



Economic Value Added (EVA)

A comprehensive Financial Management System

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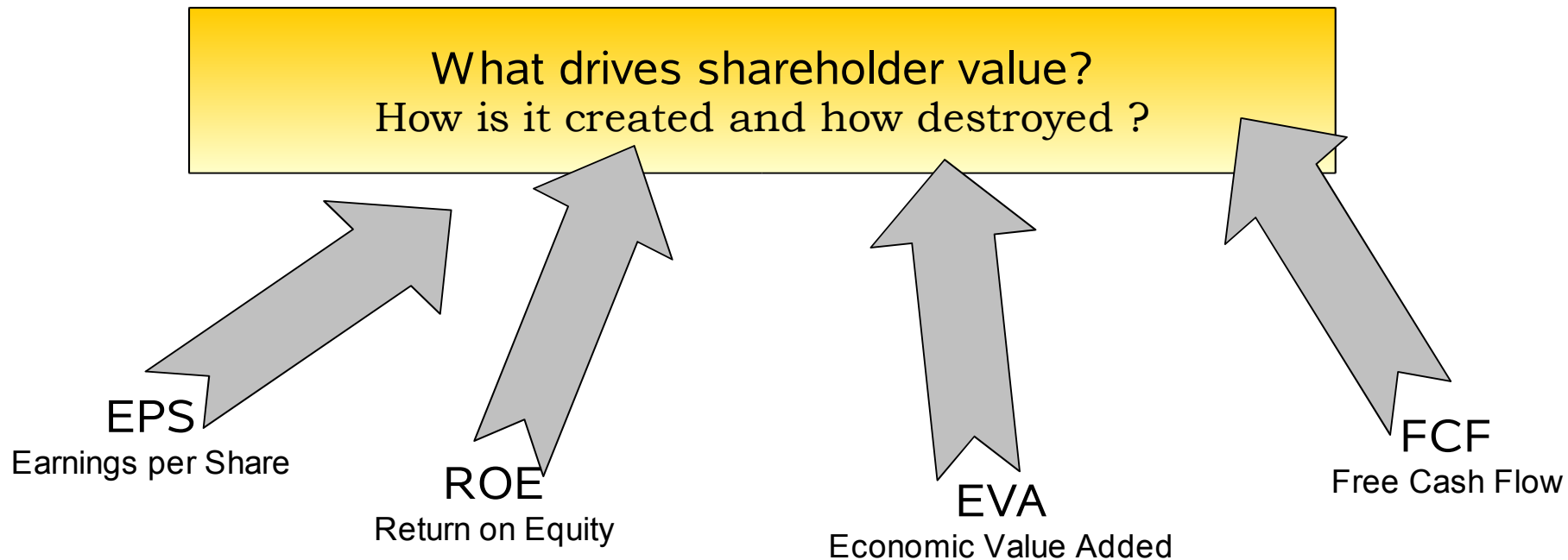
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Everyone wants to create *shareholder value* - but how do you create value?

First mentioned in 1983 by a First Boston analyst and then again in a WSJ article in 1986 it has only been since 1994 that the expression has spread like a virus among investors and critics all over the world.



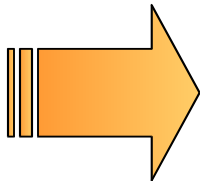
The Corporate world seems to have decided: EVA of Stern Stewart & Co.

Already in 1981 Roberto Goizueta introduced EVA to The Coca-Cola Company and used it in restructuring and expanding the business. Its share price increased 20-fold in the next 15 years!

Siemens introduced EVA in 1998 when starting its turnaround efforts and considers it a central issue on its road back to success.

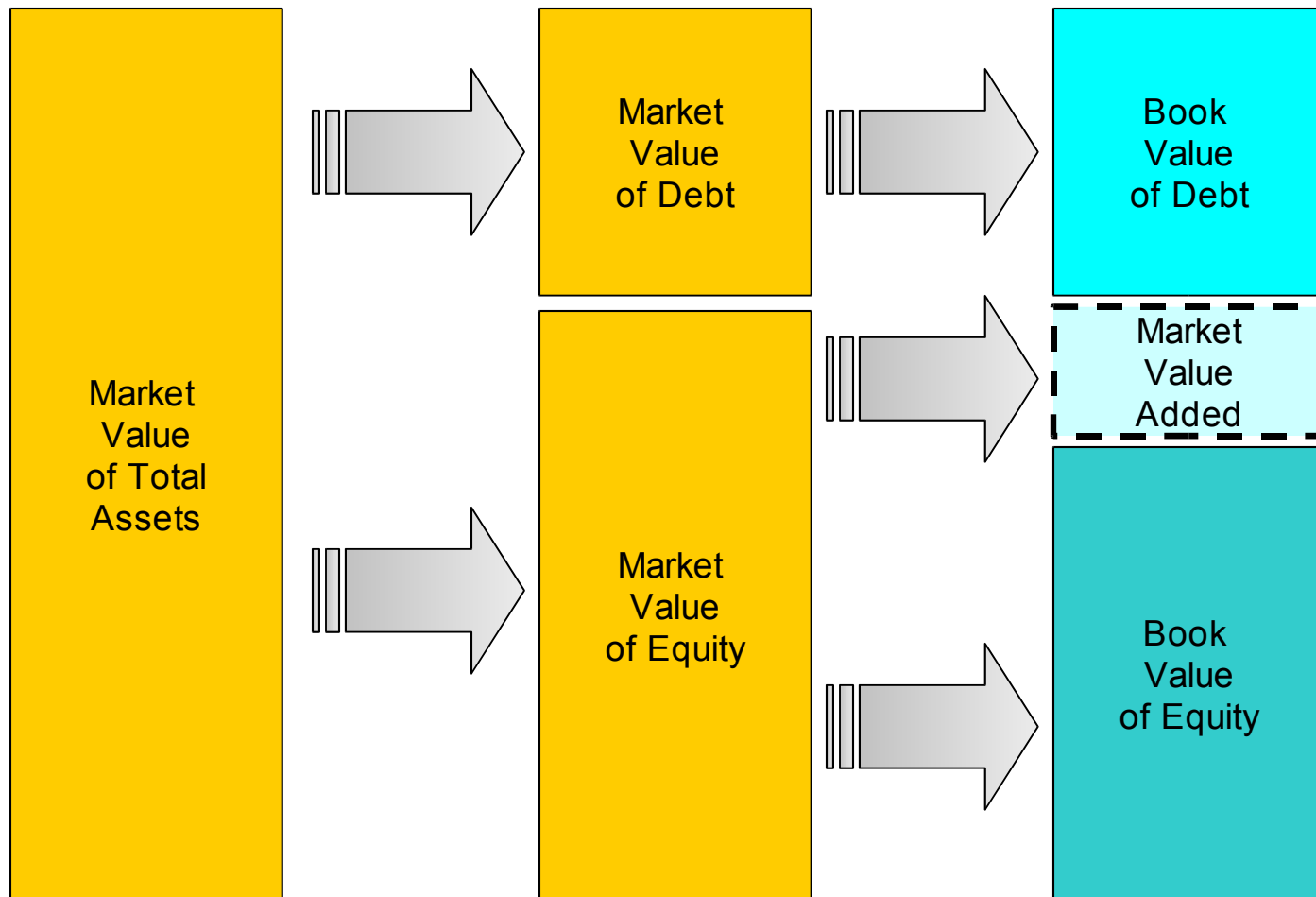
AT&T, Quaker Oats, Briggs & Stratton, Eli Lilly, Monsanto and more than 300 other companies all over the world have introduced EVA already.

On Wall Street Goldman Sachs and CreditSuisse First Boston have formally adopted EVA as a principal tool for valuing companies.



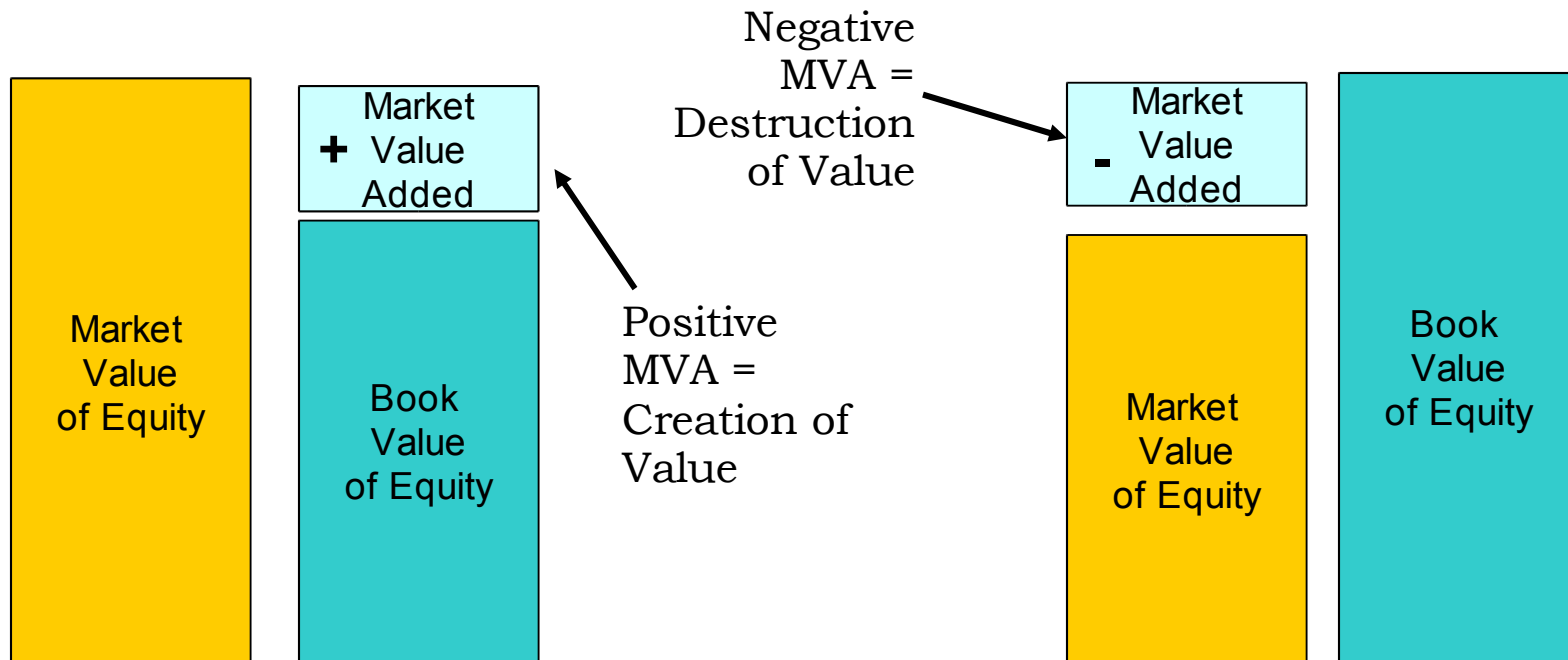
So what makes EVA interesting to these companies?

So... Shareholder Value means maximizing the company's Market Value, its share price?



Creating value means Market Value of Equity higher than what has been supplied by investors

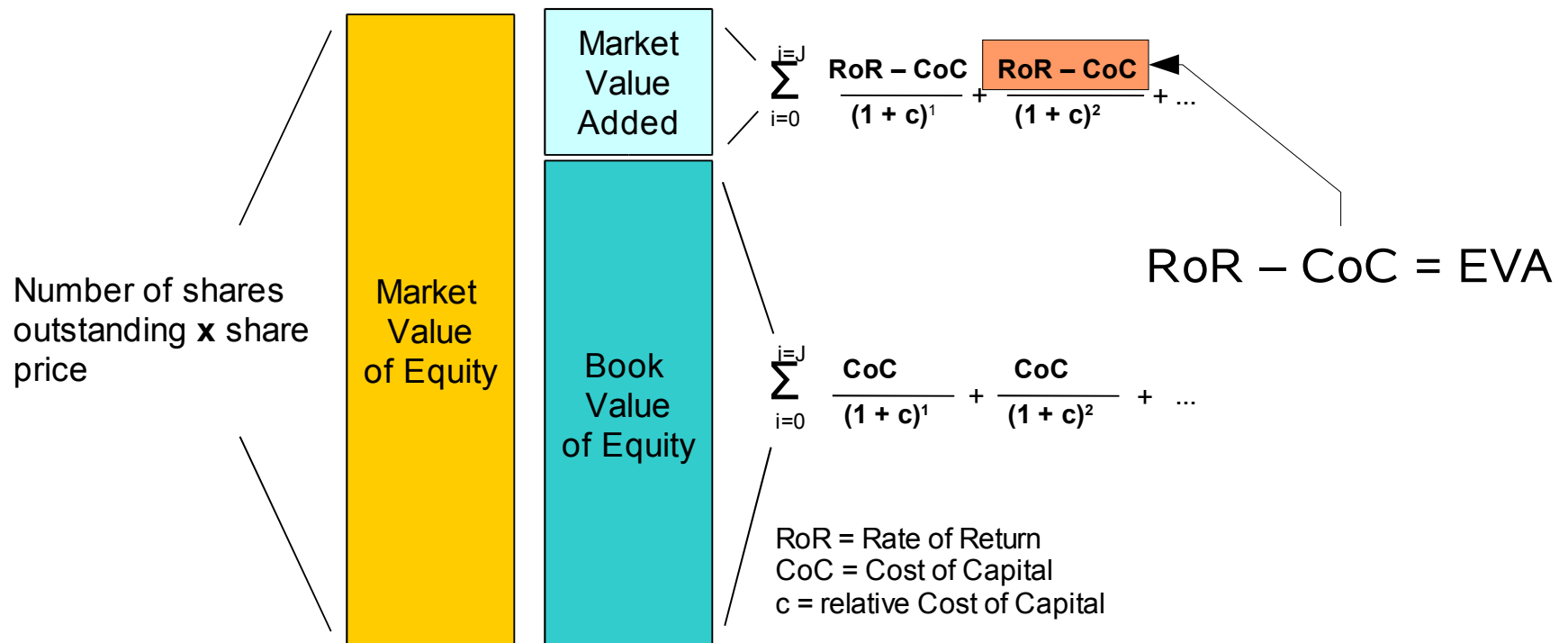
Book Value of Equity: indicates the *capital supplied by investors* over the history of the company, esp. equity equivalents like retained earnings, reserves and provisions



Maximizing MVA is the Goal for Shareholder Value

MVA is the discounted stream of future excess returns

MVA is a *stock market measure* and – assuming efficient capital markets – should reflect all future returns above the cost of capital. DCF has been decomposed into excess returns and cost of capital which discounted yields the book value of Equity on which it is a the required return.



Economic Value Added is closely related to MVA but more practicable for Corporate Governance

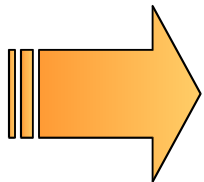
Studies have shown the **strong correlation** between MVA and EVA that had been theoretically demonstrated. Yet, as a stock market measure, MVA is subject to volatility and investor sentiment and thus not a stable basis for company management.

EVA which can be derived from internal accounting data and calculated for single business units.

It incorporates the idea of comparing operating profits with the total cost of capital bound in the company's operations.

$$EVA_{\text{capital charge formula}} = \text{NOPAT} - \text{Invested Capital} \times \text{WACC}$$

$$EVA_{\text{value spread formula}} = (\text{ROIC} - \text{WACC}) \times \text{Invested Capital}$$



Again, only Returns exceeding the cost of capital (here WACC) create Shareholder Value

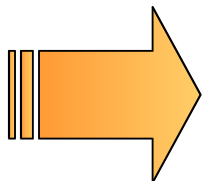
EVA components I: NOPAT and necessary adjustments to it

NOPAT is the profit from operations disregarding debt financing. It equals the after-tax profit that can be distributed to investors (creditors & owners)

$$NOPAT = EBIT (1 - Tax Rate)$$

Accounting data is *biased towards the liquidating perspective* of a lender; adjustments to reach the going-concern perspective of investors/managers:

- add back operating expenses that really are investments (aimed at generating and sustaining future earnings)
R&D, staff training, advertising, restructuring efforts,...
- add back amortization on goodwill as to the largest part it is assets with indefinite lives and a return should also be earned on the purchase price
- add back implicit interest payments on the PV of operated leasing



Decide on a few reasonable & important adjustments from the 160+ defined by Stern Stewart

EVA components II: Invested Capital should underline the operating perspective

Invested capital is defined as the debt and equity bound in operations. As the performance of managers is to be judged, operating capital is relevant – it is under the control of management:

***Operating Capital* = net operating working capital + net fixed assets**

Just like with NOPAT, adjustments to accounting data are suggested, in particular in the field of debt and equity equivalents:

- debt: PV of operate leasing payments and rents,...
- equity: operating expenses with investment character, amortization on goodwill, LIFO reserves,...

EVA components III: Weighted Average Cost of Capital as risk-adjusted required rate of return

Debt: Average yield on long-term bonds of companies with similar risk-profile and adjust for tax deduction of interest on debt

$$K_d (1 - T)$$

Preferred Stock: promised dividends in relation to net issuing price

$$K_{ps}$$

Common Stock: CAPM yields the cost of equity as a risk-adjusted value.
Risk-free RoR plus a risk premium for the market and the company

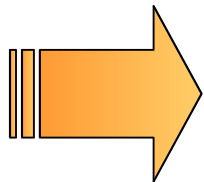
$$K_s = R_f + (R_m - R_f) \beta$$

WACC: using the target financing structure, component costs enter the total cost by their relation to total assets

$$WACC = w_d k_d (1 - T) + w_{ps} k_{ps} + w_{ce} k_s$$

EVA and MVA are essentially the same concept as DCF and NPV

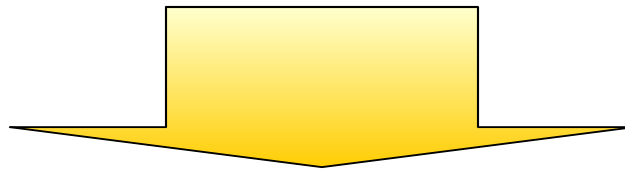
- The link between EVAs and MVA had been established using DCF methods. Stern: properly applied both methods yield the the same results over an extended period of time.
- Prof. Damodaran, NYU Stern: Assuming an appropriate definition of CFs, and adjusted EBITs, it can be shown that NPV and discounted EVAs are identical. EVA thus is closest in theory and construction to NPV.
- Prof. Shieverz, Prof. Wachowicz, UTennessee: though EVA is a measure of economic profit rather than CF, EVA is conceptually the identical approach to valuation and decision-making as FCF or NPV.



NPV as multi-year tool is broken down into EVAs on annual or monthly level for Management purposes

“The first thing any company should do in its pursuit of higher MVA is to abandon the cult of EPS”

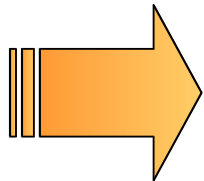
- Although it appears like a straight stock market figure, it does include neither of the two things investors care about: *cash flows* and *risk*
- Accounting earnings (the basis of EPS) can easily be distorted by management decisions and even work against investor interests (e.g. tax issues)
- Maximizing EPS cannot be reasonably set as objective: simply pouring more capital into operations might rise earnings and destroy value when the investment yields less than cost of capital.



As EPS doesn't respect the required return on capital in any form, it might results in actually **promoting a destruction of value !!!**

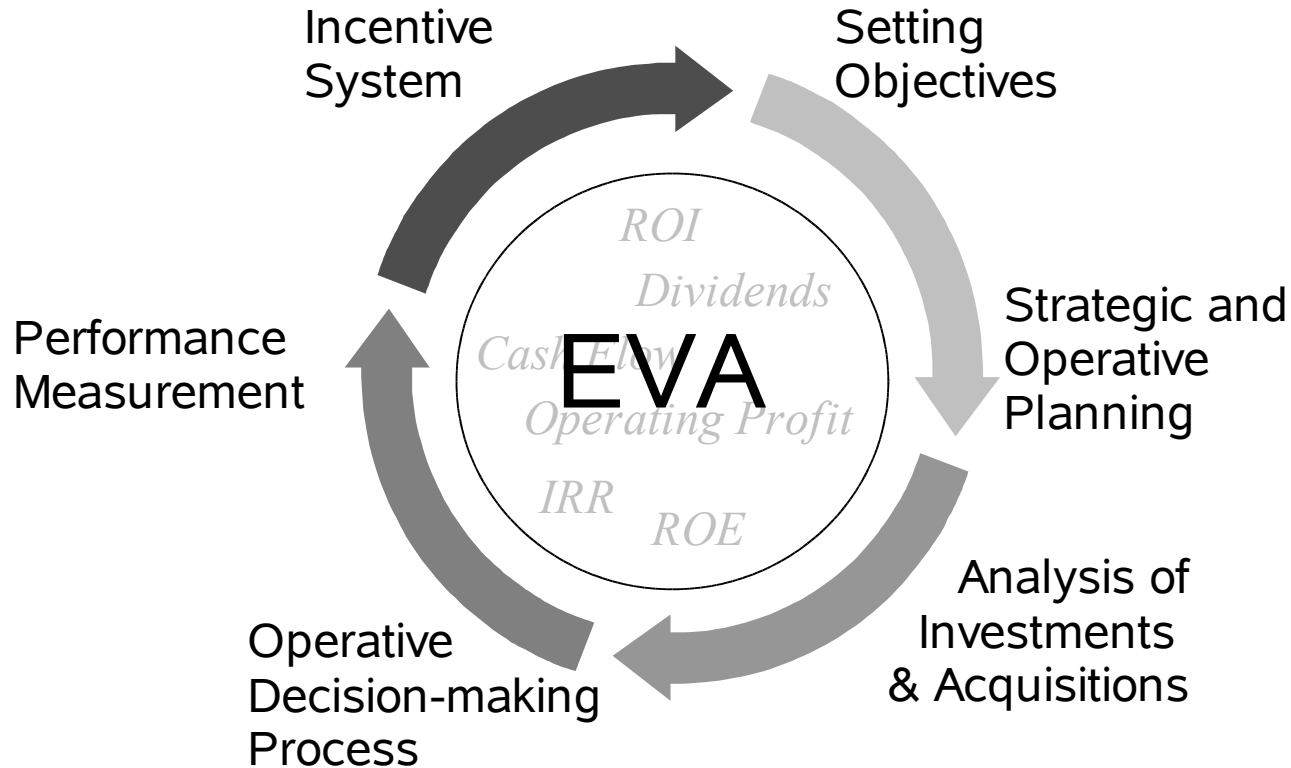
How Rate of Return measures might stop your company from growing

- Rates of Return (RoE, RoNA, RoC,...) already encourage the efficient use of resources (by return in relation to assets) but still do not make the cost of capital explicit.
- Maximizing RoE can promote increasing leverage and thereby incurring more risk without achieving additional income.
- RoR can in effect hold the company back from growing its business: Coming from high levels of Returns, taking up any lower-return yet still profitable investments would spoil existing returns and are thus discouraged!
- The relation of EVA to RoR is comparable to NPV to IRR : EVA not only looks at the quality but also the quantity of investments.



As concrete, absolute \$-measure, EVA can be more easily grasped by operating people as well

EVA as an integrated approach to all decisive parts of a Financial Management System



Strategic Planning and Setting Objectives

1) MVA can give hints for strategic capital

allocation:

- all companies in a field of business have negative MVAs: the market does not believe that this mature business can earn excess returns



No further investments, withdraw capital

- companies in a field of business have extraordinarily high or fast growing MVAs: the market believes in high future excess returns



New investment opportunities, diversify there

2) MVA derives objectives from market expectations:

A company's MVA embodies the market's expectations of future earnings. Deriving EVA objectives inline with this MVA, ensures that

the management aims at fulfilling market expectations.

Falling short of such EVAs will result in a decreasing MVA as market

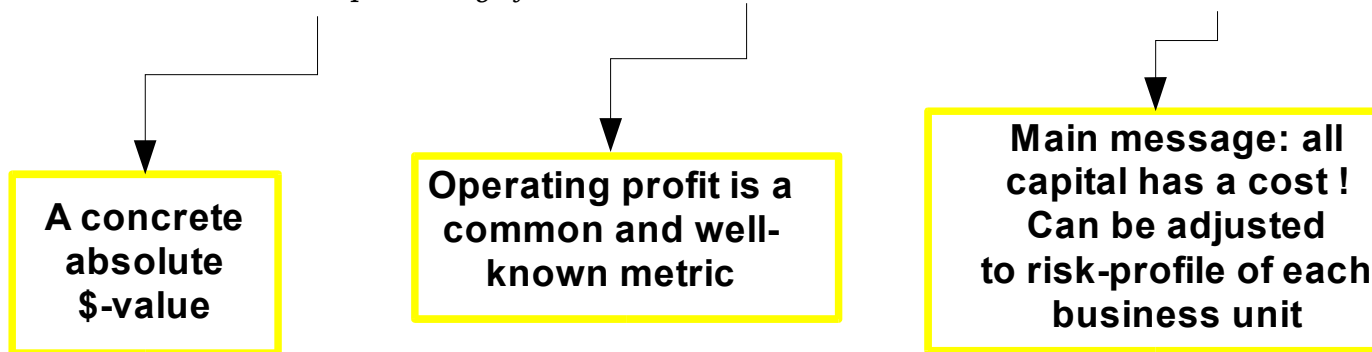
expectations were not met.

EVA can be applied at all levels of the company

“EVA combines operating efficiency and balance sheet management into one measure that can be understood by operating people.”

Its key elements are straightforward and easy to communicate:

$$EVA_{\text{capital charge formula}} = NOPAT - Invested\ Capital \times WACC$$



A Performance Measure without the charge for all capital would be like “playing tennis with the net down.”

Once these three elements have been made clear throughout the company, it will unleash the full potential of staff creativity towards creating value for their shareholders.

EVA Value Drivers set strategies for creating more value for shareholders out of the company

- **Operate:** Increase returns earned on assets already tied up in the business unit. More efficient usage of resources and eliminating redundant work could be a way to achieve this.
- **Build:** Increase the volume of EVA from a business unit by investing additional capital and aggressively extending the business as long as returns earned exceed the cost of capital. (Additional capital
- **Harvest:** Decrease the exposure to mature business units that earn returns below the cost of capital. ~~stop investing and find ways to release capital from these activities, e.g. by way of drawing out all earnings and selling assets~~

A short-term Value Driver lies in **decreasing working capital**, e.g. reducing inventories, cash holdings, receivables – a strategy very well within the reach of operating people.

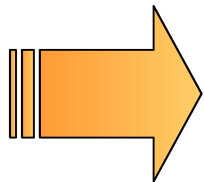
The centerpiece of EVA as Financial Management System: Incentives and Compensation

Being an shareholder value focused metric, EVA provides a good basis for creating managers with the mindset of owners.

Year-to-year changes are the central performance goal allowing to follow trends, rewarding turn-arounds and having a closer tie to share prices.

Decisive requirements for an incentive- and compensation system:

- a significant amount of variable parts of compensation
- direct linkage between the flexible part of compensation and share price
- no upward or downward limitations to bonus
- motivation to sustainable value creation by disbursing the bonus over time



The higher the incentive, the better the earnings – thus the compensation should be „self-paying“

EVA offers a comprehensive system for Corporate Governance clearly focused on Shareholder Value

- EVA is not a new invention but rather an old concept.
- EVA makes subjective and complex adjustments to accounting data.
- EVA offers no new solution to exact cost of capital.
- EVA is tough to apply to young, high investment and long payoff firms.

BUT:

- EVA is directly related to the company's share price.
- EVA makes the cost of capital, debt and equity, evident to employees.
- EVA embodies the drivers for value creation.
- EVA is easy to grasp and a practicable Corporate Governance Tool.

“By increasing accountability, strengthening incentives, facilitating decentralized decision-making, establishing a common language and fostering a culture that prizes building value above all else, it significantly improves the chances of winning.”

Joel Stern, G. Bennett Stewart III

Your questions or comments ?



Thank you
for your patience
and interest !

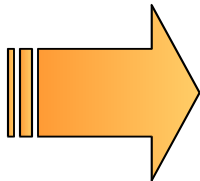
Problems arising from setting shareholder value as the main goal of corporate governance

Performance Measurement

- is market value a reasonable target?
- how do we measure success objectively (i.e. eliminating stock market variations)?
- how can accounting numbers reflect investors interests?

Management by Objectives

- how can managers been incentivized to act in the interest of shareholders?
- how can objectives be set and communicated efficiently throughout the company?



Companies need measures that integrate shareholder interests into management