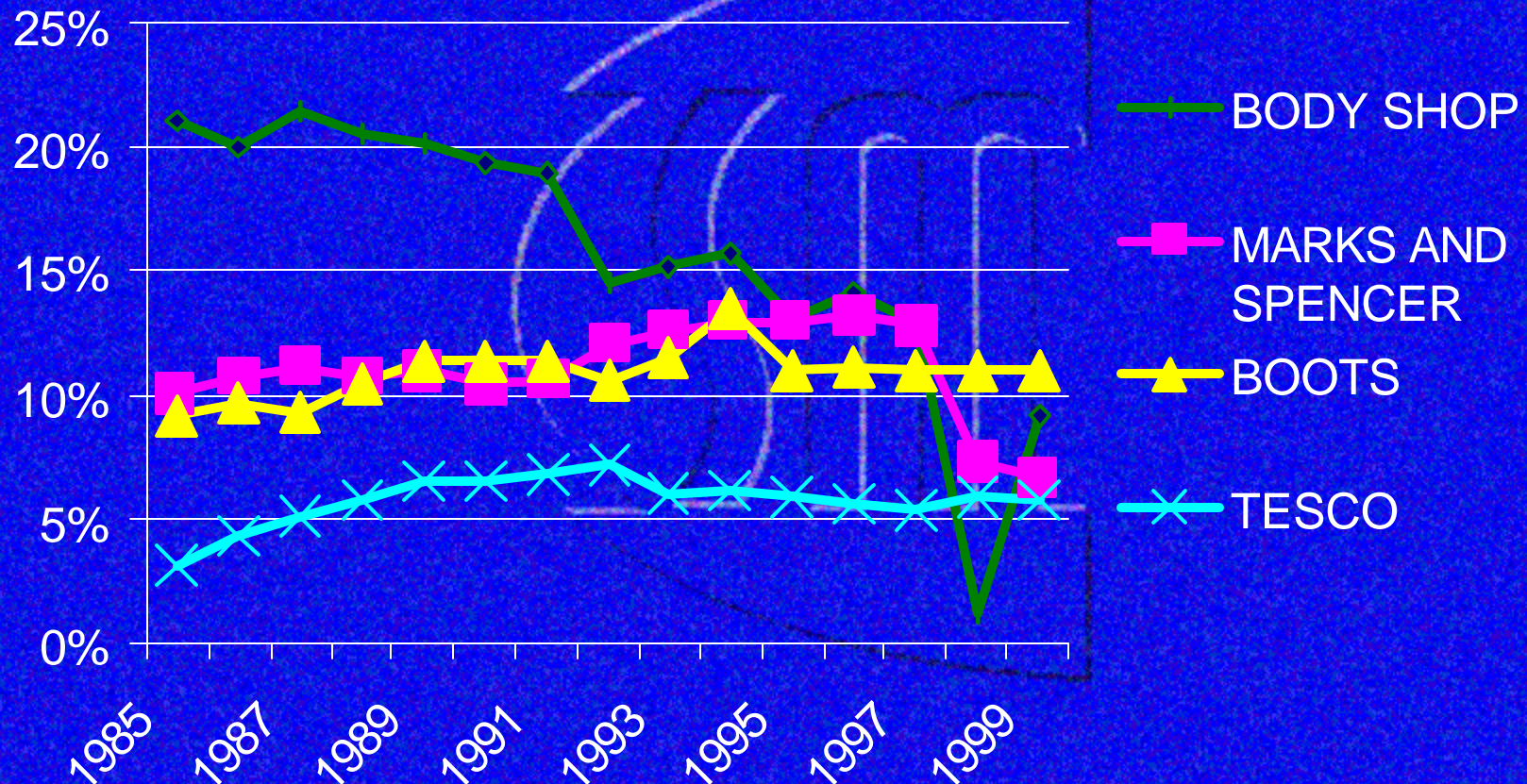
Limits to Shareholder Value-Oriented Environmental Management.

- Not more environmental protection than *legal, political and market circumstances* will allow.
- *Financial liquidity* not considered.
- Some *small companies* are not able to diversify some (unsystematic) environmental risks.
- Risk of loss of *social acceptance* not considered.
- Danger, that shareholder value-orientation is used as an *ideological argument* in distributional conflicts between stakeholders.
- Shareholder Value does not capture the option value environmental management might create.

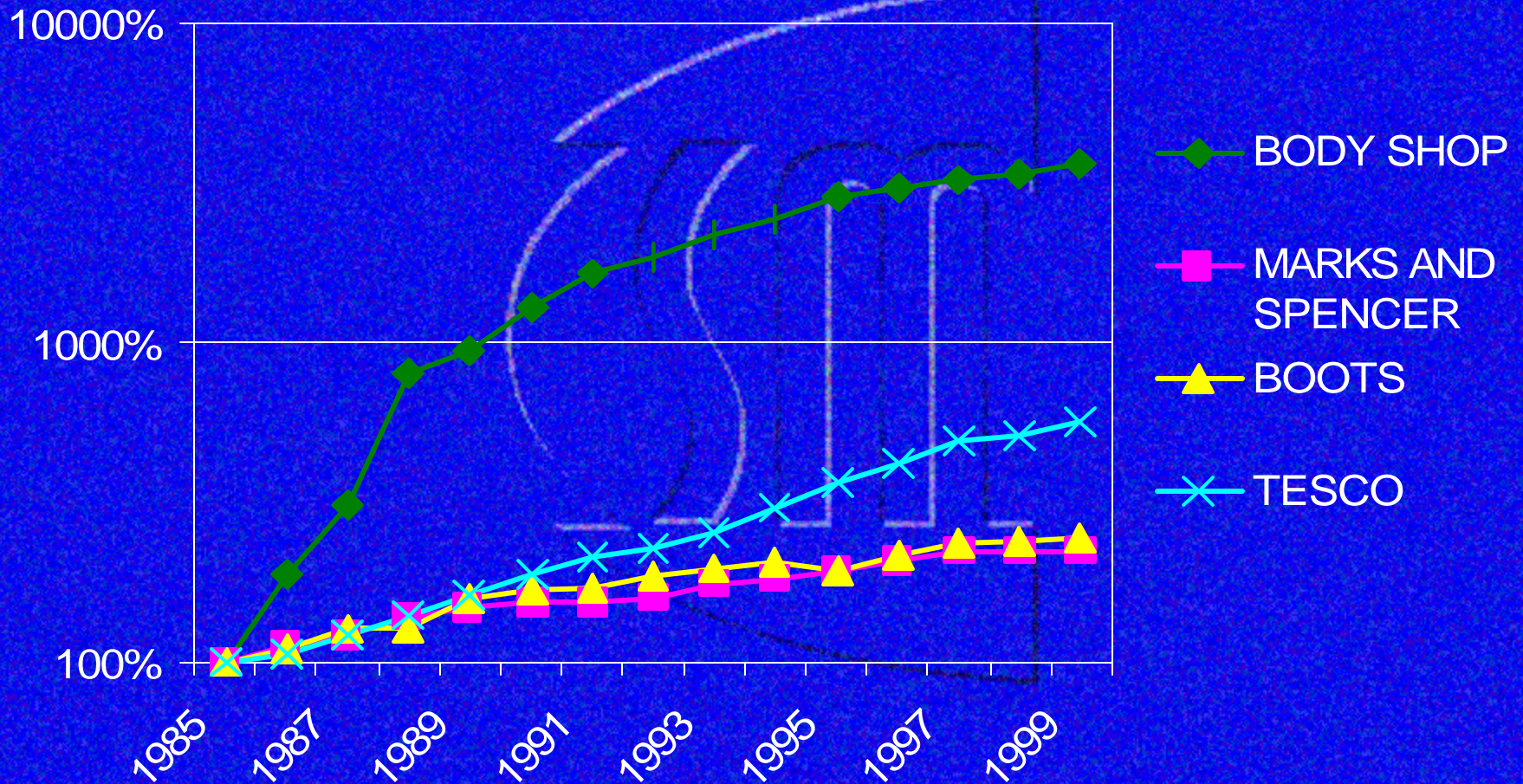
Integrated financial evaluation of environmental management.



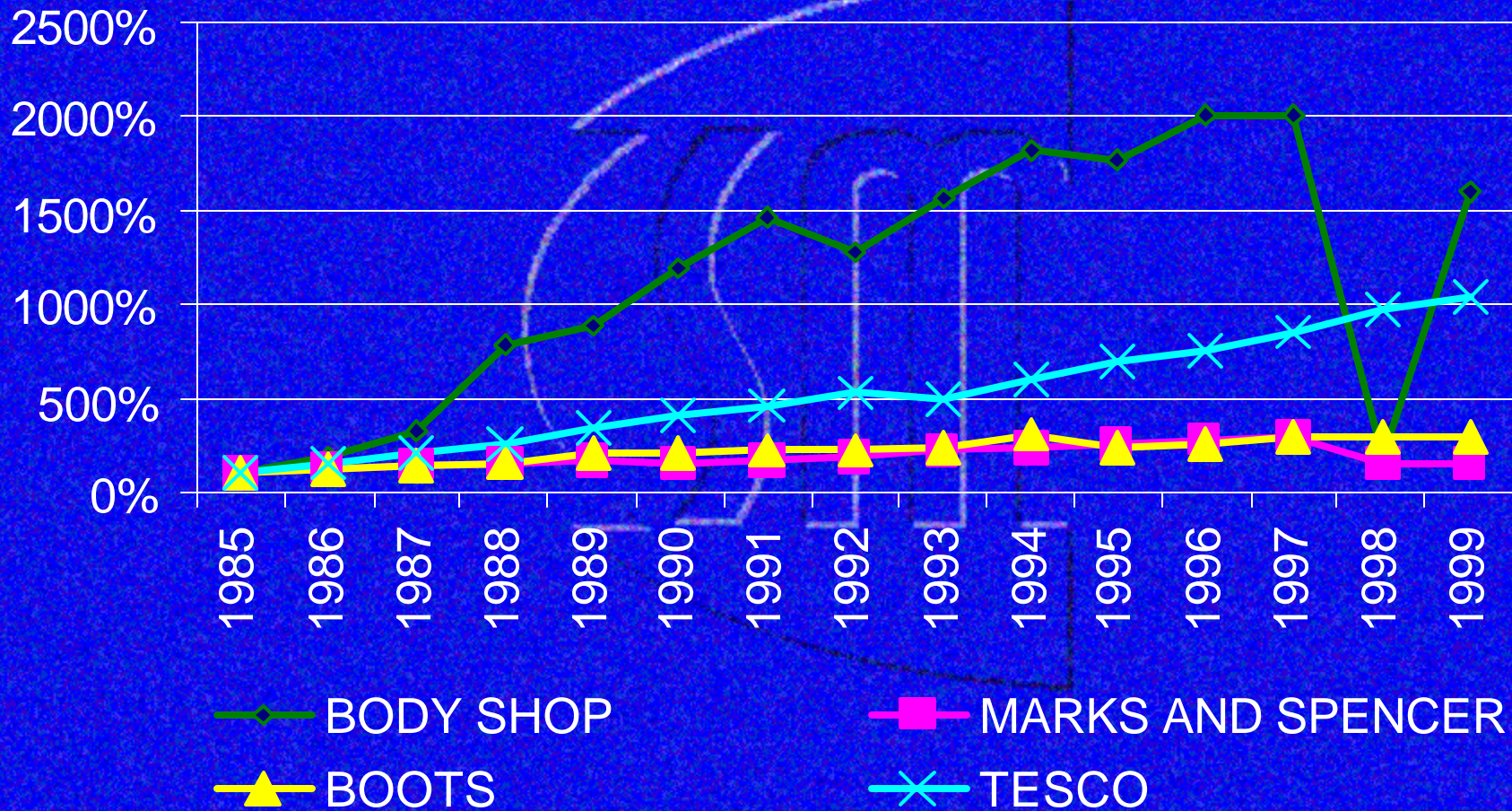
EBIT-Margins of British Retailers.



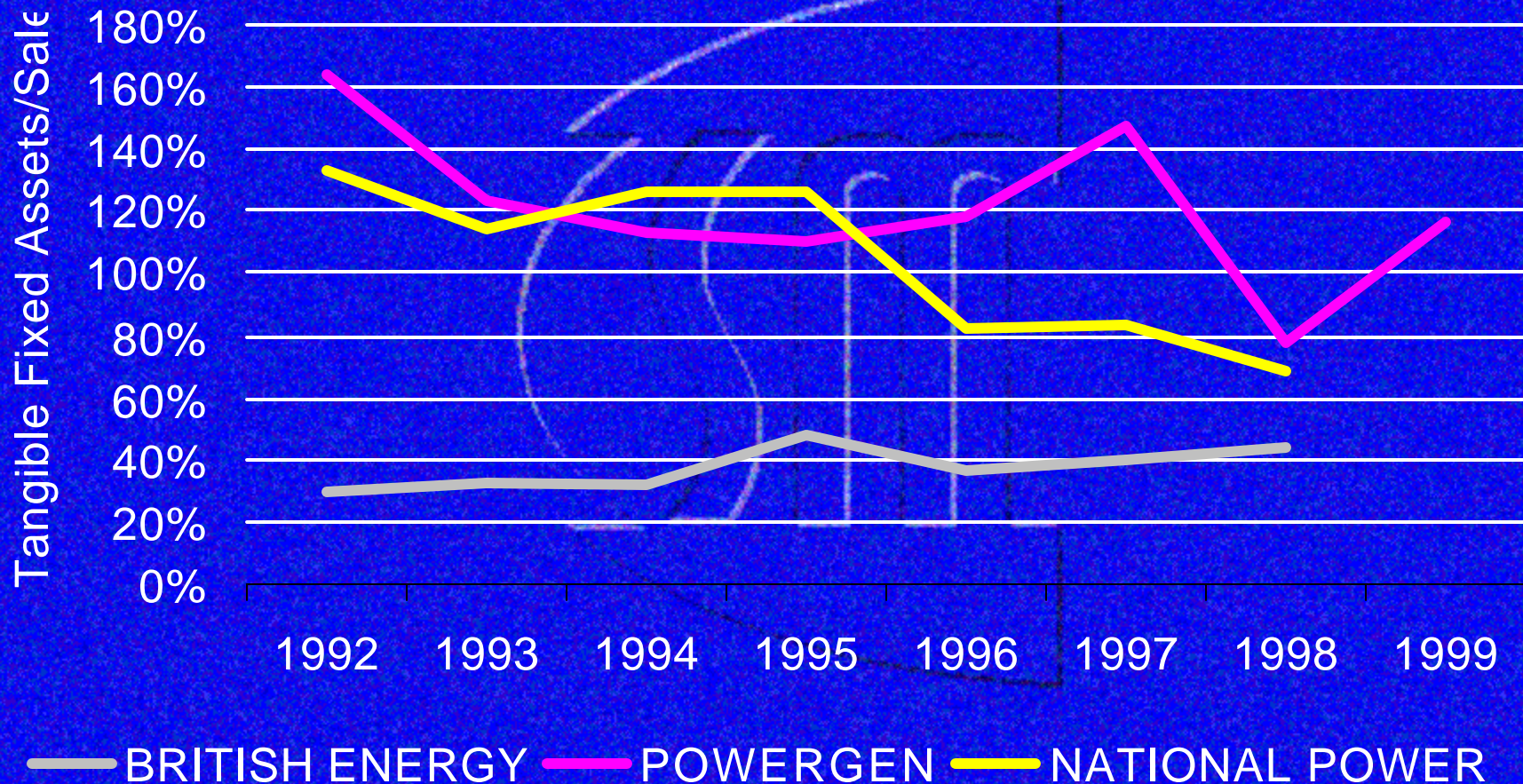
Sales growth of Body Shop compared with other British retail companies.



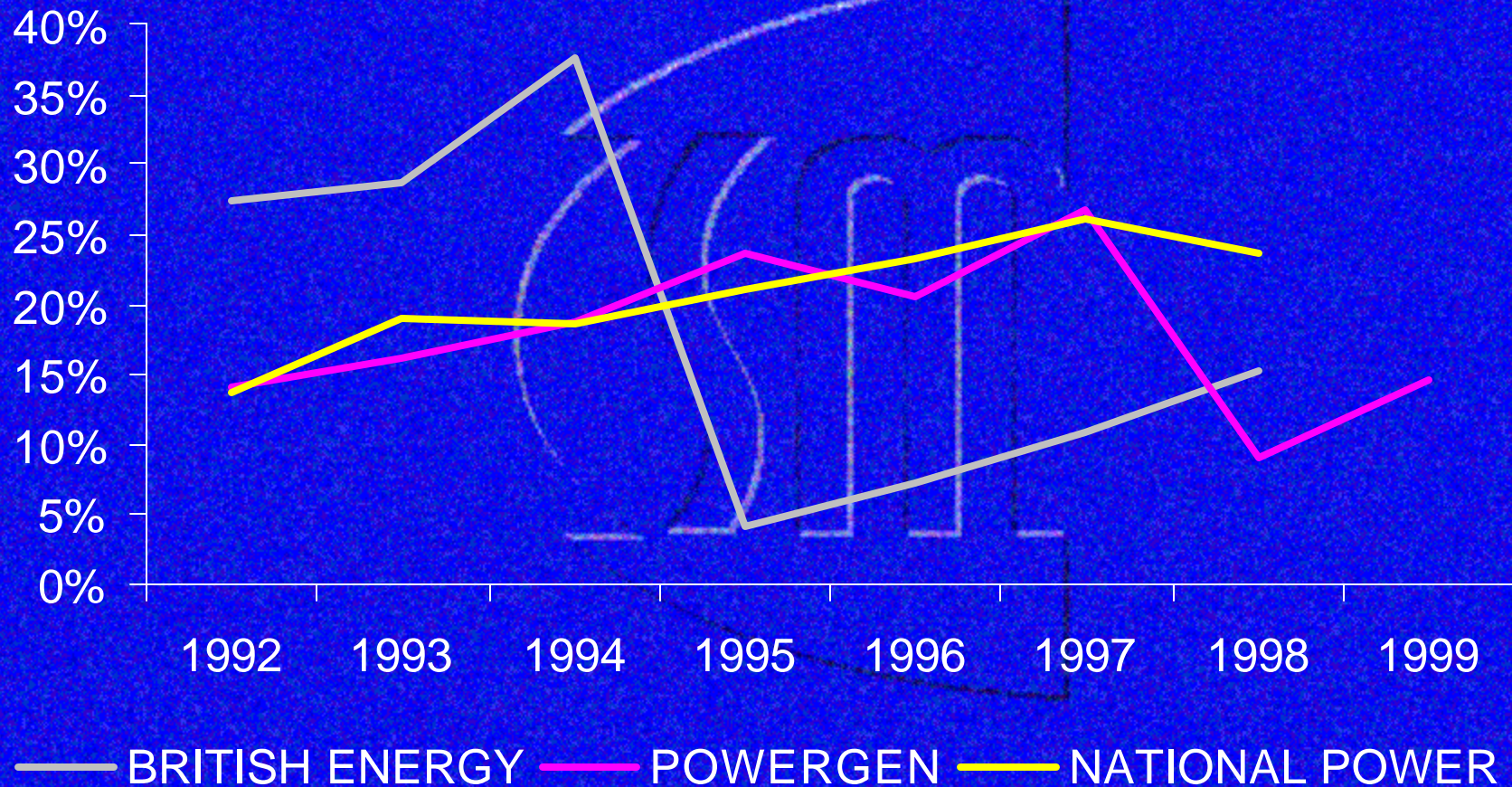
Indexed growth of EBIT



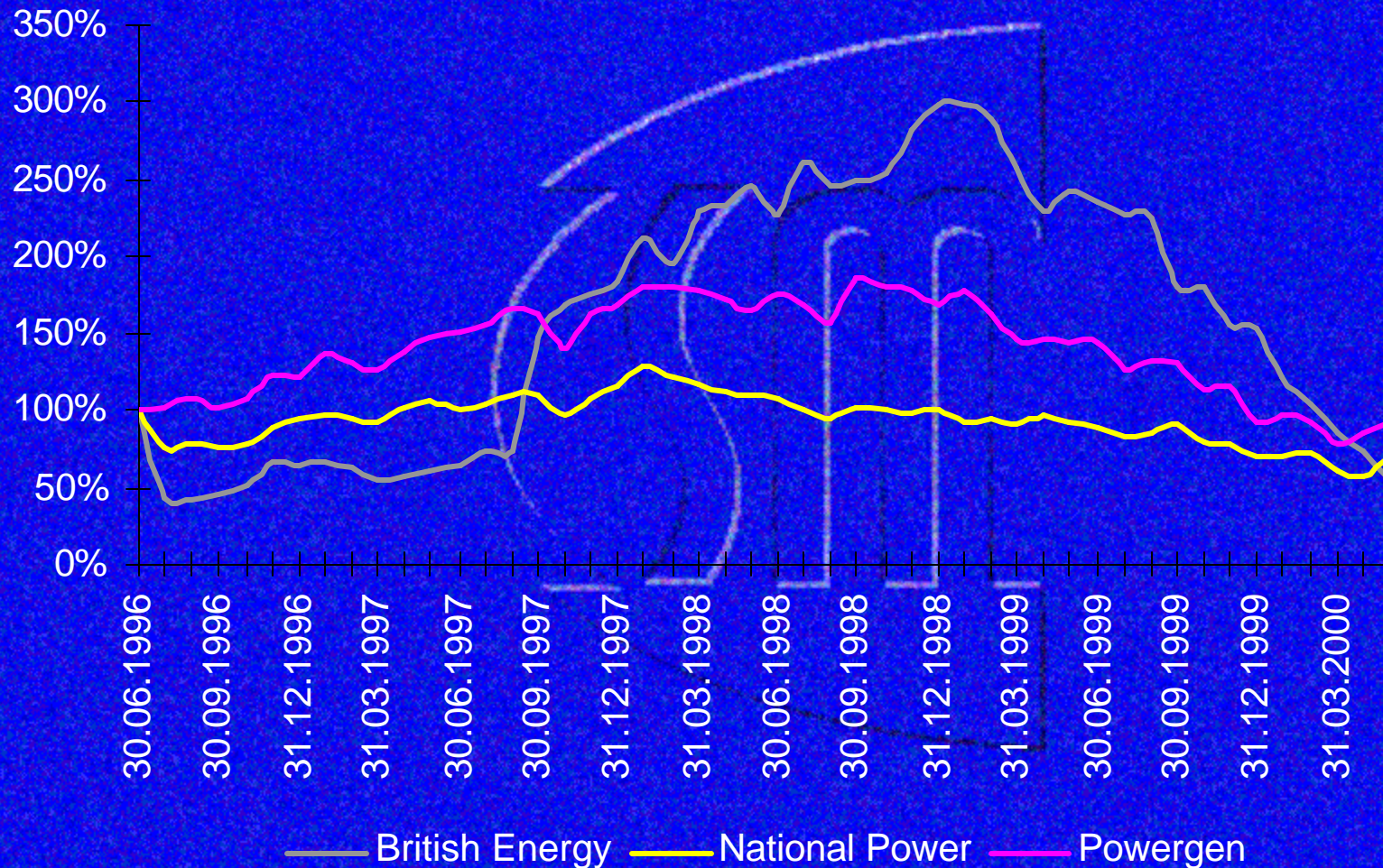
Capital intensity of British electricity generating companies.



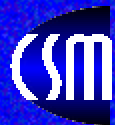
EBIT margins of UK electricity generating companies.



Is British Energy a good investment?



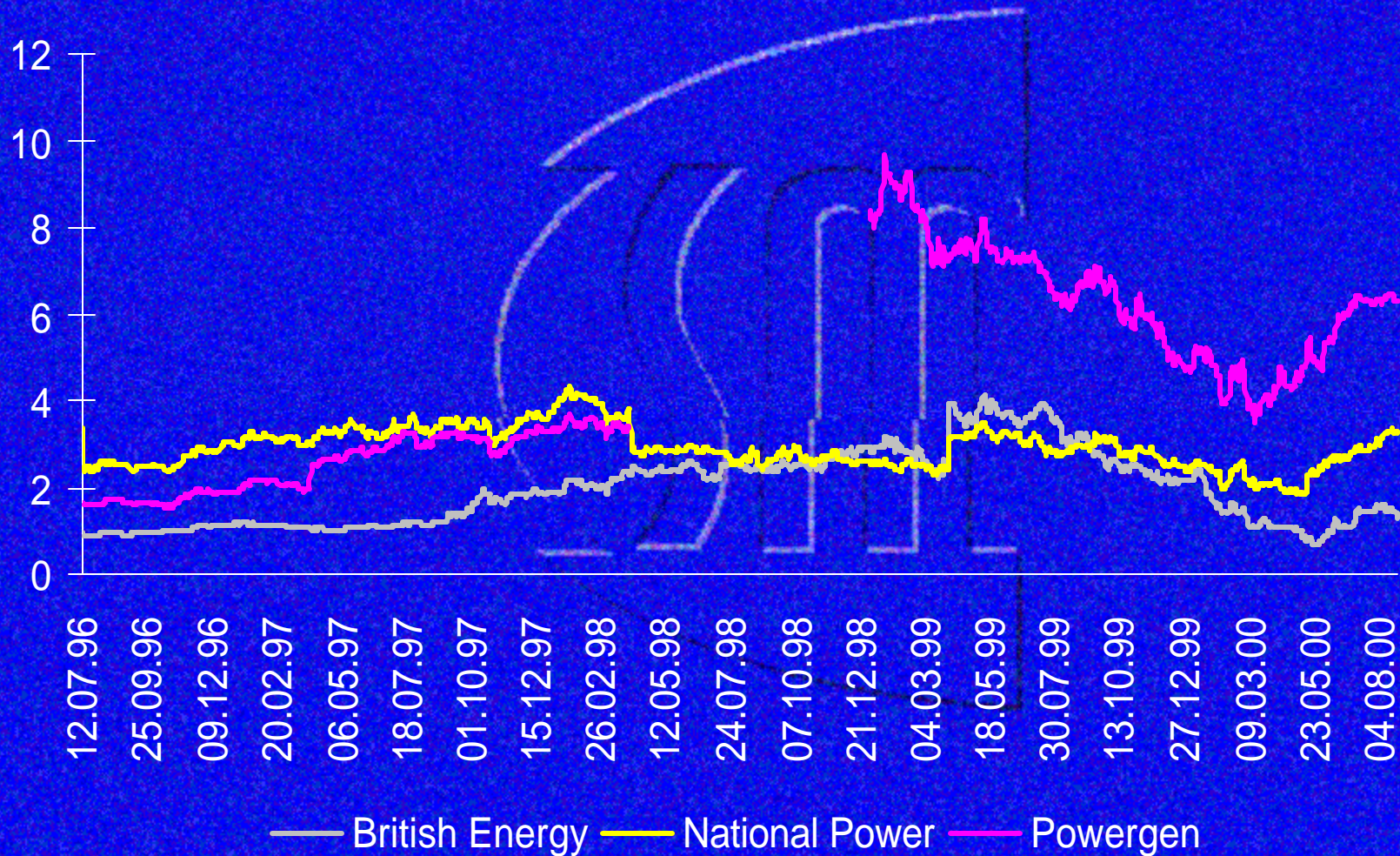
Indexed Performance between 30.06.96 and 31.05.2000. Index base 30.06.96=100. Source: Estimates Direct, Own Calculations.



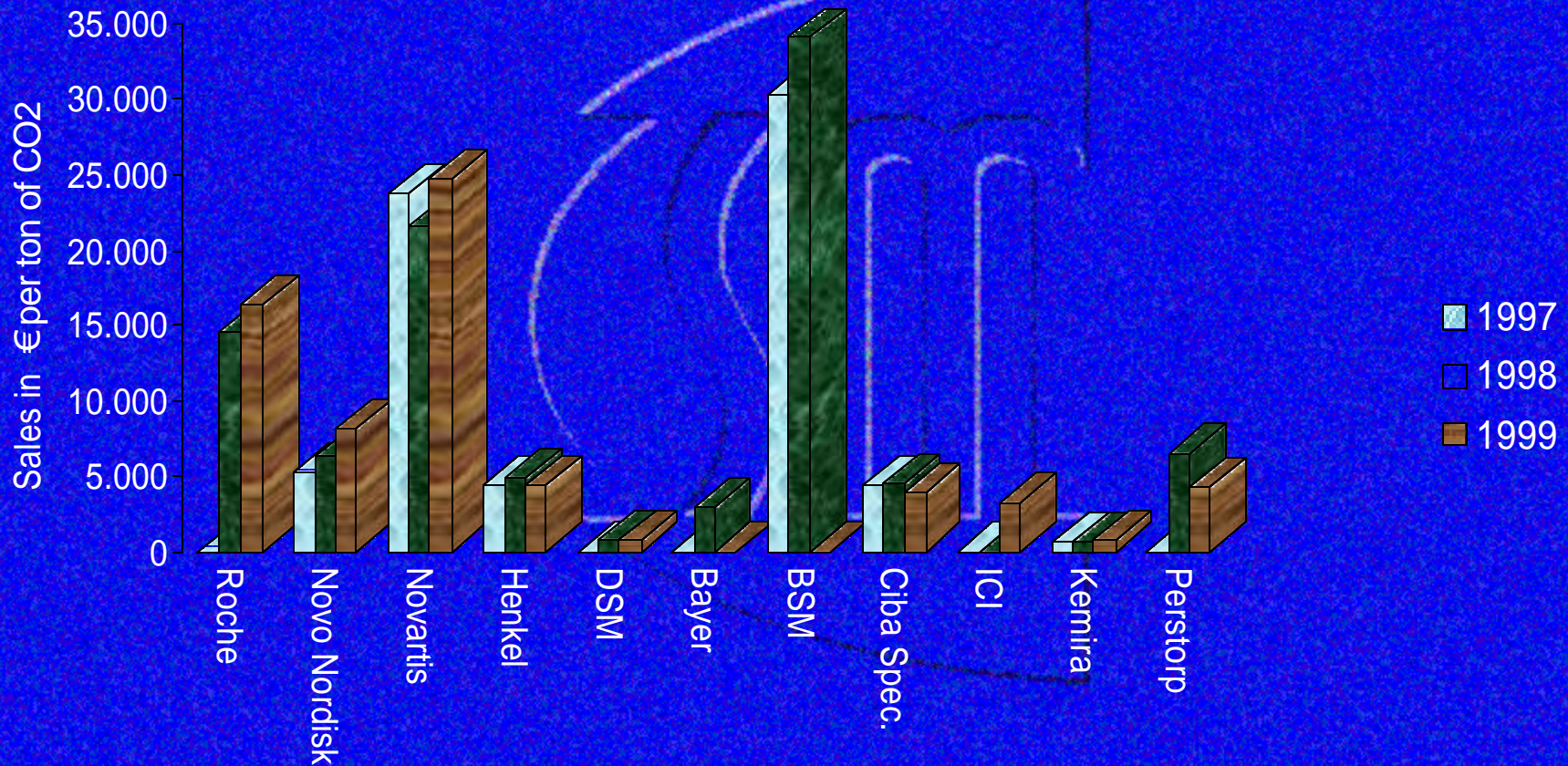
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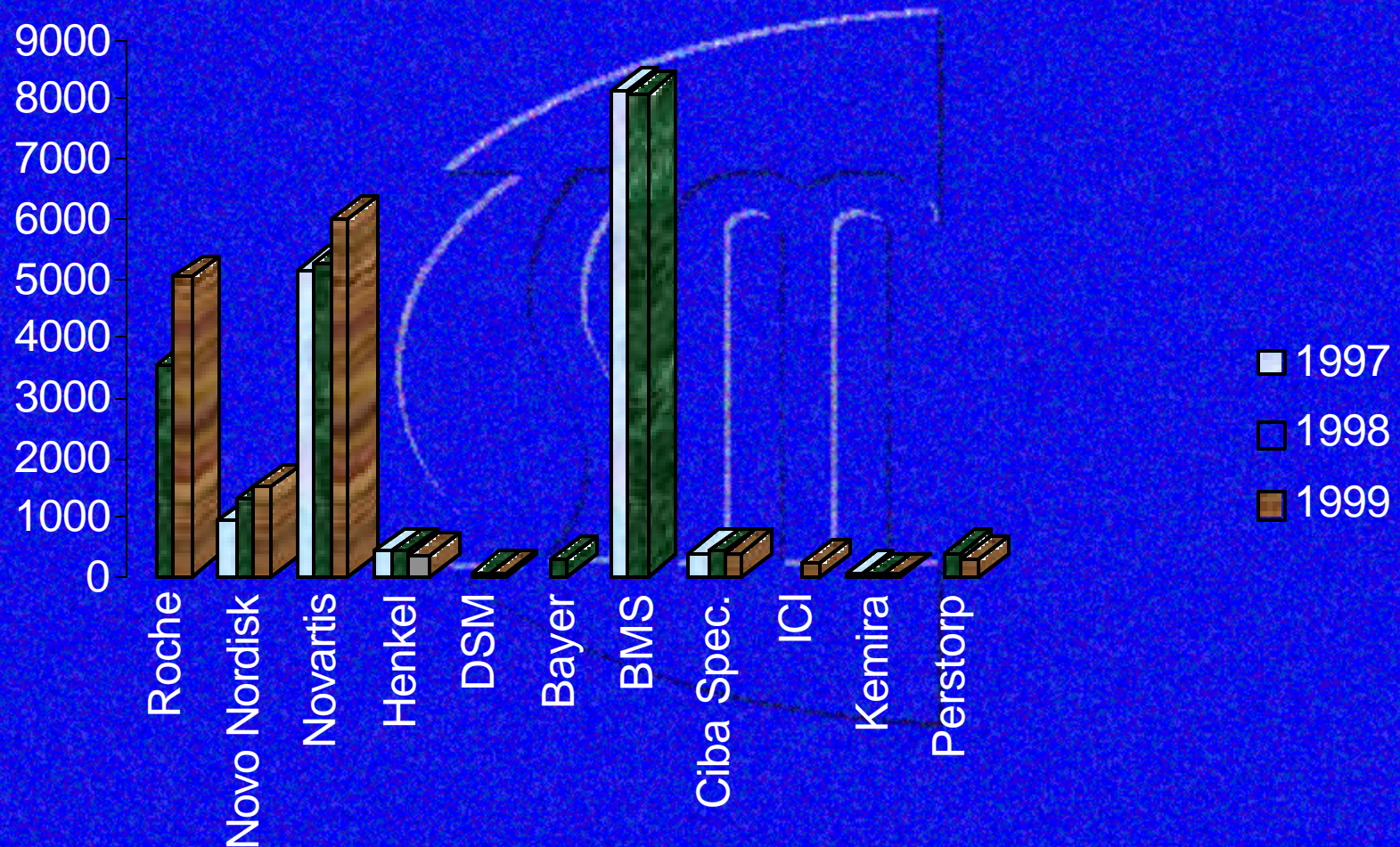
Price-to-Book ratio of British electricity generating companies.



CO₂-intensity of chemical companies.



EBIT in Euro per ton of CO₂



Assessment Criteria (Examples).

Environmental aspect	Value Growth Duration	Revenue Growth	Operating Profit Margin		Income Tax Rate	"tied up" capital (e.g. provisions)	Cost of Capital
			Price	Costs			
...							
...							
...							
...							

With: ++ strong value creating impact, + value creating impact, 0 neutral, - value destructing impact, -- strong value destructing impact.

Assessment Criteria (Examples).

Environmental aspect	Value Growth Duration	Revenue Growth	Operating Profit Margin	Price Costs	Income Tax Rate	"tied up" capital	Cost of Capital
Eco-Funds	+	+	+	-	0	0/-	0/+
M&A-consulting							
Env. Screen in Credit Business	+	+	0	+	0	+	+
In-house ecology							
Reputation							
ISO 14000							

More on Environmental Shareholder Value.

- New report published in association with PriceWaterhouseCoopers (in German and English)

Stand ● e 28

PRICEWATERHOUSECOOPERS

Wertschaffendes
Umweltmanagement

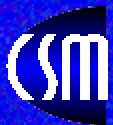
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Keine Nachhaltigkeit ohne ökonomischen Erfolg.
Kein ökonomischer Erfolg ohne Nachhaltigkeit.

Dr. Frank Figge
Center for Sustainability Management (CSM) e.V.
Universität Lüneburg

in Zusammenarbeit mit
PricewaterhouseCoopers
Global Risk Management Solutions



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