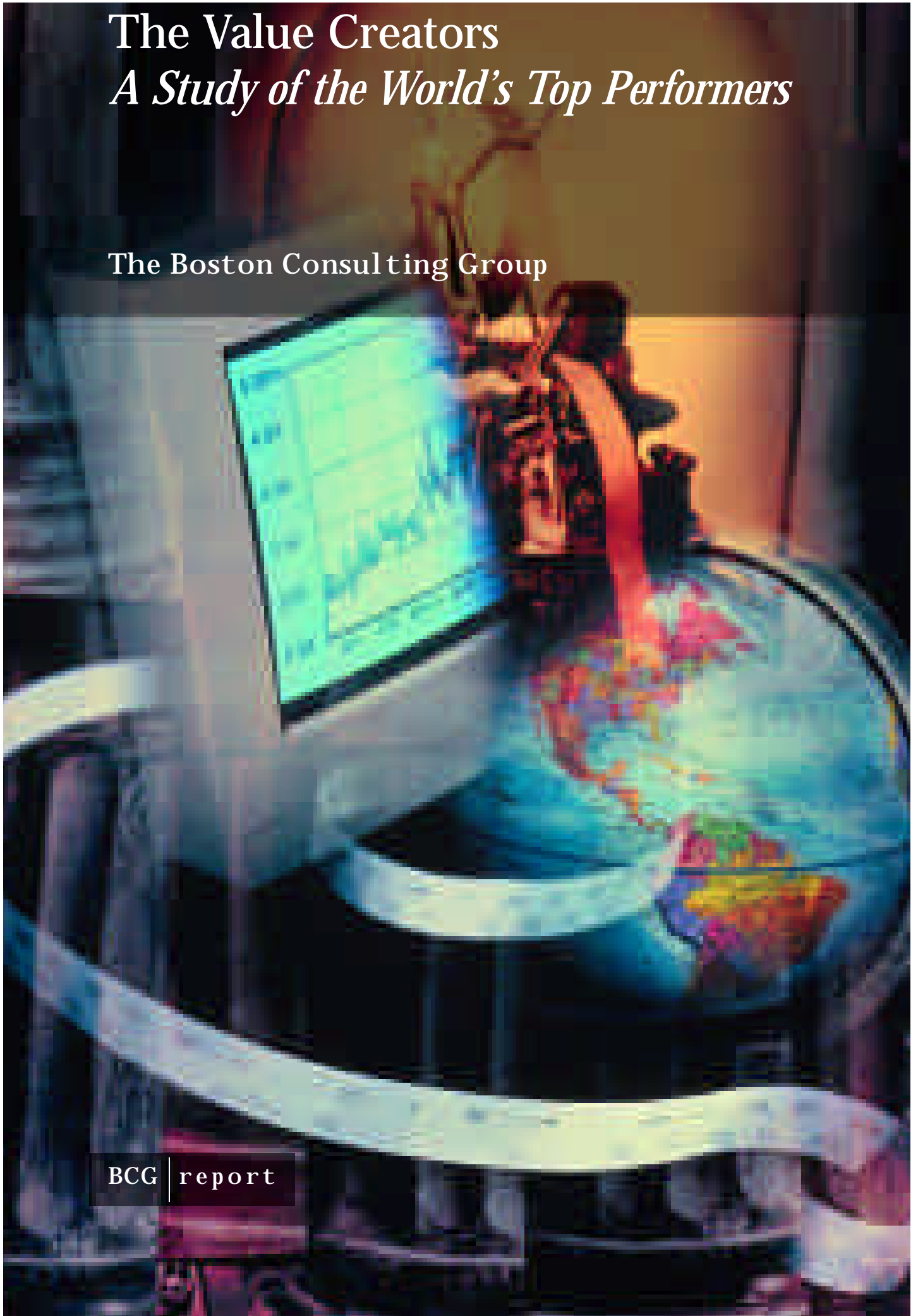


The Value Creators

A Study of the World's Top Performers

The Boston Consulting Group

BCG | report



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A Study of The World's Top Performers

by The Boston Consulting Group <http://www.bcg.com>

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The authors express special thanks to the people listed above for their input in the preparation and editing of this report. They would also like to thank Tony Tiernan, BCG's Marketing Director for Europe and the analysis team: Markus Flakus, Gerd Lütjering and Monika Reiter.

Introduction

This report is based on the results of an extensive study conducted by The Boston Consulting Group. Our research examined the performance of 5,316 large quoted companies from around the world. Together, these companies account for approximately 80% of the total capitalisation of all the world's stock markets.

The study examined the companies' performance over the five-year period from the end of 1993 to the end of 1998. The main measure of performance was the average annual TSR (total shareholder return*), the rate at which the companies added value for their shareholders. The top 100 companies in the world and in Europe were ranked and are listed in the study. The top 10 companies by industry sector and by nationality are also listed.

The study's aim was to ascertain how the best companies achieved superior performance. What strategic, financial or operational actions did their management take that resulted in an above-average increase in shareholder value? How does the creation of shareholder value differ by country or by industry sector? What lessons could be learned that can be applied more broadly to help companies and management teams define strategies for high value creation?

The message to managers that emerges from our findings is resoundingly clear and encouraging: *you are in charge*. The body of this report sets out our conclusions in detail, but in summary they are that:

- Managers have three levers that they can use to create value – the cash-flow margin, asset productivity and gross investment
- It is possible to outperform the market, whatever industry you are in – but the levers you choose to deploy will depend on the state of the business
- Growth has been the engine for value creation in the US, but in Europe restructuring has been the preferred lever
- Profitable growth companies create more value than restructuring companies
- Successful value creators build profitability first, then go for growth.

High achievers

The highest performing company over the period was Dell Computer, the American PC manufacturer. Dell's average TSR between year-end 1993 and 1998 was an astounding 153% per annum. Only America Online, the fast-growing Internet service provider, came anywhere near it, with a TSR of 143%. AOL was the only other company to exceed 100%.

The very top performers outstripped the rest of the pack by far. The gap between the top company and the 50th company's average annual TSR was 115 percentage points; the gap between the 50th and the 100th company was just over eight percentage points.

To shareholders, the difference between the very top performer (Dell Computer) and the still extraordinary performance of tenth-placed Compuware is vast. Whereas Dell's shareholder value multiplied more than 100-fold during the period, Compuware's multiplied 'only' 12 times.

Further down the list of top performers, the average TSR of the lowest decile of the top 100 (numbers 91-100) was 30%. This is an excellent performance – the median for all companies in the study was 13% - which means that these companies, on average, increased their shareholder value 3.75 times.

It is a continual challenge to remain a top performer. Some have stumbled since the end of the period of the study (31.12.98) and are now fighting back. Others are sure to slip down the list in the coming months. Past performance is no guarantee of future performance. This is true for high performers and under-performers.

Exhibit 1

Value Management Terminology

Area	Measure/value lever	Technical term for industrial companies	Abbreviation	Technical term for banks and insurance companies	Abbreviation
External value creation	Investor's return	Total shareholder return	TSR	Total shareholder return	TSR
Proxy to external value creation	Residual income Change in residual income	Cash value added Δ cash value added	CVA Δ CVA	Added value on equity Δ added value on equity	AVE DAVE
Internal metrics	Change in profitability	Δ cash flow return on investment	Δ CFROI	Δ real return on equity	Δ RROE
	Change in cash flow margin	Δ cash flow margin	Δ CFM	Not relevant	
	Change in asset productivity	Δ capital turns	Δ AP	Not relevant	
	Growth	Δ capital invested	Δ CI	Δ equity	

** The total shareholder return over a period is the capital gain plus the dividend payments, relative to the share price at the start of the period, assuming that the dividends are immediately reinvested in the company.*

Executive Summary

The study

- *The Boston Consulting Group examined the performance of 5,316 large quoted companies around the world.*

The performance measure used was the average annual rate of increase in value to the shareholders, or TSR, (total shareholder return) from the end of 1993 to the end of 1998.

- *The best performing company over the five years was Dell Computer.*

Dell delivered an average annual TSR of 153%. The best performing European company was the German software firm SAP. The median annual return of the total sample was 13%.

- *The top performers in the study will not necessarily continue to dominate in the future.*

Some of them have already stumbled. In fact, it is very difficult to maintain top performance over the long term. Only two companies beat their local markets every year of the last decade, they are Nokia, the Finnish mobile phone company and Aegon, the Dutch insurance company.

The methodology

- *TSR is the best measure of corporate value creation.*

The study established that there is a very close correlation between TSR, an external measure of value creation, and the change in 'cash value added' (CVA), an internal measure. CVA is defined as profit less the cost of the company's capital. CVA, which is directly under the control of a company's managers, can be used as an internal proxy for TSR.

- *Managers have three levers within the business that they can use to create value.*

These levers can be used to increase CVA: the cash-flow margin; the productivity of the company's assets; and the growth in gross investment.

- *Managers are in full control of the value creation process.*

The study shows that the very best performing companies deploy all three value creation levers in three distinct waves. But they have to choose appropriately between them and then mobilise their organisation to deliver. The study demonstrates that long-term value creation is not an

accident or the result simply of market forces. It comes from making strategic choices about which of the three levers you use. Market forces will, of course, have an impact, but the encouraging news for business leaders is that companies can manage the level of value that they create.

The results

- *The best performing industries were Information/Communication and Telecommunications (IC&T) and Retail.*

The top 10 performers in IC&T delivered an average TSR of 76% per annum. The top 10 companies of the retail sector were second with an average TSR of 49%.

- *Growth industries and companies create more value than restructuring ones.*

The average TSR for the top ten companies in the growth industries was 43% per year. This is 20 percentage points higher than the average of the top ten restructuring industries.

- *American companies were more successful than their European counterparts.*

America produced a far higher proportion of the very top performers during the period of the study. The average TSR per annum of the top 50 American companies during the period was 55%; the average TSR of the top 50 European companies was 40%. Over a five-year period that is the difference between a nine-fold increase in shareholder value and a 5.4 times increase.

- *American companies tended to create value by growth; Europeans tended to create it by restructuring.*

All the top performers whose capital invested more than quadrupled over the period were American. Even a company as large as Microsoft, with a market capitalisation of nearly € 300 billion, (\$354 billion) increased its capital invested by more than 200%.

On the other hand, of the five top performers that recorded the highest rates of increase in cash-flow margin and asset productivity (i.e. gains from restructuring operations) four were European.

Implications for managers

- *You can outperform the market, regardless of your industry sector, market or profitability-level.*

Some companies in under-performing industries put in a spectacular performance and some companies in the over-performing industries

didn't. Monsanto, in the chemicals sector, recorded a higher TSR than the average of the very successful IC&T industry. Also, in each of the local markets, the top companies showed a performance superior to the world-wide or European average.

Regardless of the starting level of a company's current profitability or growth, improvement that exceeds the market's expectations will result in a superior TSR performance.

- *Successful value creators first build profitability, then grow.*
The value creation strategy has to take into account the current situation. Only when companies get their levels of profitability up to above the cost of capital can they create profitable and sustainable growth.
- *Managers need to focus actively on value creation.*
This means employing an investor's perspective in managing the business portfolio and installing a consistent system of metrics and incentive systems geared towards value creation. In the long term the change in company culture will sustain the ability to create value.

Exhibit 2

The World's Top Ten Performers

Top 10 performers	Average annual TSR (94-98)	Relative importance of value drivers		
		Cash flow margin	Asset productivity	Growth of capital invested
1. Dell Computer (US)	153%	++	+++	+++
2. America Online (US)	143%	++	+	+++
3. SAP (Germany)	91%	-	+++	+++
4. Nokia (Finland)	79%	+++	+++	++
5. Hennes & Mauritz (Sweden)	69%	++	-	+++
6. Microsoft (US)	69%	++	-	+++
7. Cisco Systems (US)	67%	-	-	+++
8. Aegon* (Netherlands)	66%	++	NM	+++
9. Charles Schwab* (US)	65%	-	NM	+++
10. Compuware (US)	64%	++	++	+++

Source: Datastream, BCG Analysis

NOTE: Scale of importance: + = low; ++ = medium; +++ = high; NM = Not Meaningful

* For Financial Companies Real Return on Equity has been substituted for Cash Flow Margin

The Sources of Value Creation

TSR is an external measure that includes both management performance and factors over which a company's managers have little or no direct control, such as interest rates or economic growth.

To isolate the sources of value creation that managers control, BCG examined a number of internal performance measures as proxies for TSR.

What we found is a close correlation between external value creation and the change in a company's cash value added (CVA). CVA is a company's profit less the capital charge: the cost of all the capital invested in the company.

(The concept has to be slightly adjusted to suit financial institutions, but the principles remain the same.)

The change in CVA is a function of three factors:

- Improvement in the company's cash flow margin;
- Improvement in the productivity of the company's assets; and
- The growth in investment.

These three factors are the main levers for creating shareholder value. Managers can also create value by optimising the cost of capital. However, this study focuses on the strategic and operational levers in the business, as opposed to financial management.

Managers hold these three levers in their hands. They can improve cash flow margins by better cost management and/or pricing strategy. Improvements in asset productivity come from more efficient resource allocation via, for example, better management of inventory or better utilisation of fixed assets.

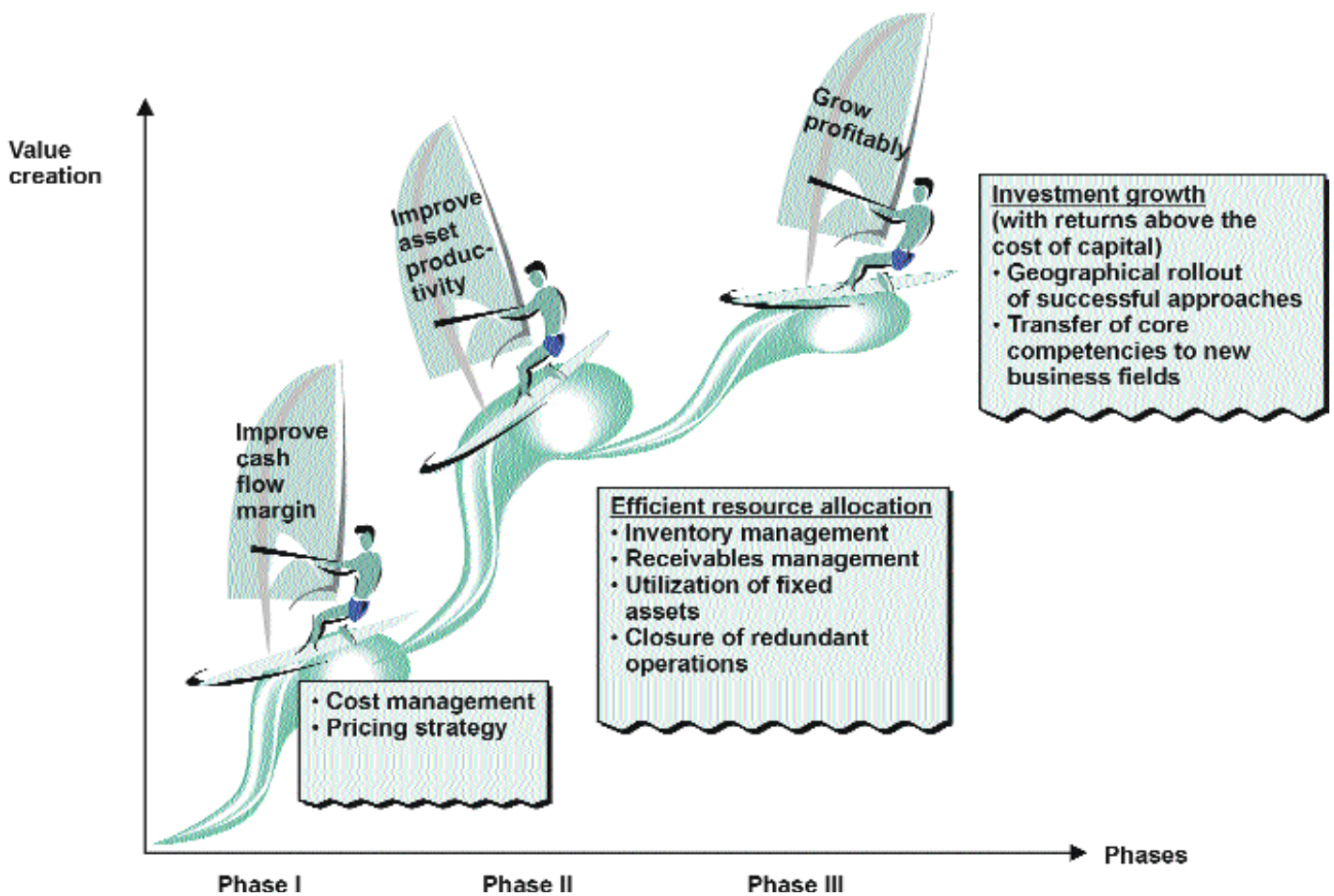
Both are essentially inward looking, concerned with restructuring what the company already has.

The third lever, investment growth, comes from things like transferring core competencies to new business areas, or from rolling out successful products or services into new geographical markets. It is essentially an outward looking activity, concerned with creating new assets.

Value creation is not an accident; nor is it purely the work of market forces. A company's managers can manipulate the three levers that influence CVA and produce a superior return for their shareholders. The right levers in each case will depend on the industry that the company is in plus a number of other factors. Most top performing companies in the study used all three levers, rolling them out in waves that build powerfully on each other.

Exhibit 3

Surfing the Value Waves



The World's Top Performers

Of the top 10 performers worldwide, six are American, and four European (one German, one Swedish, one Finnish and one Dutch). Six of the top 10 companies also come from one sector – information/communication & telecommunications (IC&T) – and four of those are American. The four other sectors in the top 10 (with one representative each) were media & entertainment, retail, insurance and banking.

The top 10 companies all scored strongly on investment growth. Safeway is the only company in the top 20 that had a growth in capital invested of less than 50%. By and large, companies that do not invest heavily do not produce spectacular shareholder returns.

The very top performers scored significantly less well on the restructuring levers: asset productivity and cash-flow margin. Here the measure used was the change in the cash flow return on investment (CFROI), the cash flow margin multiplied by the asset productivity. The explanation for the low scores on these dimensions is that these companies had previously restructured and so were already delivering excellent performance in asset productivity and cash-flow margin.

Exhibit 4

The World's Top Ten Performers

Name	Nationality	Sector	Average annual TSR (94-98)	Market capitalisation (31.12.98)	
				€ (bn)	\$(bn)
1.Dell Computer	US	IC&T	153%	78.9	93.1
2.America Online	US	Media & Entertainment	143%	60.2	71.0
3.SAP	Germany	IC&T	91%	18.0	21.3
4.Nokia	Finland	IC&T	79%	48.7	57.5
5.Hennes & Mauritz	Sweden	Retail	69%	14.4	16.8
6.Microsoft	US	IC&T	69%	293.2	345.9
7.Cisco Systems	US	IC&T	67%	124.2	146.5
8.Aegon	Netherlands	Insurance	66%	61.0	72.0
9.Charles Schwab	US	Banks	65%	19.1	22.5
10.Compuware	US	IC&T	64%	12.2	14.4

Among the top 50 American and top 50 European companies in the rankings, five showed an improvement in CFROI over the period of more than 15 percentage points. Of those five, four are European. They include Europe's top two performers, SAP and Nokia.

Dell is the only American company to obtain a top score on CFROI. Cisco Systems, Clear Channel Communications, Compaq and even the mighty Microsoft, were all among the top 20 performers worldwide, yet each of them recorded a decline in their CFROI over the period. However, the point here is that these companies did not need to focus on CFROI: they had already achieved high levels of profitability.

The data is clear: *profitable* investment growth is a far more powerful driver of TSR than are the restructuring levers of improvement in cash flow margin and asset productivity. During the period of the study, European companies were better at restructuring; American companies were better at growth. As a result, in the five years 1994 and 1998, American companies were disproportionately well represented among the very top performers.

Local markets

The study looked at both absolute total shareholder return rankings and rankings adjusted for local stock market performance. If differences across local stock markets were caused by external factors such as rising or declining local interest rates, then adjusting the rankings to be relative to local market average TSR performance would be the appropriate basis for worldwide comparisons. However, if differences across local market average TSRs were driven by the difference in local companies' relative successes in creating value through improved performance, then adjusting absolute company TSRs for the local stock market average TSR would be misleading.

After reviewing the drivers of local market performance, BCG based the rankings on absolute rather than local market adjusted TSR rankings. We took this approach for three reasons. First, in markets where the average local TSR exceeded the worldwide average (i.e. the United States), analysis indicated that management performance was a greater contributor to excess returns than were exogenous factors.

Secondly, when we did calculate the total shareholder returns for each company taking into account local market performance, it made little difference to the rank order. Among the top 20, Nokia dropped down two places, to below

Microsoft (this was because of Nokia's exceptional importance in the Finnish index) and three new companies entered the rankings (Takeda Chemicals at five, Pinault Printemps at 18 and Honda at 20). Dell Computer was still the undisputed champion.

Thirdly, capital moves to wherever the highest returns are expected. Investors typically take a global view, not a national one.

Long-term champions

We did, however, assess value creation consistency by examining each company in the context of its local market. This revealed that of those in the sample that had been listed for more than 10 years and that had a market capitalisation of over € 1 billion (\$1.18 billion), there were only two that had outperformed their home market in every single one of those 10 years. As many as 26 succeeded in doing so in nine out of the 10 years.

Both of the long-term champions were European, both of them feature in the top 10, and both of them are based in relatively small domestic markets. They are Nokia and Aegon. Nokia outperformed the Finnish market by an annual average of 37 percentage points from 1988 to 1998; Aegon outperformed the Dutch market by an annual average of 21 percentage points. The reasons for these successes are analysed below.

Spectacular TSR wins Dell Computer world first place

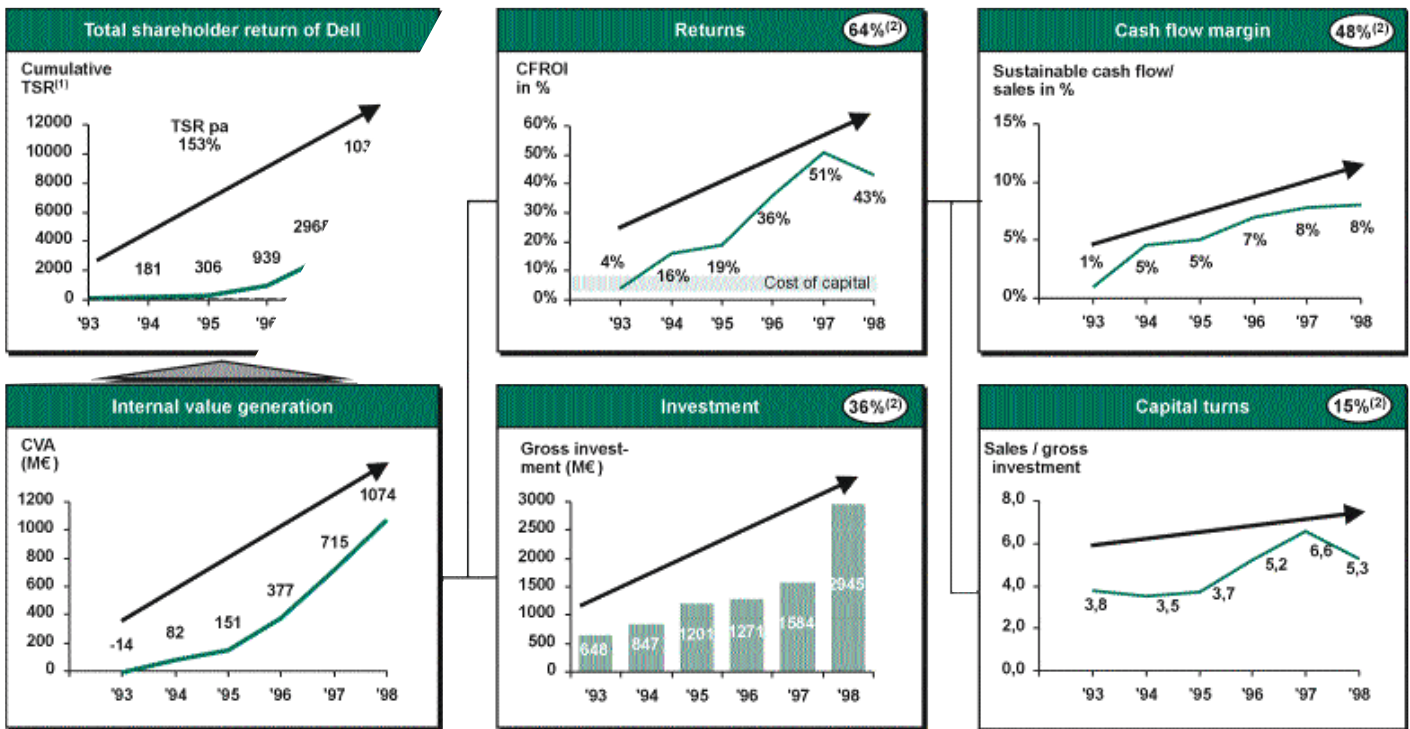
Dell Computer is the fourth biggest computer manufacturer in the world (after IBM, Hewlett-Packard and Compaq). Its TSR over the five-year period was spectacular – more than 50 percentage points higher than that of the company that came third (SAP). Value creation over the period was enhanced by a five-fold increase in the company's P/E ratio, driven by the cost of capital and growth.

Dell increased its CVA by over a € 1 billion (\$1.18 billion) during the five-year period: roughly 50% of this came from growth in asset-efficient capital invested; and almost half came from an increase in its cash-flow margin.

The improvement in cash flow (from 1% of sales in 1993 to 8% in 1998) was largely brought about by the extensive use of Web technology and the reduction in supply-chain costs that this brought about. The company's Web site is already selling over € 16.5 million (\$19.5 million) worth of goods online every day, and it is Dell's aim to have 50% of all its sales online by 2000.

Exhibit 5

Dell



(1) 31 December 1993 = 100

(2) (XX%) = relative contribution level to value increase 1993-98 (DCVA)

Source: BCG Val database, Datastream, Compustat, annual reports

Asset productivity improvements came from a strong focus on the management of working capital and the company's philosophy of 'build-to-order'. Dell reduced the average time that it holds inventory from 32 days in 1994 to only six days in 1998. We believe that this presents a challenging model to many hardware companies, from electronic appliances to automobiles: create direct customer relationships through the Internet and develop build-to-order manufacturing by sharing online data with suppliers and adopting pull-based manufacturing techniques.

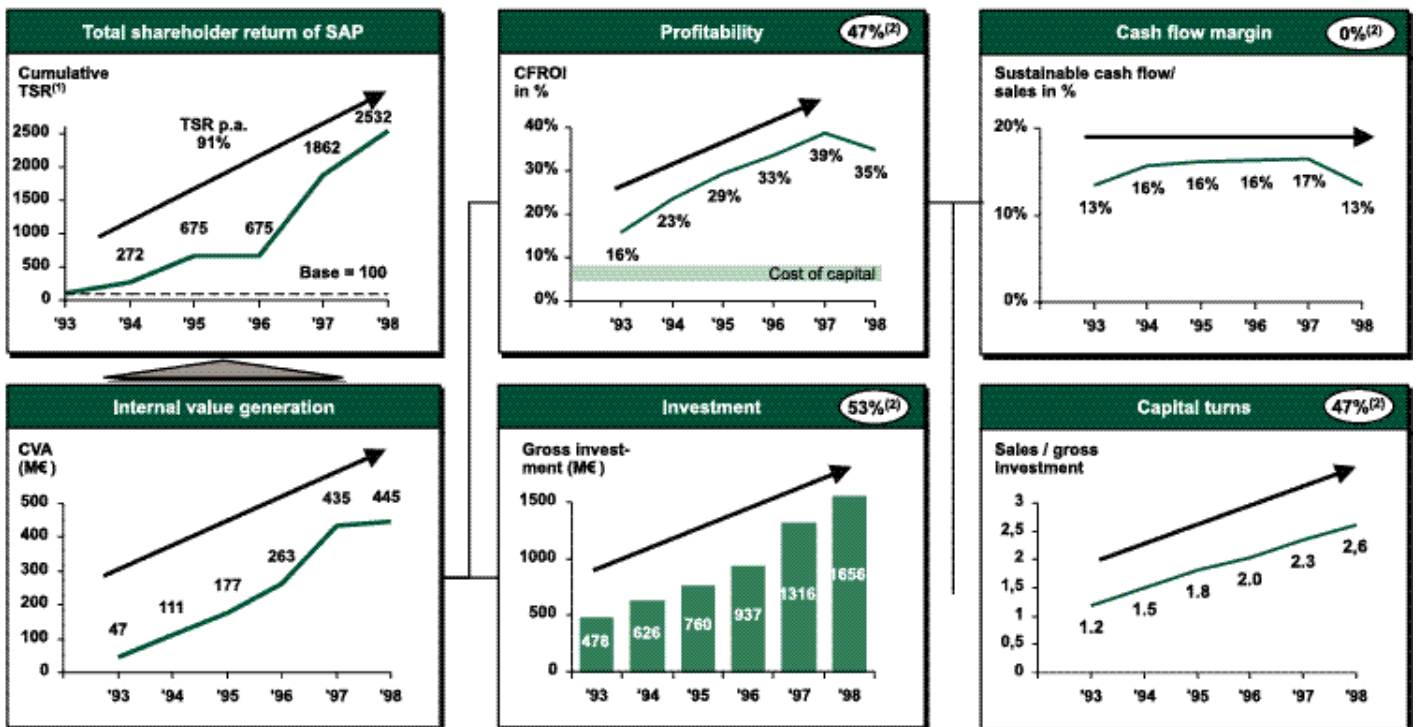
Dell's strategy of selling 'direct' (thereby eliminating middlemen) has had a big impact on inventory times. Competitors who sell through traditional retail channels hold 50 days of inventory on average. In the PC business, where component prices can drop by as much as 1% a month, this time is money lost.

Profitability and growth create value at SAP

SAP, the world's fourth largest software firm, is Europe's top performer over the period. € 100 (\$118) invested in the company at the end of 1993 was worth € 2,532 (\$2,988) five years later. The German company has a dominant position in the market for Enterprise Resource Planning (ERP) systems (its market share is bigger than that of its next five rivals added together).

Exhibit 6

SAP



(1) 31 December 1993 = 100

(2) (XX%) = relative contribution level to value increase 1993-98 (DCVA)

Source: BCG Val database, Datastream, Hoppenstedt, annual reports

The most significant driver behind the company's increase in CVA was its rapid growth in sales.

The demand for SAP's systems during the period of the study was enormous. Sales revenue increased by some 50% per annum, driven by the company's rapid global expansion. Before 1992, the vast majority of SAP's sales were generated in Europe; by 1995 the US had become SAP's largest market.

Globalisation (the company now has a local presence in 60 countries) rode on the back of SAP's highly successful R/3 system, first launched in 1992 and now

installed in half of the Fortune top 500. The company successfully got around the potential bottleneck in installing its systems by maintaining a close relationship with the big IT consulting firms who became specialists in SAP implementation. SAP forms partnerships with software houses and IT consulting firms allowing it to benefit from this rapidly growing part of the business without the complexity and cost of developing local field forces. SAP has therefore 'deconstructed' the once integrated software business model and avoided an obstacle that might have slowed growth.

Since December 1998, the end of the period of the study, SAP's share price has fallen. The fall reflects the market's lowered expectations of future growth. SAP's relative position as a top performer has fallen in line. Much of this is due to fears that SAP will be challenged by more specialised and efficient software companies, whose product may prove cheaper and more flexible. The company has now reoriented its impressive R&D resources to this new challenge and future software modules will be outward looking (dealing with customer interface over the Internet and integration of suppliers) rather than dealing with internal issues (such as accounting or human resources management).

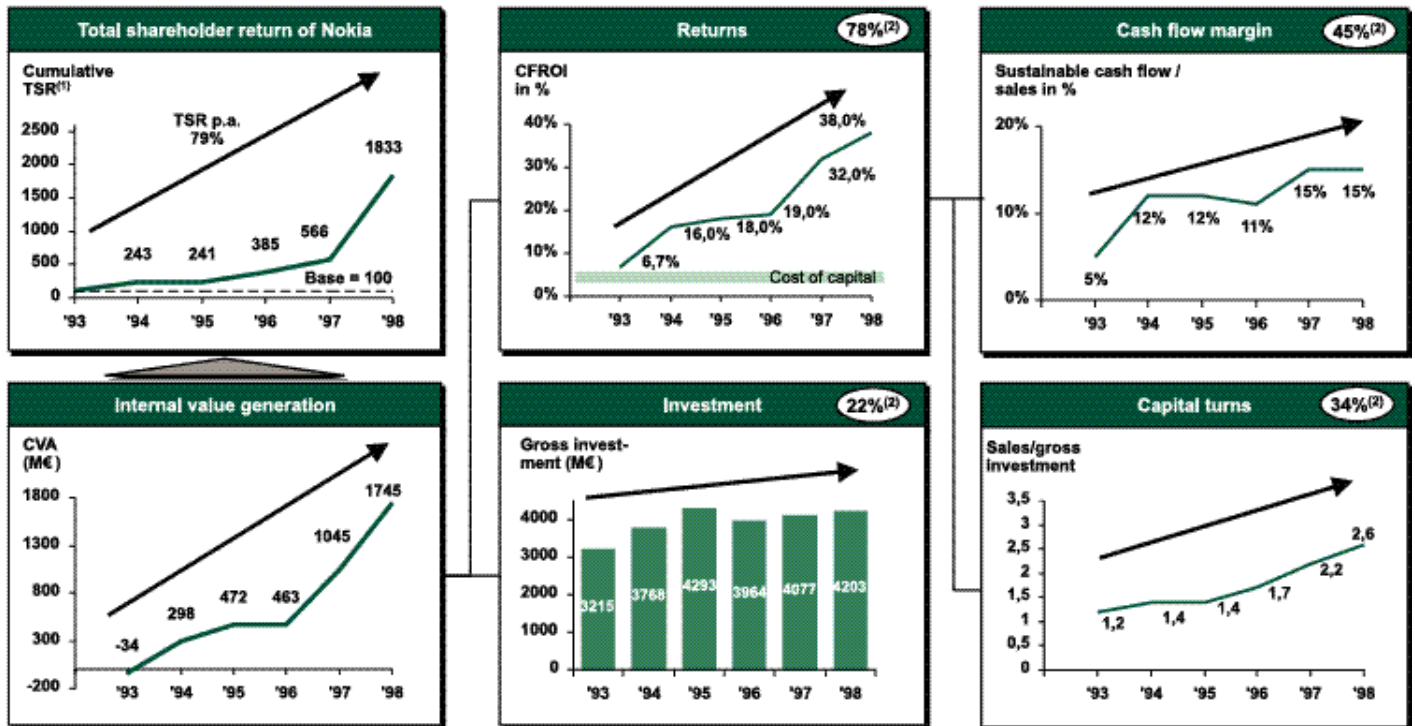
Asset productivity powers Nokia's performance

Nokia, the Finnish mobile phone company, was the fourth most successful performer over the period, and the second most successful European company. Its average annual TSR was 79%. € 100 (\$118) invested in Nokia at the end of 1993 was worth € 1,833 (\$2,163) by the end of 1998.

A significant contributor to Nokia's increase in CVA over the period was the improvement in its asset productivity. This was partly brought about by the company's divestment of almost all assets not relating to telecoms. Mobile phones and telecom infrastructure now account for over 90% of Nokia's sales; in 1990 they accounted for only 20%. Over the period, the company has, in effect, reinvented itself – not for the first time in its history.

Strong sales growth helped to push up asset productivity. The company managed an average annual increase in sales of 27% between 1993 and 1998. A dynamic entrepreneurial culture enabled Nokia to ride on the back of the rapid global growth in the market for mobile phones and to direct resources to the fastest growing segment of its business portfolio.

Nokia



(1) 31 December 1993 = 100

(2) (XX%) = relative contribution level to value increase 1993-98 (DCVA)

Source: BCG Val database, Datastream, annual reports

The company's cash-flow margin improved sharply over the period – from just 5% in 1993 to 15% in 1997 and 1998. This was thanks in part to the company's ability to reap ever greater economies of scale (Nokia is now the world's biggest manufacturer of mobile phones.) The company's continuous introduction of new innovative products also contributed (Nokia is the industry's benchmark for the commercialisation of new products). The transformation of Nokia's portfolio of businesses also had a significant impact on its performance.

Growth and increasing returns make Aegon top financial performer

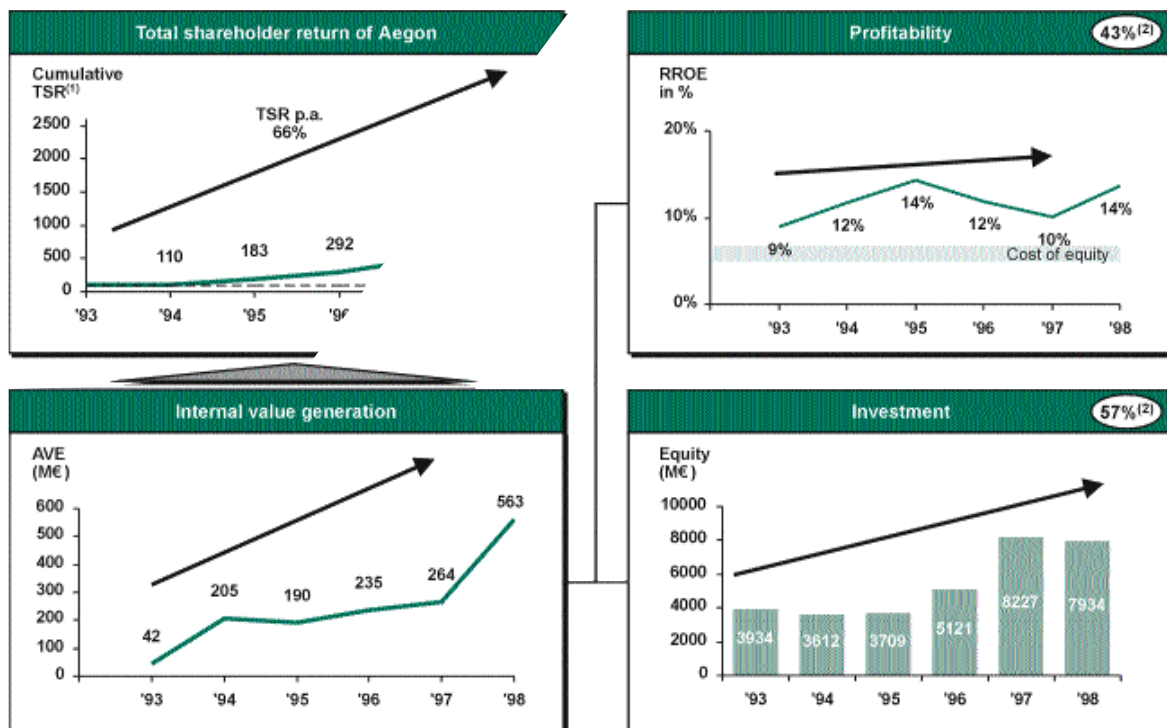
Aegon, the Dutch insurance company, was the eighth best performing company in the world over the period, and the highest from the financial sector. Its average annual total shareholder return was 66%; € 100 (\$118) invested in the company at the end of 1993 was worth € 1,264 (\$1,491) by the end of 1998.

Aegon created value largely through growth, both internal and by acquisition. The company has become the seventh largest insurance company in the world, measured by assets, and the third largest when measured by market capitalisation.

Autonomous internal growth came from the growing demand for pensions-related insurance in those markets where governments are backing away from the task of providing for their citizens' old age. External growth came from an ambitious programme of mergers and acquisitions. During the period Aegon purchased Scottish Equitable, Transamerica and Providian. And it managed to realise many of the takeovers' promised synergies, saving costs through geographical consolidation and by reaping greater economies of scale. The company has an excellent record at post-merger integration.

Exhibit 8

Aegon



(1) 31 December 1993 = 100

(2) (XX%) = relative contribution level to value increase 1993-98 (DCVA)

Source: BCG Val database, Datastream, Bloomberg

Aegon also created value by improving its returns. It lowered its ratio of expenses to revenues, and it increased its sales per employee from € 460,000 (\$542,750) in 1993 to € 782,000 (\$922,700) in 1998. It also improved its revenues by switching its portfolio away from bonds and towards higher performing equities.

Margins were boosted by the company's consistent strategy of focusing on its core life business, where margins are better than they are in non-life business. Life assurance accounted for 69% of the company's business in 1993 and 82% of (a much larger) business in 1998. Meanwhile, the company sold off its interests in banking, health and non-life insurance.

Superior business model makes Hennes & Mauritz best retail performer

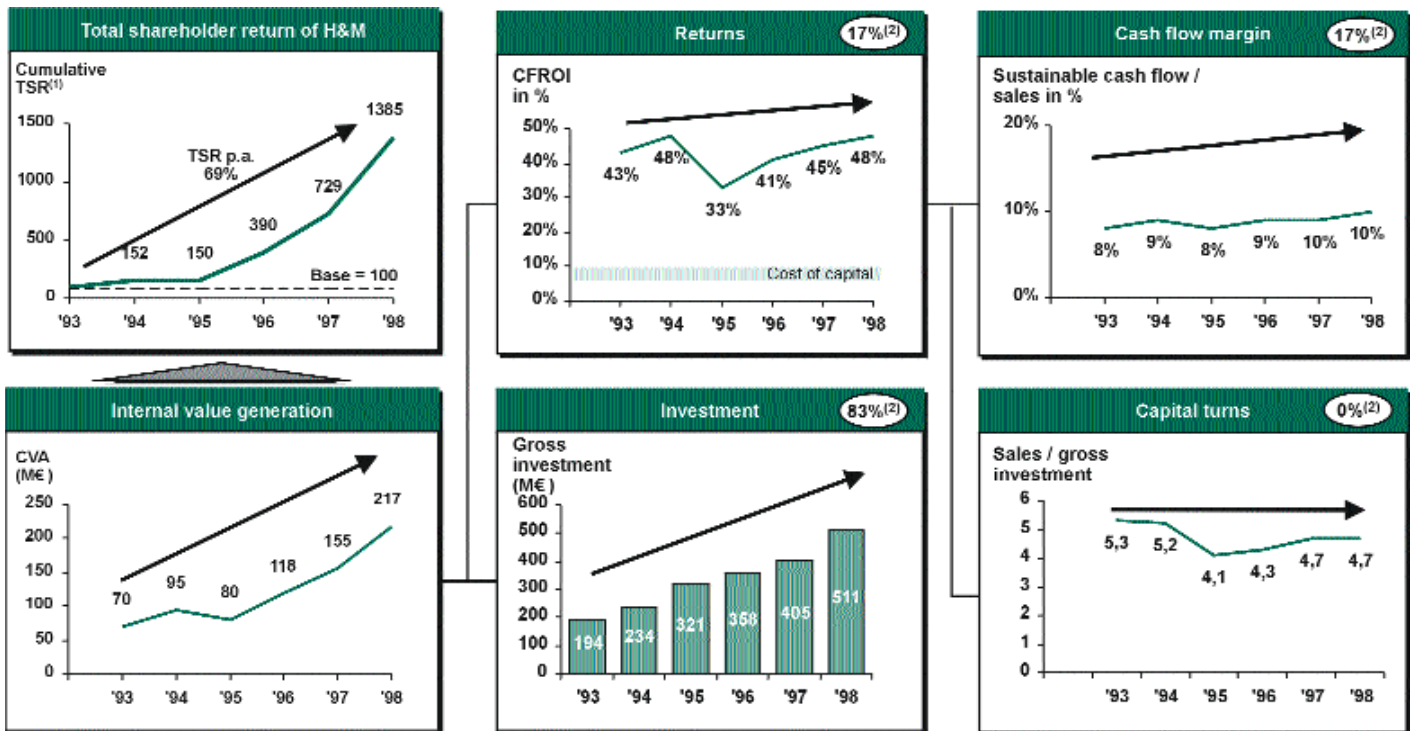
An average annual TSR of 69% makes Hennes & Mauritz the world's number one retailer. Profitable growth, based on strong inventory management and low costs, is the key driver behind the company's exceptional value creation. H&M increased its CVA by nearly € 150 million (\$177 million) over the period of our study, and more than 80% of that increase came from growth in investment.

Clothes retailing in Europe is a fragmented market compared with the US. Even in Germany, its largest market, Hennes & Mauritz commands only a 2-3% market share. However the company experienced strong growth by expanding within its current North European markets and entering the French, Spanish and North American markets.

H&M's business model is based on offering the latest international fashion, at low prices, at good quality, in premium store locations featuring consumer-friendly store layouts. It has proved to be a winning formula.

Exhibit 9

Hennes & Mauritz



(1) 31 December 1993 = 100

(2) (XX%) = relative contribution level to value increase 1993-98 (DCVA)

Source: BCG Val database, Datastream, annual reports

The retailer's careful management of inventory and costs has enabled it to fund the profitable growth that lies behind its value creation performance. The fact that H&M's new chief executive was formerly head of logistics may contribute to the success of its approach to inventory management. This approach is based on:

- Continuous introduction of new fashion lines (this increases inventory turnover)
- A focused strategy for entering new markets (aiming to achieve critical mass for cost-efficient logistics)
- Sophisticated information technology to help manage inventory.

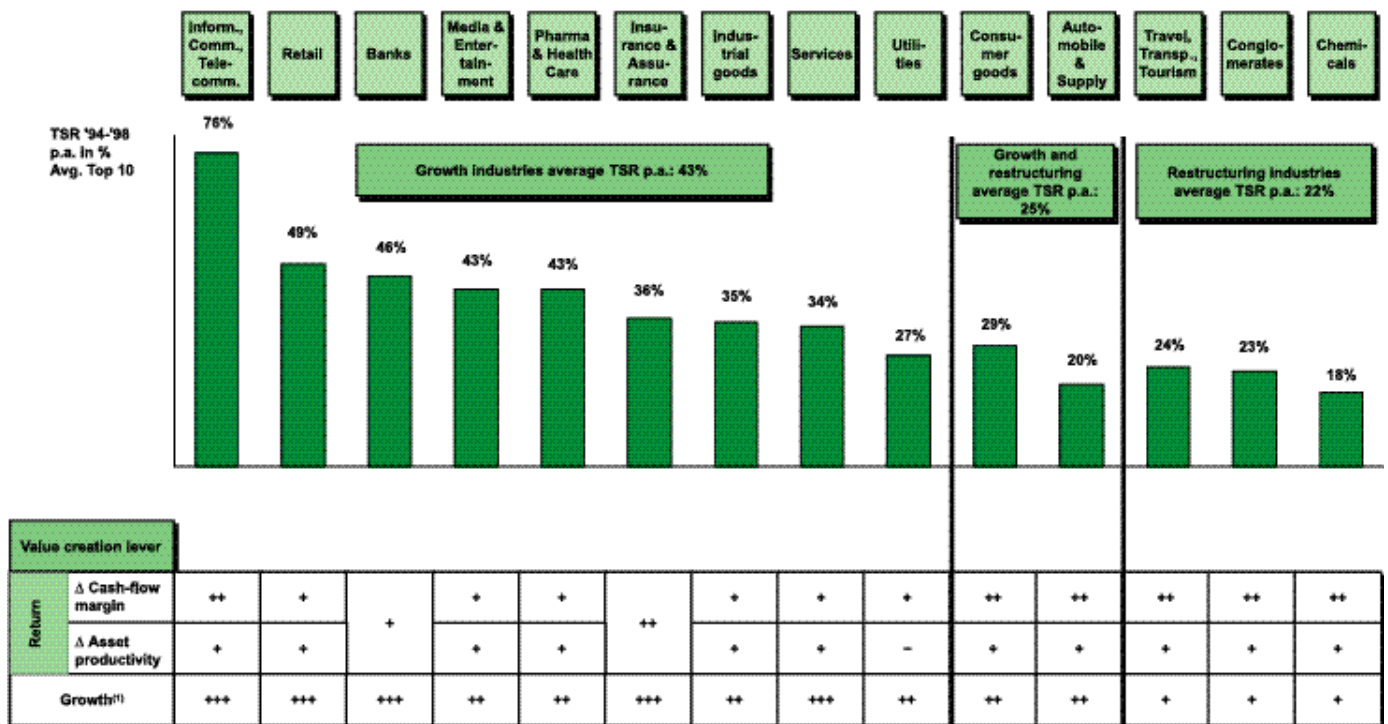
H&M outsources all of its production. Fashion clothes are sourced in Europe (higher costs, but shorter lead times), while the more basic lines are sourced in Asia (lower costs, but longer lead times). Everything is purchased directly from the manufacturer and subject to rigorous quality control. Design and purchasing are both centralised.

Top Performers by Industry

The companies in the study were classified by industry. Five of the industrial sectors – IC&T, banks, retail, pharmaceuticals & healthcare, and insurance & assurance - are ‘over-performing’ sectors in the sense that they have more than their ‘fair share’ of top performers. The percentage of the top 100 which comes from those industries is higher than the remaining industrial sectors which can be said to be standard or under-performers.

Exhibit 10

Top Performers in Growth Industries Produce Highest Returns



(1) Of capital invested
 Source: BCG VAL Database, Datastream, Bloomberg, BCG analysis

Judged by the performance of the top 10 in each industry, the 14 industrial sectors can be divided into growth industries, restructuring industries or industries that activated both levers over the period. The restructuring industries were conglomerates, travel, transport & tourism and chemicals. Consumer goods and automobiles & supply used both levers. All others are growth industries. On average, the contribution of investment growth to the increase in CVA of the top companies in each of the restructuring industries was low (a ‘one-star’ classification).

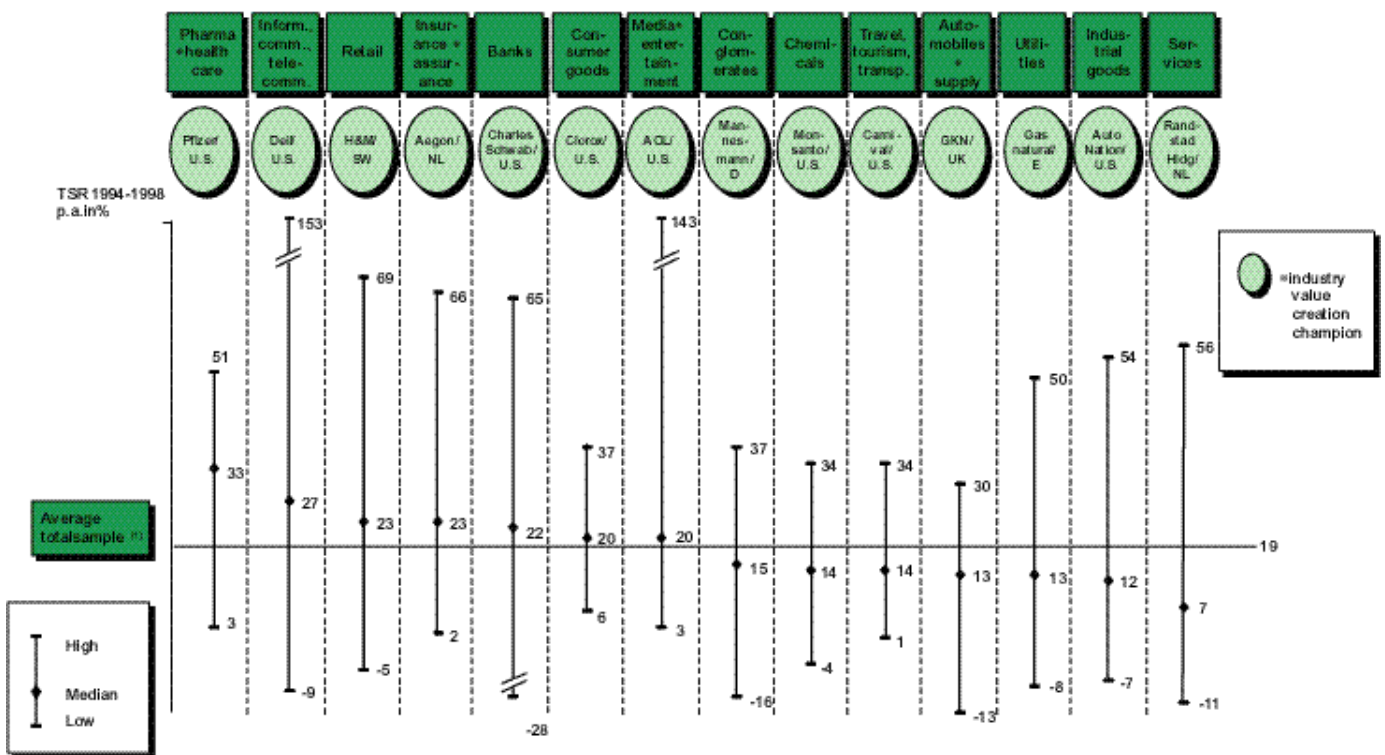
The average TSR of the top 10 in the growth industries was higher than that of the top 10 in the other industries - with the exception of utilities, which was just beaten by consumer goods.

Nevertheless, growth is not everything: restructuring industries also provided some star performers.

Companies like Mannesmann (among the conglomerates) and Clorox (among consumer goods firms) chalked up average annual TSRs that were way above the average for the whole sample. In all the under-performing restructuring sectors, the top performers exceeded the average TSR of the top 100 worldwide.

Exhibit 11

Even in Underperforming Industries, Significant Value Creation is possible



(1) Market capitalisation >€ 5bn, 685 companies
Source: BCG VAL Database, Datastream, BCG analysis

On the other hand, high growth industries also provide some significant under-performers. The banking sector included one company with an annual average TSR of minus 28%, far worse than any company in any of the restructuring industries. And even the glamorous IC&T sector included some companies with a negative average annual TSR. The under-performing travel, tourism and transport sector, in contrast, had no representatives with a negative TSR. Investors could have made large sums of money in unfashionable sectors over the period. And they could have lost large sums of money in fashionable sectors

over the period. The lesson here is positive, although performance is sector-sensitive, managers within any industry can outperform the market.

Automobiles and supply

Restructuring and growth were both used for value creation in this industry. The top ten of the sector returned an average TSR of 20% over the five years of the study. The sector's highest performer, GKN, delivered a TSR of 30%.

The top 10 companies in the sector come from an unusually wide range of countries. Germany, Japan and the United States have two representatives each and the UK, Sweden, France and Italy have one representative each. Improvement in asset productivity was particularly weak among the top performers reflecting the industry's over-capacity in manufacturing, as well as assets tied up in retail networks. This sector has the potential for significant improvement in the coming years as globalisation drives rationalisation in R&D and manufacturing, and manufacturers exploit opportunities for leaner sales and distribution through the Internet.

The sector's results do not include the 40% TSR recorded by the German company Porsche. It made a sharp recovery during the period, but the company is not big enough to be included in the industry rankings.

Banks (including brokerage firms)

Banking was a high performer over the period, driven mainly by consolidation and external growth. Much of this came from a spate of successful acquisitions during the period – by companies like Intesa in Italy and Lloyds TSB in the UK.

The average annual TSR of the top 10 companies in the sector is 46%, putting it third overall after IC&T and retail. There is strong representation from the United States (five companies) and from Italy (three).

The American top performers come from a wide range of businesses within the sector. The comfortable winner is Charles Schwab, a company that has grown very fast to become the leading player in two rapidly growing niches - online brokerage and the distribution of mutual funds. Well established in the US, this bank is now expanding through Europe, challenging local competitors to respond quickly enough.

Fourth-placed Bank of New York, on the other hand, is a long-established traditional bank; fifth-placed MBNA is a credit-card operator; and seventh-placed Freddie Mac started life as a government agency for granting mortgage guarantees.

In Italy the banking sector dominates like no other. A wave of consolidation, led by Banca Intesa (sixth in the sector) and Unicredito (ninth) resulted in the creation of considerable value. Of the top 10 performers in Italy, seven are banks.

Chemicals

Although well above the market average of 13%, the top 10 chemicals companies put the least distance between themselves and their peers. Their average annual TSR over the period is 18% and only the top company in the sector (Monsanto) made it into the global top 100, in 71st place. Monsanto owes much of its success to the change from being a pure chemicals company to a life-sciences business, and to the aggressive management of its portfolio of businesses.

The top ten performers are dominated by the United States (four) and Germany (three). France, Belgium and the Netherlands account for the rest.

Conglomerates

Restructuring yielded an average TSR of 23% across this sector's top ten. Again, the United States (four) and Germany (three) account for the bulk of the best performers. The top performer (Mannesmann) had a TSR of 37%, putting it 56th in the worldwide top 100. Its success was largely due to its entry into the mobile phone business, a move that dramatically changed its portfolio over the period. It reinvented itself, but unlike Nokia, it held on to its old businesses.

The Austrian company Semperit is too small to feature in the top 10, but has a TSR of 55% and is the top performer in its country.

Consumer goods

Seven of the top 10 performers in this sector come from the United States, emphasising that country's excellence at creating powerful consumer brands. They include manufacturers of household name products like Philip Morris (Marlboro), Gillette, Colgate-Palmolive and Coca Cola.

This is a sector where very large companies feature prominently among the top performers. Three out of the top 10 have a market capitalisation of over € 100 billion (\$118 billion) reflecting the importance of critical mass in this sector.

However, it is also a sector where a number of smaller companies performed extremely well, companies which failed to meet the size qualification for inclusion in the main rankings. In the Netherlands, for example, Numico had an average annual TSR of 49%; in the US, Fort James's was 47% and in Spain Tabacalera took advantage of its monopoly status to generate a TSR of 38%. The average across the industry's top ten was 29%.

Industrial goods and engineering

Growth proved the main path to value creation in this sector, where the average TSR across the leaders was 35%, and again, the United States accounts for the majority of the top ten. The champion, AutoNation, has succeeded by consolidating independent car retailers in order to reap the benefits of increased scale.

The success of British Aerospace, fuelled largely by its enforced restructuring, appears to be an exception to the industry rule. In 1992 the company's pre-tax losses were € 1.7 billion (\$2 billion) and it set about selling off a number of under-performing assets including the Rover car company.

Information/communication and telecommunication

This was the most spectacular sector by far over the period. It includes the current stars of the computing (Dell, Sun and Compaq), software (SAP, Microsoft) and telecommunication (Nokia, Cisco, Tellabs, EMC) industries. The average TSR of the top 10 performers was 76% per annum - higher than the best performer in every other industrial sector except media and entertainment. The 10th company in the sector (Compaq Computers) was 18th in the overall worldwide rankings.

Every one of the 10 top performers invested heavily in profitable growth. Eight of them recorded an increase in investment of over 200%. Dell and Nokia (numbers one and three respectively) combined that with spectacular success in improving their asset productivity and their cash flow margins.

The United States' accounted for eight of the top 10. Germany (with SAP) and Finland (with Nokia) are the only other countries with a presence in the top 10.

Apart from these two companies, Europe's performance overall in this sector was weak. While seven out of the overall top ten companies in the United States came from this extraordinarily dynamic sector, Germany, Italy and the UK each had only one representative from the sector in theirs (SAP, Telecom Italia and Vodafone respectively). In France, there are two (Altos and Cap Gemini).

Among the top 100 European companies nine are from the IC&T sector. It is hard to avoid the conclusion that, on the whole, Europe has taken little advantage of the rewards that this sector offers (for employees as well as shareholders, as this growth engine is a powerful job creator). We must wait to see how Europe will position itself in the next battle of internet related products and services.

Insurance and assurance

This is a sector where Europe holds its own against the United States. The top four companies in the sector are all European, as are six of the top 10 (two Dutch, two Swiss, one Belgian and one British). The two Swiss companies are also the top two performers in their country, and the Dutch company Aegon heads its national list.

Growth through acquisition has been, and still is, the key to value creation: much of the strong performance was driven by the restructuring that was taking place in the industry. The top Swiss company, Swiss Re, for instance, focused sharply on reinsurance, making a number of acquisitions in the area and divesting itself of its interests in primary insurance.

Media and entertainment

Seven of the top 10 performers, including the top three, are from the United States each of whom chalked up an average annual TSR of over 50%. Canada (one) and the Netherlands (two) account for the rest.

The sector is dominated, like no other, by one company. Not only did America Online, second in the overall rankings to Dell Computer, outstrip all others in the sector by far (its average annual TSR of 143% was more than twice that of the company in second place), but it is also considerably larger

than any other company in the sector. Its market capitalisation of € 60 billion (\$71 billion) compares with the € 12.2 billion (\$14.4 billion) of second-placed Clear Channel Communications. Several internet companies were excluded from the study by our focus on long term performance, however there is little doubt that they will appear in future reports.

Pharmaceuticals and health care

The average TSR of the top 10 in this sector is relatively high at 43%, but the variation between them is not. A mere 16 percentage points separates the annual average TSR of number one (Pfizer) from number 10 (Sanofi).

It is another industry dominated by American companies. Eight of the top 10 performers are American, with the UK's SmithKline Beecham and France's Sanofi filling the other two places, both having rebuilt sound profitability levels. Companies throughout the sector can be found in the top 10 in Belgium, France, Switzerland and the UK.

As with consumer goods, there are three companies with a market capitalisation of over € 100 billion (\$118 billion) among the top 10 performers. By and large, smaller companies in the sector did not sparkle during the period (with the notable exceptions of UCB in Belgium and Synthelabo in France). Increasing scale in R&D and sales forces has fuelled consolidation around developers of successful breakthroughs like Pfizer, Glaxo Wellcome or Novartis.

Retail

This was a very dynamic sector during the period, both in the United States and Europe. Seven of the top 10 performers are American, and their average annual TSR is the second highest across all sectors, after IC&T.

By and large, the top performers in the sector for this period, are smaller companies, with the top 10's market capitalisation ranging from € 27 billion (\$32 billion) for GAP to € 10.9 billion (\$12.9 billion) for Rite Aid.

Although smaller than our world ranking threshold, the retailer Harvey Norman was the top performer in Australia, with an average annual TSR of 49.6% and the industry leader, Hennes & Mauritz, made nearly 70% in annual TSR, giving it a position of fifth in the overall global ranking.

As with all the best-performing sectors, the top 10 invested heavily in growth during the period. They were notably weaker at improving their cash-flow margins and their asset productivity, although Safeway, Staples, Rite Aid and Gap showed that strong growth is a useful tool for reducing costs and increasing asset productivity without paying the cost of restructuring.

Services

The top 10 performers in Services produced an average annual TSR of 34%, while the median for the sector overall was 7%. All companies invested heavily over the period.

The industry is dominated by relatively small companies – the largest company in the top ten in Rentokil Initial with a market cap of € 18.2 billion (\$21.5 billion). The three UK representatives (Compass Group, Hays and Rentokil Initial) are also among the top ten performers in the UK across all sectors.

Companies from the sector appear among the top 10 in a number of other European countries. In Belgium and France, services companies top the national lists; Sodexo in France, second in the ranking, reached 41% annual TSR with an aggressive growth strategy, globalising its once local catering business. In Germany and the Netherlands service companies take second place; while companies from the sector also appear in the top 10 in Austria and in Switzerland.

By contrast, two of the US companies in the sector's top 10 do not make it into their national top 100. Fourth placed Cintas was 72nd in the United States.

All companies in the sector invested heavily during the period, growing organically and through mergers or acquisitions, but in other areas their performance was patchy. Some (like Adecco) improved cash-flow margins dramatically. Others (like the sector's third place Compass Group) got high marks for asset productivity fuelled by growth, but showed less improvement in cash-flow margins.

Travel, transport and tourism

The average TSR of the top ten performers in this sector is 24%, with the best performance coming from the largest company in the sector, the American cruise ship operator Carnival (average annual TSR of 33.9%)

Four of the top 10 performers in the sector are American, and six are airlines. In both Austria and Italy the national airlines are among the country's top 10 performers.

Utilities

Performance in the utilities sector was greatly influenced by the nature and extent of government deregulation in each individual national market. Spanish companies in particular found their environment conducive to high shareholder returns. Three of the top 10 performers in the sector are Spanish, and three utilities appear in Spain's own national top 10.

The star performer is Gas Natural. Its average annual TSR (50%) is 15 percentage points higher than the next best performing company in the sector. Gas Natural has established a dominant position in Spain's natural gas industry. Its vertical integration of supply and transport has given it control over the domestic industry's value chain and a share of over 90% of the Spanish industrial market for natural gas. Investment by Gas Natural rose rapidly (particularly in Latin America), as it did for the other Spanish utilities.

Exhibit 12

The Top Performers in Each Industry

Industry sector	Top performer	Country	Average annual TSR (94-98)	Market capitalisation (31.12.98)	
				€ (bn)	\$(bn)
Automobiles & supply	GKN	UK	30%	8.0	9.4
Banks	Charles Schwab	US	65%	19.1	22.5
Chemical	Monsanto	US	34%	24.3	28.7
Conglomerates	Mannesmann	Germany	37%	38.0	44.8
Consumer goods	Clorox	US	37%	10.3	12.2
Industrial goods & engineering	AutoNation	US	54%	5.9	7.0
IC&T	Dell Computer	US	153%	78.9	73.1
Insurance & assurance	Aegon	Netherlands	66%	61.0	72.0
Media & entertainment	America Online	US	143%	60.2	71.0
Pharma & health care	Pfizer	US	51%	137.5	162.2
Retail	Hennes & Mauritz	Sweden	69%	14.4	17.0
Services	Randstad Holding	Netherlands	56%	5.3	6.3
Travel, transportation & Tourism	Carnival	US	34%	24.2	28.5
Utilities	Gas Natural	Spain	50%	13.9	16.4

European and US Approaches to Value Creation

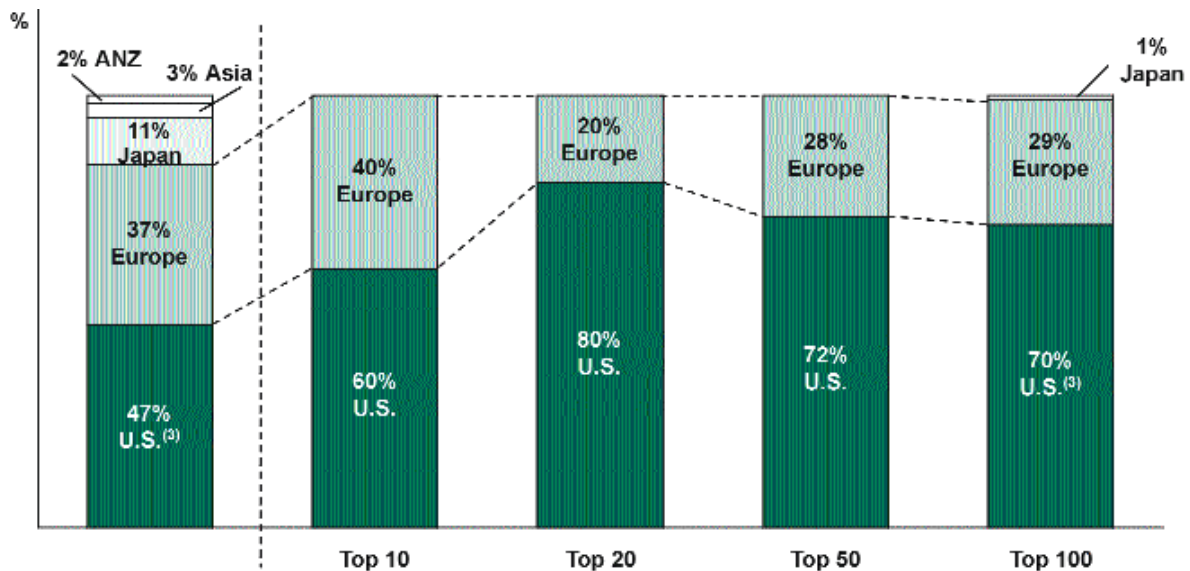
The preponderance of American companies among the top performers is one of the most striking results of the survey. Although four of the top 10 companies are European, 16 out of the top 20 are American – i.e. every single company from number nine (Charles Schwab) through to number 20 (Pfizer) is American.

Among the top 100, 70% are American, 29% European and 1% Japanese. This compares with the sample as a whole where 47% of all the companies are American, 37% European and 11% Japanese (5% came from elsewhere).

Six of the top 10 companies came from the information/communication & telecommunication sector. Out of the top 100 companies, however, only 27 are in the IC&T sector and of those, 20 are American.

Exhibit 13

Relative to Representation in Sample, the U.S. Produces more Top Performers than Europe
Composition of Top 100 per region⁽¹⁾



(1) Market capitalization € > 10bn; worldwide; ranked by TSR 1994-1998 p.a.

(2) 368 companies; % by number of companies

(3) Incl. 1 Canadian company

Source: Datastream, BCG analysis

Within each of the over-performing industries - except insurance and assurance - the US has a share of the top performers that is higher than its share of the overall sample. For instance, it accounts for 54% of all IC&T companies in the overall sample; yet it provides 74% of the top 100 IC&T companies. Again, in banking it accounts for 41% of the overall sample, but for 68% of the top 100

Only in insurance and assurance does Europe manage to have a higher share of the industry's top 100 (63%) than it has of the overall sample (62%).

Europe's under-performance is most pronounced in pharmaceuticals & healthcare. Although it accounts for 33% of the overall sample in the sector, it provides only 13% of its top 100 performers.

Exhibit 14

Within each Industry, The U.S. Generates a Higher Share of Top Performers than Europe

	Industry	U.S.		Europe	
		Overall share ⁽²⁾	Share within top 100 ⁽²⁾	Overall share ⁽²⁾	Share within top 100 ⁽²⁾
Over-performing industries	Information, communication, telecommunication	54%	74%	24%	22%
	Banks	41%	68%	43%	32%
	Retail	57%	69%	37%	31%
	Pharma & health care	62%	80%	33%	13%
	Insurance & assurance	27%	38%	62%	63%

(1) Ranked by TSR 94-98pa;
Market Capitalisation >€ 10bn;
Worldwide overall sample:368 companies
(2) % by number of companies

Source:Datastream, BCG Analysis

Go for growth

The United States has achieved dramatically higher value creation during the period than Europe, because it has been more focused on investment growth. The Europeans have been more concerned with restructuring, with improving the performance of existing assets.

When the top 50 American companies and the top 50 European companies are plotted on a graph where the axes are:

- increase in cash-flow return on investment (CFROI); and
- increase in capital invested

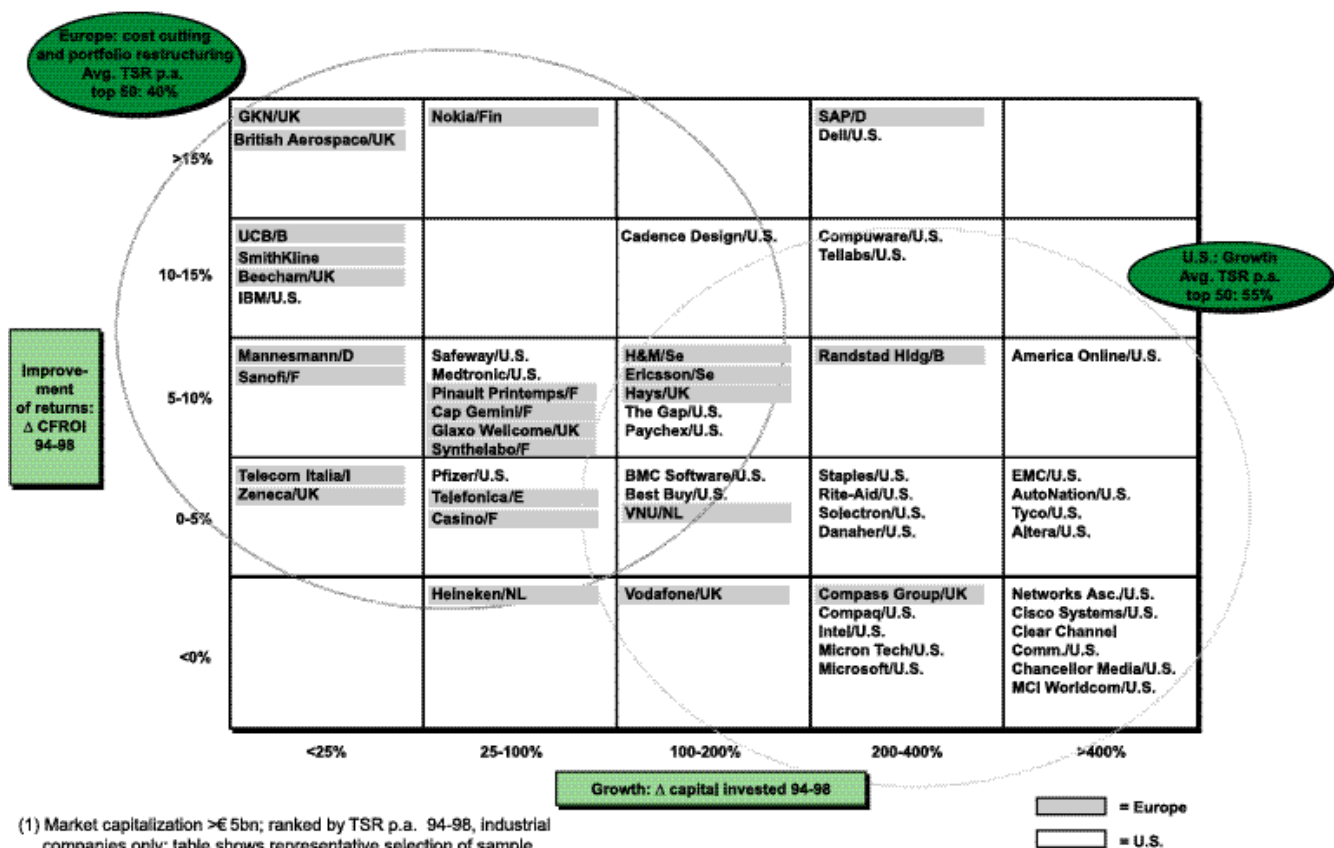
American companies score highly on the latter while European companies score more highly on the former. Even a company as large as Microsoft, grew its capital invested by more than 200% in the five years from 1994 to 1998.

All the companies among the top 50 Americans and the top 50 Europeans that recorded a growth in capital invested between 1994 and 1998 of more than 400% were American. Of the five companies that recorded an increase in CFROI of more than 15 percentage points over the five years, four were European. The American company in this category (Dell) also, incidentally, notched up a growth in capital invested of over 200% - i.e., they were growth-oriented.

Growth industries create more value than restructuring industries. The average annual TSR of the top 50 (growth seeking) American companies is 55%; the average TSR of the top 50 (tending to restructure) European companies is 40%. It is the difference between a nine-fold increase in shareholder value for the American companies and a 5.4-fold increase for the Europeans.

Exhibit 15

U.S. Top Performers Create Superior Value Through Growth



Top American Performers

The average annual TSR of the top 10 American companies was 86.5%, compared with the US average of 23.1%. The average TSR of the bottom decile of the top 100 American companies (i.e. ranking of 91–100) was 31.3%.

Exhibit 16

America's Top Ten

Name	Sector	Average annual TSR (94-98)	Market capitalisation (31.12.98)	
			€ (bn)	\$(bn)
1. Dell Computer	IC&T	153%	78.8	93.0
2. America Online	Media & Entertainment	143%	60.2	71.0
3. Network Associates	IC&T	114%	7.6	9.0
4. Microsoft	IC&T	69%	293.2	345.9
5. Cisco Systems	IC&T	67%	124.2	146.5
6. Charles Schwab	Banks	65%	19.1	22.5
7. Compuware	IC&T	64%	12.2	14.4
8. Clear Channel Communication	Media & Entertainment	64%	12.2	14.4
9. Sun Microsystems	IC&T	64%	27.6	32.6
10. Tellabs	IC&T	63%	11.3	13.3

In America, the top 10 was dominated by IC&T companies, (seven out of 10). In the top 100 in America, four industries were most frequently represented. These were IC&T, financial services, pharmaceuticals & healthcare and retail, with 27, 23, 12 and nine companies in each respectively.

Although many of the top 100 companies in America scored well (++ or higher) on restructuring profitability (CFROI), all except 13 scored either equally high or higher on growth (++ or +++). And, for American companies scoring high on growth, the rate of growth was dramatically higher than that of their European counterparts.

Underlying Drivers of American Results

For several reasons, American companies were represented in the rankings with proportionately higher frequency and with a significantly higher level of growth operating as the driver. Although European companies improved CFROI by a greater amount, American companies maintained a higher level of CFROI over the period.

This higher level of CFROI allowed growth to have a compound impact on TSR, since growth at high returns is more valuable than growth at returns closer to the cost of capital. BCG has determined that the primary driver of the relatively higher American CFROIs is the fact that American companies engaged earlier in restructuring activities to improve profitability (i.e. in the late 1980s) than European companies did.

A second contributing factor to both high CFROIs and high growth is the fact that investor pressures on American management to deliver value creation were significantly more pronounced than in Europe during this period. Additionally, this pressure resulted in more American companies adopting value management as a discipline to ensure a focus on value creation throughout their organisations.

A third factor was the role of incentive compensation in American companies. BCG's assessment is that American incentive practice has three differentiating features that have promoted higher value creation. One is that American incentives have a much greater range of upside and downside potential. A second is that American incentive plans place a much greater emphasis on long-term performance.

The third distinguishing feature is that American incentive plans change more dynamically over time to meet better the evolving requirements for value creation. For example in the 1990s, there was a significant shift from plans that rewarded restructuring to plans focused on rewarding profitable growth.

The amount and focus of incentives both matter, at least in the American context. To reinforce this point further, American companies adopting long-term incentive plans specific to business units have outperformed American companies that have not adopted such plans by approximately 15% since 1993.

Top European Performers

Our study shows that different European countries tend to favour different value creation levers, reflecting variations in the national economies. Growth is the preferred means of value creation in Austria, the Netherlands and the UK. Managers in France and Belgium tend to deploy a combination of restructuring and growth, while their counterparts in Spain, Germany and Switzerland focus mainly on restructuring.

The average annual TSR of the top 10 performing companies in Europe over the five-year period was 61% (compared with the worldwide figure of 87%), and the average TSR of the bottom decile of the European top 100 (rankings of 91-100) was 19% (compared with the worldwide figure of 30%). The influence of American companies in boosting the worldwide averages is considerable.

Exhibit 17

Europe's Top Ten

Name	Nationality	Sector	Average annual TSR (94-98)	Market capitalisation (31.12.98)	
				€ (bn)	\$(bn)
1. SAP	Germany	IC&T	91%	18.0	21.2
2. Nokia	Finland	IC&T	79%	48.7	57.5
3. Hennes & Mauritz	Sweden	Retail	69%	14.4	17.0
4. Aegon	Dutch	Insurance	66%	61.0	72.0
5. Randstad Holding	Dutch	Services	56%	5.3	6.3
6. UCB	Belgium	Pharma & healthcare	54%	7.7	9.1
7. Banca Fideuram	Italy	Banks	51%	5.5	6.5
8. Gas Natural	Spain	Utilities	50%	13.9	16.4
9. Numico	Dutch	Consumer goods	49%	5.2	6.1
10. Banca Bilbao Vizcaya	Spain	Banks	49%	27.3	32.2

Unlike the US, where the top 10 ranking is dominated by firms from the IC&T sector, the top 10 performers in Europe come from no less than eight different sectors. Only IC&T (SAP and Nokia) and banks (Banca Fideuram and Banco Bilbao Vizcaya) have more than one representative in the top 10.

The most commonly represented sector in the top 100 performers in Europe is banks (23) followed by insurance & assurance (17). This focus on finance

(40% of the top performers) is partly a reflection of the fact that in several European countries these industries were being deregulated during the period. This presented firms with new opportunities to cut costs through restructuring and to reap economies of scale from mergers and acquisitions.

Not only are Europe's top performers well spread around industries, they are also well spread around countries. The top 10 come from seven different nations (Germany, Finland, Sweden, the Netherlands, Belgium, Italy and Spain). France's Pinault Printemps retailing group makes 11th place. The Netherlands has three representatives in the top 10 (Aegon, Randstad Holding and Numico); Spain has two (Gas Natural and Banco Bilbao Vizcaya).

Exhibit 18

Europe's National Champions

Country	National champion	Average annual TSR (94-98)	Sector
Austria	Semperit	55%	Conglomerates
Belgium	D'leteren	66%	Services
Finland	Nokia	79%	IC&T
France	Altran Technologies	66%	Services
Germany	SAP	91%	IC&T
Italy	Banca Fideuram	51%	Banks
Netherlands	Aegon	66%	Insurance
Spain	Gas Natural	50%	Utilities
Sweden	Hennes & Mauritz	69%	Retail
Switzerland	Swiss Re	39%	Insurance
UK	British Aerospace	40%	Industrial goods

Belgium

Managers in Belgium tend to create value using both restructuring and growth. Belgian companies also raised their profitability well above the cost of capital during the period of our study.

Belgium's UCB, the pharmaceuticals & healthcare company, is sixth overall in Europe. But only one-eighth of its increase in CVA over the period can be

attributed to growth in capital invested. The other seven-eighths come from a sharp improvement in cash flow margin and a more modest improvement in asset productivity.

Despite its spectacular performance, however, UCB is not the top performing Belgian company. That position was taken by a services company, the car dealer D'Ieteren. It recorded a 66% average annual TSR over the period.

France

The average annual TSR of the French companies in the sample (at 14%) is close to the European average (13%). But France has the widest spread of performance of any European country. It ranges from a world-class 66% to champions of value destruction at minus 20% per annum. French managers tend to use a combination of growth and restructuring levers.

The top company, Altran Technologies, comes from the services sector and compares with the very best US performers. Servicing high technology companies, Altran has benefited from the intrinsic dynamics of the sector. This sector is well represented among France's top performers, with Altos (ranked second) and Cap Gemini (ranked fourth).

The performance of French retailers is also worthy of note. Pinault Printemps and Promodes are both in the top 10, while Carrefour and Casino feature in the top 20.

Germany

Germany's top performers are remarkably well spread across industries. The nation's top 10 come from nine different industrial sectors. Only the automobile and supply industry had two representatives.

However, these are not growth companies. Several of Germany's top performers – for example, Porsche and Volkswagen - depended on restructuring and cost-cutting programmes for most of their value creation over the period. Most of those German companies that were best at using the restructuring lever to create value succeeded in raising their profitability above the cost of capital.

The average CFROI in Germany rose during the period, but overall most German companies still do not earn enough to cover their cost of capital.

Hence, the opportunities to use growth as a lever for value creation are limited. Among the few companies that have successfully created value by high and profitable rates of growth are SAP and MLP.

Much of the slow growth of the German economy can be attributed to the continuing corporate focus on cash-flow margin to improve performance, and to the failure of some highly profitable companies to generate growth. Economic and fiscal policies continue to make it difficult for German companies to earn their cost of capital. Moreover, German management needs to learn that high profitability alone is not sufficient for sustained value creation.

Italy

Italy's top performers are totally dominated by banks (the first five in the list, and seven out of the top 10), reflecting the extensive consolidation that took place in the sector during the period. The consolidation gave rise to plenty of opportunities for restructuring.

Among the top performers:

- Banca Fideuram generated value by improving its efficiency and by focusing on the highly profitable niche of investment products for individual investors
- Banca Intesa generated value through a highly aggressive strategy of acquisition and consolidation
- Alitalia improved its asset utilisation and efficiency by downsizing. It was also helped by the creation of a new operating company and by an enhancement of its loyalty and marketing programmes.

The Netherlands

The Netherlands has performed well in terms of value creation in Europe: the Dutch top 10 has the highest average TSR in the region (44%) as well as three representative companies in Europe's top 10: Aegon, Randstad and Numico. It has achieved this by focusing primarily on growth. Dutch companies have for some time managed to raise their profitability well above the cost of capital. Randstad, Getronics and VNU, have even been able to continue increasing profitability, while growing rapidly.

Aegon has already been discussed within this report, but other top performers within the country are:

- Getronics managed to grow rapidly through acquisitions while simultaneously continuing to increase its profitability.
- Numico, a specialty foods company, has also created value through acquisition and by focusing on high margin products. The trend started 10 years ago, once profitability was increased significantly above its cost of capital.
- Ahold, a retail company, has created value by growing over 800% over the last 10 years while not eroding its profitability. Again, this was realised through acquisitions, mainly in the US.

Switzerland

Restructuring enabled Swiss managers to create a strong increase in profitability. TSR of the top 10 Swiss performers ranged from 23% (Roche) to 39% (Swiss Re). The average was 27%. Swiss Re was the only Swiss company among the top 40 European companies (it ranked 20th).

The top performing Swiss companies come from a variety of industries including: insurance (Swiss Re, Zurich Allied, Baloise), pharmaceuticals (Novartis, Roche), industrial goods (Rieter, AL Group), banking (J. Baer), services (Adecco) and travel and transportation (Kuoni).

Among Swiss top performers:

- Swiss Re generated high TSR through increased profitability via divestiture of its primary insurance business and growth in the highly profitable reinsurance sector
- Kuoni transformed from a closely held Swiss Foundation to a broadly held public company by achieving internal growth in its core markets and external expansion through acquisition
- J. Baer achieved superior returns via internal and geographic expansion

of its core businesses - private banking and asset management

- AL Group generated high TSR by increasing both profitability and growth. The company exited from its cyclical and capital intensive commodity businesses and focused on internal and external growth in high value added activities, such as flexible and pharmaceutical packaging

UK

The United Kingdom performed strongly during the period under study, accounting for 25 of the companies in Europe's top 100. Growth and restructuring were the two value creation levers favoured by UK managers, with growth being the more common of the two.

Several companies among the UK's top performers have already achieved high levels of profitability, compared with their continental European counterparts. This is the result of a clear focus on restructuring and optimisation over the course of the previous decade. These companies were therefore in a position to concentrate on profitable growth during the period of our study. Others among the UK's top performers continue to use the restructuring and asset productivity levers.

Those UK companies that continue to grow at high levels of profitability include Vodafone in the telecommunications sector, Lloyds TSB in the banking sector and Compass Group and Hays in the services sector.

Lessons for Chief Executives

Our study shows the wide range of performance recorded by companies during the five-year period from year end 1993 to year end 1998 (as measured by average annual TSR). Some companies in under-performing industries put in spectacular performances, and some companies in over-performing industries didn't. This was true of all geographical markets.

The study finds that in the five-year period between year-end 1993 and year-end 1998, American companies (on average) added far more value than European companies. This was because they were more focused on investment growth than on restructuring, the main preoccupation of most of Europe's successful companies during the period.

The top 100 companies in America and in Europe all put in truly extraordinary performances, far exceeding expectations. But to remain an extraordinary performer over the next five years will require these companies to continue to exceed the increased market expectations embedded in their stock prices. Past performance is no guarantee of future performance. Some of the top performers from 1993-98 (companies like SAP) have lost some momentum and will have to fight to regain their former position.

Any five-year period is arbitrary, and the list of top performers for any other five-year period would be different. (Five years were chosen – as opposed to one or three – so that the findings would take account of long-term strategy and not be unduly influenced by short-term performance blips.)

How can companies hope to make it into the top 100 for the next five years? The good news is that their fate is in the hands of their managers. Value creation is not a random process.

There is no single specific prescription for improving value creation for all companies. But, there are general principles that can be systematically applied to improving the ability to manage value creation. From our experience in applying value management concepts and tools over the last decade, we have distilled 10 success factors that apply to all companies.

1. TSR is the endgame. TSR reflects the actual wealth creation for investors and employee-owners over a specific time frame. It should be embedded in the goals and subsequent incentive rewards for senior executives. Every company should aspire to achieve superior TSR performance over the long term, whether at rates just slightly above local market or peer group averages, or in the extreme stretch of the top decile of worldwide companies. The degree of aspiration and the benchmark basis will vary, but should always represent a stretch that taps the full potential of the company.

2. TSR reflects economics. Sustained high TSR performance is not possible without superior economic performance (i.e. generating high levels of cash flow and deploying cash in investments that yield returns above the cost of capital). Success at improving economic performance creates a strong platform for future improvements in competitive advantage and TSR. In this regard, value creation tends to create a virtuous circle.

3. TSR provides a level field. Superior TSR performance requires beating the market's expectations of underlying economic performance. Thus, regardless of the starting level of a company's current profitability or growth, improvement that exceeds expectations is required. It's not where you have been or where you are, but where you are going that counts.

4. Executives should manage like investors. Corporate executives should objectively review the value creation achievement and potential of each business in the portfolio from the perspective of its contribution to TSR. Where possible, the responsibility for TSR contribution should also be devolved to business unit managers. They should feel the same pressures and discipline that they would if their business units were publicly traded.

5. Install an internal value creation metric. The measure should allow managers to make trade-offs between financial drivers and between short and long-term impacts on value creation. BCG has found that either the CVA or Total Business Return (TBR) measure can provide a relatively simple but comprehensive link to actual TSR contribution.

6. Manage priorities and trade-offs between drivers. The levers to influence CVA or TBR are margin, asset productivity, and growth. The relative priority of each of these levers will vary based on the starting point of the business and the opportunities facing it. Trade-offs between these levers must be managed to ensure the optimum impact on CVA/TBR and hence TSR. Developing cross-functional consensus at the operating level is often necessary to implement appropriate trade-offs between these levers.

7. Manage the business portfolio to TSR targets. An explicit TSR target provides an anchor for portfolio strategy. If the current portfolio of businesses cannot meet the value creation aspiration, be prepared to take action, not change the goal.

8. Build a value creation culture. Developing a sustainable ability to create value takes time and effort. Executives must ensure that management processes (planning, budgeting, reporting, incentives, etc.) form an effective and integrated system that drives behaviour towards the value creation goal. Processes should be used to devolve both power and discipline to business units and functions.

9. Communicate to investors. In order to ensure that the market recognises achievements, understands the potential of the business, and believes in the commitment to superior value creation, an effective investor communication programme is necessary. Typically, this requires management to demonstrate knowledge of and commitment to address the main value drivers under their control. Credibility with investors is an important off-balance-sheet asset that can be greatly enhanced by steps 1-8 above, if they are clearly communicated.

10. Respect the challenge. Superior value creation is difficult to sustain. It requires appropriately focused activities at many levels in a company. Building and refining the capability will take years, not months. Changes will be required in decisions, priorities, processes, and measurement systems. If the goal is appropriately stretching, then tough choices will be needed. But in the end, achieving superior value creation is worth the effort and not just for owners. It will provide the means to meet the aspirations of all stakeholders, while inferior value creation will limit the resources for doing so.

Market Forces Level the Playing Field

If history is any indication, competing for a top ranking in total shareholder return is a significant challenge. Given the last five years of experience, the bar appears higher to be a top performer in America than in Europe. This could change if European companies act to achieve parity in CFROI and pursue growth initiatives more aggressively.

Those companies that are already at the top have high expectations built into their stock prices and these will be challenging to exceed. However, some comfort can be gained from the sustaining advantages of being a top value creator. High value creators generate and can attract more capital to invest in building competitive advantage and/or pursuing future growth opportunities. High value creators also enjoy a human resource advantage in attracting or retaining management talent. To stay ahead, top performers must effectively exploit these advantages and continuously hone their internal ability to manage value creation proactively.

For those companies aspiring to move into the top performer category, several observations are relevant. First, coming from a below-average starting point for either CFROI or overall value creation is usually accompanied by a lower level of expected performance embedded in current stock price. What counts for both high and low performers is the ability to exceed expectations. Thus, looking forward, market forces create a level playing field. Second, the evidence indicates that industry participation is not an insurmountable roadblock. Industry participation helps, but is not a prerequisite. What matters in the end is how you play the hand you are dealt.

Profitability in Preparation for Growth

In this area, there are two rules. First, ensure that your CFROI sufficiently exceeds the cost of capital before you embark on aggressive growth programmes. The process of improving low CFROI business creates significant value. Secondly, recognise that maintaining high CFROIs without achieving accompanying growth adds little value. Profitable growth is required to exploit high CFROIs and move into top performer status.

If European companies want to ratchet up the level of their performance over the next five years then they will have to be ready for the 'go for growth'

of value management. But companies that seek growth before they have sufficient underlying profitability (as measured by their CFROI) will get into difficulties (see the sidebar on 'The C-Curve').

The challenge for European companies over the next five years is to improve their CFROI by further restructuring, and then to make the judgement as to when CFROI is adequate to support a move towards sustainable and profitable investment growth.

To be ready for this stage, European managers need to learn now how to manage growth. They need to be ready to change their company's culture to a growth-oriented one, one that has the right incentives to foster entrepreneurship, for example, and to build new businesses.

Countries like Germany where CFROI is relatively low, have some way to go with restructuring. In the UK, however, where profitability is relatively high, companies are in a better position to benefit from a US-style push for growth.

American companies' successful growth during the 1994-98 period was enabled by the radical restructuring they had gone through at an earlier stage. They were thus better placed to invest in the dynamic new industries that developed over the period, particularly in the IC&T sector.

Preparing for growth should be just part of a company's overall programme of value management. Even when markets decline and growth is low on the agenda, the company that is skilled at value management will be able to put in a superior performance. Such a company will be better able to withstand shocks and exploit opportunities.

Profitability versus Growth: The C-Curve Story

Companies with low profitability that are seeking to turn around their performance, face conflicting options. Should they seek to grow out of the problem? Or should they restructure their businesses, divesting some and focusing on the profitable 'hard-core'? This choice — fix what you have or invest for the future — is often a source of internal corporate tension.

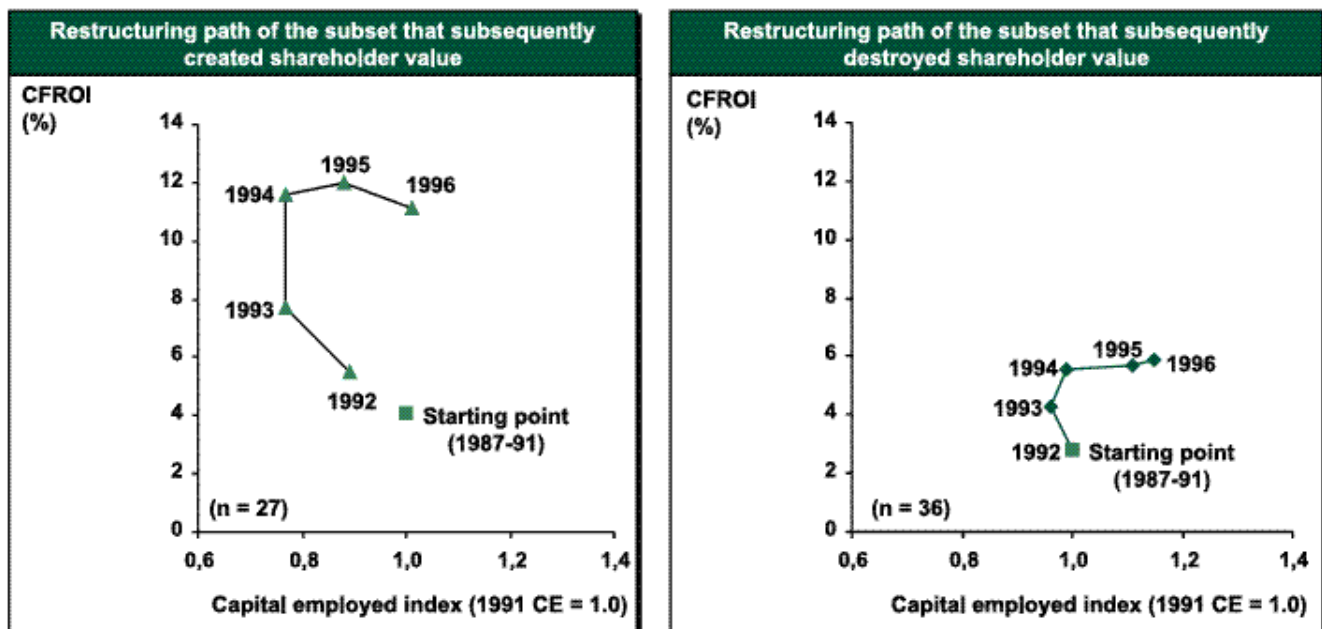
A study by BCG of successful and unsuccessful turnarounds found a number of significant features in the successful ones:

- They raised their profitability to well above the hurdle rates before they set out to increase their investment
- This often involved a radical restructuring – a reduction in the investment base of as much as 20-25% and a doubling or tripling of the return on capital employed
- Successful turnarounds often spent as long as two or three years on this restructuring before they switched their emphasis to growth.

The charts below plot an index of capital employed (1991 = 1.0) against return on investment, for the first and last quartiles of a sample of turnaround companies between 1992 and 1996. The index of capital employed for the first quartile (the successful companies) fell sharply and the return on investment rose sharply before investment grew. The poor performers (the fourth quartile) rushed into growth after only moderate restructuring and after only a small improvement in their return on capital.

Exhibit 19

“Turnarounds”: Companies With Low Profitability Starting Positions



Each of these graphs forms the letter ‘C’. One is short and squashed; the other is tall and well-rounded. European companies in the process of restructuring need to chart the course of a well-rounded ‘C’.

Key Tables

Rk	Company	Country	Industry	Market Value	Market Value	1997-2000	CVA (in EUR) ⁽¹⁾	CVA (in US\$) ⁽¹⁾	Relative Importance of Value Drivers			
				(in EUR) ⁽²⁾	(in US\$) ⁽²⁾				ΔCVA ⁽³⁾	ΔCVA (in US\$) ⁽³⁾	ΔCFOI ⁽⁴⁾	ΔCash Flow Margin ⁽⁵⁾
1	3M	USA	information/communication & telecommunication	78,839	95,137	157.9%	1,088	1,286	+++	++	++	++
2	AMERICA ONLINE	USA	media & entertainment	61,748	71,085	115.1%	148	175	++	++	+	++
3	SAFARI	UK	information/communication & telecommunication	17,361	21,228	121.9%	545	625	+++	-	+++	+++
4	NOKIA	FIN	information/communication & telecommunication	45,857	57,445	125.3%	1,726	2,088	+++	+++	+++	+++
5	IBM	US	retail	14,388	18,514	129.4%	167	214	++	++	-	+++
6	MICROSOFT	USA	information/communication & telecommunication	265,173	326,514	123.1%	2,126	2,611	-	++	-	+++
7	CISCO SYSTEMS	USA	information/communication & telecommunication	174,241	199,567	114.6%	831	917	-	-	-	+++
8	AEGION	NL	insurance & services	61,004	71,070	116.5%	521	615	++	NM	NM	+++
9	CHARLES SCHWAB	USA	banks	10,027	22,593	225.7%	134	150	-	NM	NM	+++
10	COMPUWARE	USA	information/communication & telecommunication	12,170	14,300	117.5%	220	237	+++	++	++	+++
11	CLEAR CHANNEL (TIME)	USA	media & entertainment	12,172	14,302	117.5%	70	88	-	++	-	+++
12	SUN MICROSYSTEMS	USA	information/communication & telecommunication	27,020	32,598	120.6%	404	548	++	++	++	+++
13	TELLABS	USA	information/communication & telecommunication	11,208	13,325	118.9%	225	265	+++	+++	+	+++
14	SAFEWAY	USA	retail	25,117	29,695	118.2%	517	610	++	++	++	++
15	EMC CORP.	USA	information/communication & telecommunication	30,162	42,608	141.3%	370	430	++	++	-	+++
16	FIRSTAR	USA	banks	17,150	20,242	118.0%	-102	-120	-	NM	NM	++
17	STAPLES	USA	retail	11,381	13,420	117.9%	127	150	++	+	++	+++
18	COMPTON	USA	information/communication & telecommunication	60,520	71,418	118.8%	-1,350	-1,000	-	-	-	+++
19	TYCO	USA	industrial goods & engineering	41,307	49,845	120.4%	402	474	+	++	-	+++
20	PFIZER	USA	pharmaceuticals & health care	137,525	162,205	118.0%	705	838	++	++	-	+++
21	INTEL	USA	information/communication & telecommunication	167,551	197,604	118.0%	2,080	2,552	-	-	-	+++
22	CAS NATURAL	E	utilities	13,800	16,303	118.1%	-25	-30	-	-	-	+++
23	WYNNER LAMBERT	USA	pharmaceuticals & health care	52,357	61,775	117.8%	601	700	++	++	++	++
24	MEDTRONIC	USA	pharmaceuticals & health care	30,016	36,300	120.9%	250	302	++	++	+	+++
25	BANCO BILBAO VIZCAYA	E	banks	27,316	32,230	118.0%	645	761	++	NM	NM	++
26	SCHERING PLOUGH	USA	pharmaceuticals & health care	60,034	61,217	102.0%	712	640	++	++	++	++
27	RITE AID	USA	retail	10,001	12,663	126.6%	11	10	+	+	-	+++
28	IBM	USA	information/communication & telecommunication	144,245	170,184	118.0%	7,672	9,053	+++	+++	++	+++
29	ELI LILLY	USA	pharmaceuticals & health care	62,033	67,761	110.0%	610	1,004	+++	++	++	+++
30	GAP	USA	retail	27,163	32,000	117.8%	475	560	++	++	++	+++
31	BANK OF NEW YORK	USA	banks	25,633	30,624	119.5%	467	560	++	NM	NM	++
32	PINWALT PRINTERS	F	retail	10,121	22,561	223.0%	310	370	++	+	++	++
33	MBNA CORP.	USA	banks	15,013	16,008	106.6%	300	450	++	NM	NM	+++
34	WALGREEN	USA	retail	24,706	29,213	118.2%	200	247	+	+	+	+++
35	MCI WORLDWIDE	USA	information/communication & telecommunication	111,516	131,502	118.0%	4,420	5,225	-	-	-	+++
36	KROGER	USA	retail	13,141	15,000	114.2%	232	274	++	+	+	++
37	BANCA INTESA	I	banks	11,401	13,452	118.0%	270	318	++	NM	NM	+++
38	TEXAS INSTRUMENTS	USA	information/communication & telecommunication	20,300	23,384	115.2%	113	133	+	++	-	+++
39	FIRST UNION BANK	USA	banks	37,000	43,667	118.0%	424	500	-	NM	NM	+++
40	MICROSOFT (3 MONTHS)	USA	information/communication & telecommunication	161,567	17,486	10.8%	481	520	-	-	-	+++
41	ROYAL BANK OF CANADA	C	banks	61,000	65,500	107.4%	381	466	+++	NM	NM	+++
42	ROCHE (3 MONTHS)	USA	pharmaceuticals & health care	112,710	120,885	107.3%	1,280	1,325	++	+	++	+
43	ABB (3 MONTHS)	UK	industrial goods & engineering	17,603	14,573	82.8%	601	600	+++	++	+++	+++
44	VERIZON	UK	information/communication & telecommunication	42,351	48,811	115.3%	234	277	-	-	+	+++
45	DAYTON SUPERSONIC	USA	retail	30,274	29,621	98.2%	535	547	++	+	++	+++
46	UNICREDITO ITALIANO	I	banks	23,564	27,510	116.7%	385	344	++	NM	NM	+++
47	GENENTECH	USA	insurance & services	12,526	16,258	129.7%	1,361	1,630	+++	NM	NM	+++
48	HOYTS (3 MONTHS)	UK	banks	65,160	65,621	100.8%	1,117	1,317	-	NM	NM	+++
49	THE FIRST MONTELEONE	USA	banks	16,127	16,009	99.3%	125	147	+	NM	NM	+++
50	CHASE	USA	information/communication & telecommunication	15,166	16,245	107.2%	161	170	+	+	+	+++

NM: Not Meaningful
 (1) In million
 (2) CVA₂₀₀₀ - CVA₁₉₉₇
 (3) CFOI₂₀₀₀ - CFOI₁₉₉₇
 (4) Cash Flow Margin₂₀₀₀ - Cash Flow Margin₁₉₉₇
 (5) Asset Productivity₂₀₀₀ - Asset Productivity₁₉₉₇
 (6) Gross Investment₂₀₀₀ / Gross Investment₁₉₉₇
 For banks and insurance companies the following expressions need to be replaced:
 CVA → AVE
 ΔCVA → ΔAVE
 Gross Investment → Equity
 CFOI → RROE
 WACC → Cost of Equity

* We have less than five years of data for those companies due to major restructuring or inconsistencies in accounting practices

Rk	Company	Country	Industry	Market Value	Market Value	15th y.o.c.	ICVA	ICVA	Relative Importance of Value Drivers			
				(in EURO) ⁽¹⁾	(in US\$) ⁽¹⁾				2010	(in EURO) ⁽²⁾	(in US\$) ⁽²⁾	ICP-ROIC ⁽³⁾
51	TELUSCORP	CA	information/communication & telecommunication	38,751	47,754	37.9%	341	1,104	+	+	+	+
52	LOWE'S	USA	consumer goods	38,752	47,085	37.9%	134	184	+	+	+	+
53	SANOFI S.A.	FR	pharmaceuticals & health care	35,748	43,502	37.1%	177	548	+++	+	+	-
54	MR. BIG	USA	pharmaceuticals & health care	148,855	175,126	36.9%	1,881	2,024	+	-	+	+
55	ALBERT HEIJNDERS	NL	retail	34,751	42,065	36.9%	351	617	+	+	-	+++
56	MANNE SMANN	IT	consumer goods	36,114	44,260	36.9%	1,261	1,581	+	+	+	+
57	LEADER FOODS	UK	insurance & securities	13,857	16,685	36.9%	65	77	-	NM	NM	+++
58	HOME DEPOT	USA	retail	81,081	95,607	36.9%	831	980	++	+	++	+++
59	FORTIS	B	insurance & securities	24,547	28,003	36.7%	431	500	++	NM	NM	+++
60	MELLON BANK	USA	banks	15,220	17,058	36.7%	971	437	++	NM	NM	+
61	CARDINAL HEALTH	USA	pharmaceuticals & health care	12,012	15,294	36.6%	135	150	++	+	-	+++
62	SANOFI	F	pharmaceuticals & health care	15,171	17,000	36.7%	157	233	++	++	++	-
63	XEROX	USA	information/communication & telecommunication	32,809	38,704	34.9%	471	550	++	++	+	+
64	APPLIED MTS	USA	information/communication & telecommunication	13,301	15,604	34.9%	115	130	-	++	-	+++
65	WILLIAMS-SOFTWARE	USA	utilities	11,310	13,345	34.9%	-140	-170	-	-	+	+++
66	GENERAL ELECTRIC	USA	consumer goods	283,348	334,322	34.1%	3,005	4,078	++	++	+	+
67	CARNIVAL	USA	leisure, transportation & tourism	24,220	28,587	33.0%	332	302	++	+++	-	+++
68	PROGRESSIVE CORP.	USA	insurance & securities	10,400	12,281	33.7%	75	88	-	NM	NM	+++
69	HEINEKEN	NL	consumer goods	18,080	18,072	33.7%	110	137	-	++	-	+++
70	CIGNA	USA	insurance & securities	13,533	15,008	33.0%	805	1,021	+++	NM	NM	++
71	MONSANTO	USA	chemicals	24,324	28,602	33.0%	223	228	++	++	+	-
72	FANNIE MAE	USA	banks	64,230	75,705	33.0%	940	1,100	+	NM	NM	+++
73	AMGEN	USA	pharmaceuticals & health care	22,991	26,810	33.4%	337	307	++	++	-	+++
74	AMERICAN EXPRESS	USA	banks	30,254	40,301	33.1%	601	709	++	NM	NM	+
75	TAKEDA	JP	pharmaceuticals & health care	20,000	24,110	32.0%	100	120	+	++	-	++
76	BELLSOUTH	USA	information/communication & telecommunication	62,060	87,500	32.8%	610	802	+	++	+	++
77	CHASE MANHATTAN	USA	banks	60,000	60,000	32.8%	1,230	1,022	++	NM	NM	++
78	WASTE MANAGEMENT INC. (WASTE MAN)	USA	industrial goods & engineering	22,700	20,707	32.0%	700	800	+	+	+	+++
79	CITIGROUP	USA	banks	65,700	112,817	32.0%	411	485	+	NM	NM	+
80	AMERICAN HOME PROD.	USA	pharmaceuticals & health care	62,060	74,322	32.4%	610	1,003	++	++	+	++
81	JOHNSON & JOHNSON	USA	pharmaceuticals & health care	65,012	112,613	32.4%	1,430	1,001	++	++	++	++
82	HOUSEHOLD INTL	USA	banks	10,210	10,100	32.9%	20	34	-	NM	NM	+++
83	RENTOKIL INITIAL	UK	services	18,201	21,470	32.0%	352	410	-	-	-	+++
84	SPRINT	USA	information/communication & telecommunication	24,000	28,685	32.2%	134	150	+	++	-	++
85	AMERITECH	USA	information/communication & telecommunication	38,273	46,800	31.0%	470	561	+	++	+	++
86	TELEFONICA	E	information/communication & telecommunication	38,645	46,777	31.7%	1,000	1,045	++	++	+	++
87	US BANCORP	USA	banks	21,040	25,709	31.0%	374	3441	++	NM	NM	+
88	NORTHERN TELECOM	CN	information/communication & telecommunication	20,091	23,140	31.4%	311	307	++	++	++	++
89	UNITED TECHNOLOGIES	USA	consumer goods	20,010	24,000	31.3%	620	600	++	++	+	+
90	WALMART STORES	USA	retail	11,894	13,105	31.3%	6	7	-	-	-	+++
91	TELECOM ITALIA	I	information/communication & telecommunication	30,291	35,157	30.0%	3151	3,830	+	+	+	+
92	VERIZON	USA	information/communication & telecommunication	13,824	16,014	30.7%	14	23	-	-	-	+++
93	AMERICAN INTERNATIONAL GROUP INC.	USA	insurance & securities	18,108	21,470	30.0%	874	1,155	+	NM	NM	+++
94	ROYAL BANK OF CANADA	CA	banks	14,854	17,500	30.0%	84	112	+	NM	NM	++
95	FRANCO BANCOS	USA	banks	17,581	19,000	30.4%	171	230	+	NM	NM	+++
96	COFFEE COLONNARI S.P.A.	USA	retail	13,181	15,703	30.0%	146	172	+	+	+	++
97	HANCOM FINANCIAL	I	banks	18,107	23,405	30.2%	184	235	+	NM	NM	+++
98	WELLS FARGO	USA	banks	54,757	64,911	30.2%	51	60	+	NM	NM	++
99	HARBOR ENERGY	UK	banks	17,847	14,893	34.0%	411	567	+++	NM	NM	+++
100	AMGEN LABORATORIES	USA	pharmaceuticals & health care	63,141	74,702	34.7%	601	834	+	+	+	++

NM: Not Meaningful
 (1) In million (2) CVA₂₀₁₀ - CVA₂₀₀₉ (3) CROI₂₀₁₀ - CROI₂₀₀₉ (4) Cash Flow Margin₂₀₁₀ - Cash Flow Margin₂₀₀₉ (5) Asset Productivity₂₀₁₀ - Asset Productivity₂₀₀₉ (6) Gross Investment₂₀₁₀ / Gross Investment₂₀₀₉
 For banks and insurance companies the following expressions need to be replaced:
 CVA → RVE
 ΔCVA → ΔRVE
 Gross Investment → Equity
 CROI → RROE
 WACC → Cost of Equity

* We have less than five years of data for those companies due to major restructuring or inconsistencies in accounting practices

Rk	Company	Country	Industry	Market Value	Market Value	EBITDA	EV/EBITDA	EV/FCF	Relative Importance of Value Drivers			
				(in EURO) ⁽¹⁾	(in US\$) ⁽²⁾				ΔCAGR ⁽³⁾	ΔCash Flow Margin ⁽⁴⁾	ΔAsset Productivity ⁽⁵⁾	Gross Investment Growth ⁽⁶⁾
1	SAI*	IT	information/communication & telecommunication	1,7,361	21,226	30.9%	54%	30%	+++	-	+++	+++
2	NORIXA	IT	information/communication & telecommunication	16,857	57,495	15.9%	1,17%	2,02%	+++	+++	+++	+++
3	UNM	IT	retail	16,398	16,503	69.2%	367	1,24	++	++	-	+++
4	AI (ZUK)	NI	insurance & assurance	61,031	73,503	66.2%	571	615	++	NM	NM	+++
5	LANXESS AG	NI	services	6,258	6,267	66.9%	89	39	++	+	+	+++
6	UCB	IS	pharmaceuticals & health care	7,668	9,047	65.1%	1,77	-39	+++	+++	+	+
7	BANCA IMBIBRAM	I	banks	6,519	6,541	60.1%	114	140	+++	NM	NM	+++
8	CAS NATURAL	E	utilities	15,960	10,353	40.8%	-25	-30	-	-	-	+++
9	NUMICO	NL	consumer goods	6,160	6,085	40.0%	54	111	++	++	-	+++
10	BANCO BILBAO VIZCAYA	E	banks	27,316	32,230	48.7%	645	761	++	NM	NM	++
11	FINAULT PRINTINGS	F	retail	19,171	22,501	45.0%	310	370	++	+	++	++
12	BANCA INTESA	I	banks	11,401	13,452	43.1%	270	310	++	NM	NM	+++
13	CAF GENIVI	F	information/communication & telecommunication	9,030	11,120	41.1%	110	140	++	+	+++	++
14	SCODEHO ALLIANCE	F	services	6,377	7,516	40.5%	135	150	-	+	-	+++
15	ROLO BANCA 1473	I	banks	10,060	11,870	40.5%	303	404	+++	NM	NM	+++
16	SYNTHELABO	F	pharmaceuticals & health care	6,104	10,275	40.5%	138	163	++	++	+	++
17	BRITISH AEROSPACE	UK	industrial goods & engineering	12,009	14,871	40.2%	783	923	+++	++	+++	-
18	VODAFONE	UK	information/communication & telecommunication	42,361	40,061	40.0%	234	277	-	-	+	+++
19	UNOCREDITO ITALIANO	I	banks	23,090	27,810	39.2%	230	340	++	NM	NM	+++
20	SWISS RE	CH	insurance & assurance	32,420	38,220	39.1%	1,203	1,420	+++	NM	NM	++
21	LLOYDS TSB*	UK	banks	65,103	70,021	38.8%	1,112	1,312	+	NM	NM	+++
22	ERICSSON	S	information/communication & telecommunication	30,231	42,749	37.9%	640	1,100	++	++	++	+++
23	SMITHKLINE BEECHAM	UK	pharmaceuticals & health care	65,740	77,073	37.1%	717	840	+++	++	++	-
24	AHOLD	NL	retail	13,720	23,265	35.0%	354	417	+	+	+	+++
25	MANNESMANN	D	conglomerates	38,010	44,509	35.0%	1,204	1,491	++	++	+	+
26	LEGAL & GENERAL	UK	insurance & assurance	13,982	10,485	35.0%	55	77	-	NM	NM	+++
27	COMPASS GROUP	UK	services	6,541	7,716	35.4%	75	88	-	-	+++	+++
28	PORTIS	B	insurance & assurance	24,547	20,663	35.2%	401	509	++	NM	NM	+++
29	SANOFI	F	pharmaceuticals & health care	15,171	17,690	35.2%	197	230	++	++	++	+
30	VNU	NL	media & entertainment	6,000	7,190	34.7%	127	150	+	++	-	+++
31	HEINEKEN	NL	consumer goods	10,080	10,872	33.7%	110	137	++	+	+	+++
32	SKANDIA	S	insurance & assurance	6,060	7,660	32.0%	55	75	-	NM	NM	+++
33	HAYS	UK	services	5,300	7,402	32.4%	130	157	++	+	++	+++
34	RENTOKIL INITIAL	UK	services	10,201	21,470	32.3%	352	490	-	-	+	+++
35	TELEFONICA	E	information/communication & telecommunication	39,645	46,777	31.7%	1,000	1,045	++	++	+	++
36	PROMODES	F	retail	11,054	13,700	31.3%	6	7	-	-	-	+++
37	TELECOM ITALIA	I	information/communication & telecommunication	30,200	40,102	30.0%	3,001	3,000	+	+	+	+
38	KBC	B	banks	19,054	21,540	30.0%	50	62	+	NM	NM	++
39	BANCO SANTANDER	E	banks	19,037	21,494	30.2%	190	230	-	NM	NM	+++
40	BANK OF SCOTLAND	UK	banks	12,442	14,690	29.0%	400	567	+++	NM	NM	+++
41	GRU	UK	automobiles & supply industry	7,007	9,769	29.9%	357	457	+++	+++	++	+++
42	ING GROUP	NI	insurance & assurance	49,090	57,671	29.9%	255	314	+	NM	NM	+++
43	PSB	IT	banks	7,763	9,103	29.9%	307	367	++	NM	NM	+++
44	FINTEC	UK	pharmaceuticals & health care	34,070	61,153	29.9%	251	330	++	++	+	+
45	ZIGGO HOLDING	IS	insurance & assurance	20,543	24,555	29.9%	255	317	++	NM	NM	+++
46	NOVARTIS	CH	pharmaceuticals & health care	103,002	122,143	29.9%	632	1,035	-	-	+	+++
47	TESCO	I	consumer goods	41,020	49,115	29.0%	270	304	-	-	+	+++
48	FRANCHISE 1	IT	retail	14,040	16,577	29.9%	22	26	+	+	+	+++
49	GLAXOSMITHKLINE	UK	pharmaceuticals & health care	105,000	121,980	29.9%	664	1,196	++	+++	+	+++
50	CASINO GIECO (GIECO)	I	retail	6,473	7,637	29.9%	33	46	+	+	+	+++

NM: Not Meaningful
 (1) in million (2) CMA₂₀₁₀ - CMA₂₀₀₉ (3) CAGR₂₀₁₀ - CAGR₂₀₀₉ (4) Cash Flow Margin₂₀₁₀ - Cash Flow Margin₂₀₀₉ (5) Asset Productivity₂₀₁₀ - Asset Productivity₂₀₀₉ (6) Gross Investment₂₀₁₀ / Gross Investment₂₀₀₉
 For banks and insurance companies the following expressions need to be replaced:
 CMA → EVE
 ΔCMA → ΔEVE
 Gross Investment → Equity
 CROI → ROE
 WACC → Cost of Equity

* We have less than five years of data for those companies due to major restructuring or inconsistencies in accounting practices

Rk	Company	Country	Industry	Market Value	Market Value	15R p.w.	CVA	CVA	Relative Importance of Value Drivers			
				(in EURO) ⁽¹⁾	(in US\$) ⁽¹⁾				2018	(in EURO) ⁽²⁾	(in US\$) ⁽²⁾	ΔCVA ⁽³⁾
51	WOLFF KLOTZ	DE	media & entertainment	17,867	15,055	28.9%	734	267	-	+	-	+
52	ROXOLNE	UK	retail	5,138	6,080	28.7%	185	185	+	+	+	+
53	TELECOM	DE	information/communication & telecommunication	21,089	24,890	28.1%	164	240	-	-	-	-
54	ALCANTARA	IT	textiles	6,613	7,805	27.9%	105	207	+	+	-	+
55	BANCA CREDITO ITALIANO	I	banks	11,158	13,215	27.8%	268	265	+	NM	NM	+
56	ITALIANSI	IT	insurance & assurance	5,938	6,367	27.4%	271	319	+	NM	NM	-
57	ANDERSON	UK	retail	6,827	8,191	27.4%	177	149	-	-	-	+
58	BANCO POPOLARE	I	banks	7,124	8,405	26.5%	144	170	++	NM	NM	++
59	UNILEVER	NL	consumer goods	40,024	55,012	26.4%	1,304	1,010	++	+	++	-
60	VOLKSWAGEN	D	automobiles & supply industry	21,010	24,730	26.2%	3,808	4,593	++	++	++	++
61	CARREFOUR	F	retail	24,084	28,470	25.8%	72	85	-	+	-	+++
62	IBERDROLA	E	utilities	14,380	16,074	25.8%	60	81	-	-	-	+
63	ABBAY NATIONAL	UK	banks	25,034	30,128	25.7%	772	911	++	NM	NM	++
64	ELECTROLUX	S	consumer goods	5,210	6,158	25.6%	30	47	-	-	-	+
65	PRUDENTIAL CORP.	UK	insurance & assurance	24,748	29,200	25.5%	384	454	-	NM	NM	+++
66	SANTOLO IMI	I	banks	21,140	24,990	25.2%	584	680	++	NM	NM	+++
67	ROYAL CARIBBEAN CRUISES	N	air, transportation & tourism	5,201	6,190	24.8%	10	10	-	++	-	+++
68	AXA	F	insurance & assurance	42,727	50,414	24.8%	708	942	++	NM	NM	+++
69	TESCO	UK	retail	15,021	18,808	23.8%	78	92	-	-	++	++
70	EDISON	I	utilities	6,375	7,522	23.7%	147	174	+	-	-	+++
71	COMIT	I	banks	10,500	12,308	23.6%	380	450	++	NM	NM	++
72	ALUSTRASSE	CH	industrial goods & engineering	6,183	7,205	23.4%	257	304	++	++	+	++
73	ARCENTARIA	E	banks	10,829	12,770	23.2%	240	290	++	NM	NM	+
74	ELECTRABEL	B	utilities	20,380	24,005	23.1%	13	16	+	+	-	+
75	ROYALE BELGE	B	insurance & assurance	5,013	6,005	22.7%	415	488	+++	NM	NM	++
76	BRITISH TELECOM	UK	information/communication & telecommunication	62,080	66,667	22.6%	1,170	1,300	++	++	+	-
77	ROCHE	CH	pharmaceuticals & health care	72,020	80,040	22.6%	200	230	-	-	+	+++
78	ABN AMRO	NL	banks	25,035	30,402	21.8%	607	707	++	NM	NM	++
79	HYPOVEREINSBANK	D	banks	25,785	30,430	21.7%	1,030	1,220	+++	NM	NM	+++
80	PIRELLI	I	automobiles & supply industry	5,162	6,110	21.3%	352	415	++	++	+	-
81	CENTRO COMMERCIAL ITALIANO	E	retail	5,005	6,005	21.2%	-45	04	-	+	-	+++
82	NOVO NORDISK	DK	pharmaceuticals & health care	7,234	8,000	21.2%	105	104	+	++	-	++
83	DEN DANSKE BANK	DK	banks	6,072	7,104	21.1%	150	107	-	NM	NM	++
84	THAMES WATER	UK	utilities	5,630	6,643	21.1%	139	157	+	++	-	++
85	UNILEVER	UK	consumer goods	35,030	40,300	20.7%	1,149	1,340	+++	++	+++	-
86	MUNICH RE	D	insurance & assurance	35,082	42,073	20.6%	200	247	++	NM	NM	+++
87	ROYAL BANK OF CANADA	UK	banks	11,782	13,813	20.6%	644	700	+++	NM	NM	++
88	STANDARD CHARTERED	UK	banks	6,771	11,020	20.6%	108	160	-	NM	NM	+++
89	NESTLE	CH	consumer goods	73,005	85,100	20.6%	835	1,007	+	+	+	+
90	BMW	D	automobiles & supply industry	15,071	18,090	19.8%	547	645	+	+	+	+
91	AMGEN	IT	pharmaceuticals & health care	33,351	37,434	19.7%	580	695	-	-	-	+
92	ICI	IT	chemicals	20,770	24,510	19.6%	1,400	1,697	+	+	+	+
93	CARREFOUR	UK	consumer goods	14,678	17,365	19.5%	202	230	+	+	+	+
94	ACCOR	I	travel, transportation & tourism	6,675	7,516	19.5%	61	107	-	-	-	+
95	BANCA APULIA	UK	banks	37,655	43,344	19.3%	1,230	1,457	+	NM	NM	++
96	ENEL	I	utilities	21,577	25,455	19.2%	1,370	1,630	-	+	+	+
97	ICI	IT	chemicals	20,080	24,080	19.1%	1,040	1,250	+	+	+	+
98	GENIUM	I	insurance & assurance	36,541	41,134	19.0%	730	865	+	NM	NM	++
99	ALLIANZ	IT	insurance & assurance	36,844	41,185	19.0%	537	615	+	NM	NM	++
100	NATIONAL WESTMINSTER	UK	banks	37,580	43,587	19.0%	1,200	1,430	+	NM	NM	++

NM: Not Meaningful
 (1) In million
 (2) CVA₂₀₁₈ - CVA₂₀₁₇
 (3) CROI₂₀₁₈ - CROI₂₀₁₇
 (4) Cash Flow Margin₂₀₁₈ - Cash Flow Margin₂₀₁₇
 (5) Asset Productivity₂₀₁₈ - Asset Productivity₂₀₁₇
 (6) Gross Investment₂₀₁₈ / Gross Investment₂₀₁₇
 For banks and insurance companies the following expressions need to be replaced:
 CVA → AVE
 ΔCVA → ΔAVE
 Gross Investment → Equity
 CROI → ROE
 WACC → Cost of Equity

* We have less than five years of data for those companies due to major restructuring or inconsistencies in accounting practices

Top 10 Performers by Industry

AUTOMOBILES AND SUPPLY INDUSTRY

Rk	Company	Country	Market Value	Market Value	ESR p.a.	ΔCVA	ΔCVA	Relative Importance of Value Drivers			
			(in EURO) ⁽¹⁾	(in US\$) ⁽¹⁾				31/12/88	31/12/88	84-88	ΔCROI ⁽²⁾
1	GM	UK	7,367	8,388	19.8%	857	857	++	++	+	-
2	TOYOTA MOTOR	USA	58,875	68,871	27.2%	4,615	5,443	+	+	-	+
3	VOLKSWAGEN	D	21,050	24,780	26.2%	3,785	4,880	+	+	+	+
4	FORD	USA	5,187	6,115	21.3%	367	415	+	+	+	-
5	HONDA MOTOR	JP	27,018	31,877	20.3%	3,071	2,268	+	+	+	+
6	BMW	D	15,301	18,888	18.8%	547	845	+	+	+	++
7	VOLVO	SE	5,318	8,883	17.3%	605	714	++	++	+	+
8	BRIDGESTONE	JP	10,014	18,805	15.7%	807	952	++	++	+	+
9	VALEO	F	5,030	6,532	13.0%	65	77	+	-	+	+++
10	TRW	USA	5,001	6,715	12.0%	67	79	+	-	+	++

(1) In million (2) $\frac{CVA_{2008} - CVA_{1988}}{CVA_{1988}}$ (3) $\frac{Cash\ Flow\ Margin_{2008} - Cash\ Flow\ Margin_{1988}}{Cash\ Flow\ Margin_{1988}}$
 (4) $\frac{Asset\ Productivity_{2008} - Asset\ Productivity_{1988}}{Asset\ Productivity_{1988}}$ (5) $\frac{Gross\ Investment_{2008} - Gross\ Investment_{1988}}{Gross\ Investment_{1988}}$

BANKS

Rk	Company	Country	Market Value	Market Value	ESR p.a.	DAVE	DAVE	Relative Importance of Value Drivers	
			(in EURO) ⁽¹⁾	(in US\$) ⁽¹⁾				84-88	84-88
1	CITIBANK	USA	19,087	27,505	64.7%	154	158	-	+++
2	JP MORGAN	USA	17,158	20,747	55.3%	-107	-170	-	++
3	BANQUE PARIBAS	F	27,516	20,790	48.7%	815	781	+	++
4	BANK OF AMERICA	USA	25,585	20,804	45.7%	497	588	+	++
5	MIRVA CLAY COMPANY	USA	15,815	18,885	44.2%	184	458	+	+++
6	BANCA IMI SPA	I	11,401	13,457	43.1%	270	319	+	+++
7	FREDDIE MAC	USA	37,005	49,007	40.0%	424	500	-	+++
8	ROLO BANCA 1473	I	10,000	11,870	40.5%	303	404	+++	+++
9	UNICREDITO ITALIANO	I	23,505	27,810	39.2%	290	340	++	+++
10	LLOYDS TSB	UK	65,153	70,021	38.8%	1,117	1,312	+	+++

(1) In million (2) $\frac{ROE_{2008} - ROE_{1988}}{ROE_{1988}}$ (3) $\frac{EQUITY_{2008} - EQUITY_{1988}}{EQUITY_{1988}}$
 (4) $\frac{EQUITY_{2008} - EQUITY_{1988}}{EQUITY_{1988}}$
 * We have less than five years of data for these companies due to major restructuring or independence in accounting practices.

CHEMICALS

Rk	Company	Country	Market Value	Market Value	ESR p.a.	ΔCVA	ΔCVA	Relative Importance of Value Drivers			
			(in EURO) ⁽¹⁾	(in US\$) ⁽¹⁾				31/12/88	31/12/88	84-88	ΔCROI ⁽²⁾
1	MONSIEUR	USA	24,204	28,888	33.8%	165	268	+	+	+	-
2	DUPONT & CO INC	USA	50,845	54,758	20.2%	-117	-137	+	+	-	+
3	DUPONT	D	20,773	24,510	18.8%	1,405	1,887	+	+	+	-
4	IFF	D	20,287	24,081	18.1%	1,015	1,292	+	+	-	+
5	IFF	D	25,971	30,803	18.8%	1,067	1,288	+	+	+	+
6	AKZO NOBEL	NL	11,070	13,081	18.3%	435	514	+	+	+	+
7	EXXON	USA	5,388	8,388	15.7%	457	531	++	++	+	-
8	AIR PRODUCTS & CHEMICALS	USA	7,770	9,174	14.7%	100	188	++	++	+	++
9	DOW CHEMICALS	USA	17,064	20,133	14.2%	-34	-41	+	++	-	+
10	AIR LIQUIDE	F	12,957	15,288	12.4%	70	83	+	+	+	++

(1) In million (2) $\frac{CVA_{2008} - CVA_{1988}}{CVA_{1988}}$ (3) $\frac{Cash\ Flow\ Margin_{2008} - Cash\ Flow\ Margin_{1988}}{Cash\ Flow\ Margin_{1988}}$
 (4) $\frac{Asset\ Productivity_{2008} - Asset\ Productivity_{1988}}{Asset\ Productivity_{1988}}$ (5) $\frac{Gross\ Investment_{2008} - Gross\ Investment_{1988}}{Gross\ Investment_{1988}}$

CONGLOMERATES

Rk	Company	Country	Market Value	Market Value	EBIT p.c.	ΔCVA	ΔCVA	Relative Importance of Value Drivers				
			(In EURO) ⁽¹⁾	(In US\$) ⁽¹⁾				2018	(in EUR) ⁽²⁾	(in US\$) ⁽²⁾	ΔCFOI ⁽³⁾	ΔCash-Flow Margin ⁽⁴⁾
			31/12/88	31/12/80								
1	MANN SMANN	D	35,019	44,864	38.2%	1,764	1,491	+	+	-	-	
2	CELESTIAL (111) (110)	USA	285,348	354,377	34.1%	3,365	4,876	+	+	-	-	
3	UNITED TECHNOLOGIES	USA	20,819	24,566	31.3%	870	869	+	+	-	-	
4	ELI LILLY	USA	10,200	12,024	25.7%	265	301	+	-	+	-	
5	ALCANTARA	USA	21,034	24,854	18.4%	494	580	+	+	-	+	
6	3M / LYONNAIN DES BREVES	F	25,768	30,364	18.2%	205	276	-	+	-	+	
7	VIVINI	F	35,167	41,478	11.7%	365	417	++	+	-	+	
8	VIAGG	D	13,245	15,627	16.0%	150	177	+	++	-	+++	
9	WALMART	D	25,457	30,037	10.4%	414	488	+	-	-	+	
10	COLEMAN	USA	8,810	10,405	16.1%	210	248	++	+++	-	+	

(1) In million (2) Cash Flow Margin₂₀₁₈ - Cash Flow Margin₂₀₁₈
 (3) CVA₂₀₁₈ - CVA₂₀₁₈ (4) Asset Productivity₂₀₁₈ - Asset Productivity₂₀₁₈
 (5) ΔCFOI₂₀₁₈ - ΔCFOI₂₀₁₈ (6) Gross Investment₂₀₁₈ / Gross Investment₂₀₁₈

CONSUMER GOODS

Rk	Company	Country	Market Value	Market Value	EBIT p.c.	ΔCVA	ΔCVA	Relative Importance of Value Drivers				
			(In EURO) ⁽¹⁾	(In US\$) ⁽¹⁾				2018	(in EUR) ⁽²⁾	(in US\$) ⁽²⁾	ΔCFOI ⁽³⁾	ΔCash-Flow Margin ⁽⁴⁾
			31/12/88	31/12/80								
1	COLESON	USA	10,267	12,038	37.4%	139	164	+	+	-	+	
2	HEINZ	NL	18,080	18,877	25.7%	118	137	-	+	-	+	
3	UNILEVER	F	41,859	46,116	28.3%	279	379	-	-	-	+	
4	FRUIT & VEGETABLES	USA	110,475	130,288	28.2%	2,627	3,100	+	+	-	+	
5	UNILEVER (111) & (110)	USA	107,710	121,167	26.6%	1,527	1,807	+	+	-	+	
6	COLESON	USA	44,865	53,067	27.7%	500	604	+	+	-	+	
7	COLESON (111) & (110)	USA	25,064	27,201	27.1%	347	410	++	++	-	+	
8	UNILEVER	NL	40,024	55,012	26.4%	1,304	1,010	++	+	++	-	
9	COCA COLA	USA	140,015	165,204	20.1%	797	875	-	++	-	++	
10	CAMPBELL SOUP	USA	20,720	24,458	25.5%	419	454	+++	++	++	-	

(1) In million (2) Cash Flow Margin₂₀₁₈ - Cash Flow Margin₂₀₁₈
 (3) CVA₂₀₁₈ - CVA₂₀₁₈ (4) Asset Productivity₂₀₁₈ - Asset Productivity₂₀₁₈
 (5) ΔCFOI₂₀₁₈ - ΔCFOI₂₀₁₈ (6) Gross Investment₂₀₁₈ / Gross Investment₂₀₁₈

INDUSTRIAL GOODS AND ENGINEERING

Rk	Company	Country	Market Value	Market Value	EBIT p.c.	ΔCVA	ΔCVA	Relative Importance of Value Drivers				
			(In EURO) ⁽¹⁾	(In US\$) ⁽¹⁾				2018	(in EUR) ⁽²⁾	(in US\$) ⁽²⁾	ΔCFOI ⁽³⁾	ΔCash-Flow Margin ⁽⁴⁾
			31/12/88	31/12/80								
1	ALCANTARA	USA	5,860	8,860	34.5%	-164	-311	-	-	+	+	
2	YALU	USA	41,387	48,845	30.3%	407	474	+	+	-	+	
3	FRUIT & VEGETABLES	USA	17,825	19,871	30.2%	785	875	+++	++	+	-	
4	BOMBARDIER	CH	6,128	7,231	34.7%	-21	-25	-	+	-	+++	
5	WES	USA	7,242	8,544	33.1%	-108	-233	-	-	-	+++	
6	WASTE MANAGEMENT (111) (110) (110)	USA	22,703	20,787	32.0%	708	906	+	-	+	+++	
7	LOWE'S COMPANIES INC	USA	15,905	18,058	28.7%	252	257	++	++	-	+++	
8	ILLINOIS TOOL WORKS	USA	12,255	14,507	25.8%	238	260	+	++	-	+++	
9	GENERAL DYNAMICS	USA	6,938	7,478	23.8%	200	236	+++	+	+++	-	
10	ALCANTARA	CH	6,183	7,205	23.4%	257	304	++	++	+	++	

(1) In million (2) Cash Flow Margin₂₀₁₈ - Cash Flow Margin₂₀₁₈
 (3) CVA₂₀₁₈ - CVA₂₀₁₈ (4) Asset Productivity₂₀₁₈ - Asset Productivity₂₀₁₈
 (5) ΔCFOI₂₀₁₈ - ΔCFOI₂₀₁₈ (6) Gross Investment₂₀₁₈ / Gross Investment₂₀₁₈

INFORMATION/COMMUNICATION AND TELECOMMUNICATIONS

Rk	Company	Country	Market Value	Market Value	ISIF p.w.	vCVA	vCVA	Relative Importance of Value Drivers			
			(in EURO) ⁽¹⁾	(in US\$) ⁽¹⁾				31/12/88	31/12/88	31-88	94-88
1	TELTEL	USA	75,596	58,137	140.9%	1,085	1,284	+++	++	+++	+++
2	SAI*	D	17,381	21,228	30.8%	495	525	+++	-	+++	+++
3	NOKIA	FIN	45,667	57,495	79.8%	1,225	2,168	+++	+++	+++	++
4	MICROSOFT	USA	293,173	345,014	68.0%	2,125	2,570	-	++	-	+++
5	CISCO SYSTEMS	USA	124,241	140,502	60.8%	604	712	-	-	-	+++
6	COMPAQ	USA	12,170	14,900	64.4%	220	267	+++	++	++	+++
7	SUN MICROSYSTEMS	USA	27,020	32,500	63.7%	404	548	++	++	++	+++
8	TELECOM	USA	11,203	13,325	63.3%	225	265	+++	+++	+	+++
9	EMC CORPORATION	USA	98,162	42,008	50.4%	970	493	++	++	-	+++
10	COMPAQ	USA	60,520	71,418	53.0%	1,368	-1,600	-	-	-	+++

(1) In million (2) CVA₈₈ - CVA₈₉ (3) Cash Flow Margin₈₈ - Cash Flow Margin₈₉
(4) CROI₈₈ - CROI₈₉ (5) Annual Productivity₈₈ - Annual Productivity₈₉
(6) CROI₈₈ - CROI₈₉ (7) Gross Investment₈₈ / Gross Investment₈₉

INSURANCE AND ASSURANCE

Rk	Company	Country	Market Value	Market Value	ISIF p.w.	DAVE	DAVE	Relative Importance of Value Drivers	
			(in EURO) ⁽¹⁾	(in US\$) ⁽¹⁾				31/12/88	31/12/88
1	ALLIANCE	FR	81,084	73,973	68.2%	521	615	++	+++
2	SWISS LIFE	CH	27,428	28,759	58.1%	1,205	1,420	+++	++
3	LEGAL & GENERAL	UK	15,567	18,495	58.8%	75	77	-	+++
4	LORENZ	IT	24,547	28,585	58.2%	431	504	++	+++
5	PRUDENTIAL INSURANCE CO. OF AMERICA	USA	10,409	12,291	53.7%	70	88	-	+++
6	CIGNA	USA	13,533	15,008	53.0%	605	1,021	+++	++
7	AMERICAN INTERNATIONAL GROUP	USA	60,008	101,478	50.5%	670	1,102	++	+++
8	ING GROEP	NL	40,000	57,021	29.0%	260	314	+	+++
9	ZURICH ALIED	CH	20,543	34,858	29.5%	265	312	++	+++
10	AMERICAN GENERAL CORPORATION	USA	16,607	10,605	20.4%	301	354	++	+++

(1) In million (2) ΔCROI₈₈ - ΔCROI₈₉
(3) ΔEQUITY₈₈ - ΔEQUITY₈₉
(4) ΔEQUITY₈₈ - ΔEQUITY₈₉

MEDIA AND ENTERTAINMENT

Rk	Company	Country	Market Value	Market Value	ISIF p.w.	vCVA	vCVA	Relative Importance of Value Drivers			
			(in EURO) ⁽¹⁾	(in US\$) ⁽¹⁾				31/12/88	31/12/88	31-88	94-88
1	AMERICA ONLINE	USA	60,240	71,088	143.1%	140	170	++	++	+	+++
2	CLEAR CHANNEL COMMUNICATIONS	USA	12,172	14,902	69.0%	75	88	-	++	-	+++
3	CHANCELLOR MEDIA	USA	5,788	8,820	51.0%	-88	-110	-	-	-	+++
4	VNU	NL	6,000	7,100	64.7%	127	150	+	++	-	+++
5	WOLTERS KLUWER	NL	12,762	15,008	28.3%	219	282	-	++	-	+++
6	MORRIS HILL CO.	USA	8,408	10,027	28.2%	167	197	++	+	++	+
7	NEW YORK TIMES	USA	5,938	8,208	23.0%	207	280	+++	+++	+	++
8	TELECOMMUNICATIONS INTERNATIONAL	USA	22,204	20,138	21.5%	53	62	-	-	+	++
9	THOMSON	FR	12,067	14,238	21.0%	3	3	++	++	+++	+
10	COMCAST SPECIAL	USA	10,351	10,202	20.1%	-439	-518	-	-	+	+++

(1) In million (2) CVA₈₈ - CVA₈₉ (3) Cash Flow Margin₈₈ - Cash Flow Margin₈₉
(4) CROI₈₈ - CROI₈₉ (5) Annual Productivity₈₈ - Annual Productivity₈₉
(6) CROI₈₈ - CROI₈₉ (7) Gross Investment₈₈ / Gross Investment₈₉

PHARMACEUTICALS AND HEALTH CARE

Rk	Company	Country	Market Value	Market Value	EBIT p.c.	vCVA	vCVA	Relative Importance of Value Drivers			
			(in EURO) ⁽¹⁾	(in US\$) ⁽¹⁾				2018	2019	2020	2021
1	NOVARTIS	USA	151,505	167,266	51.7%	785	868	++	++	-	+++
2	WALGREENS BOJALI	USA	57,267	61,775	49.5%	611	638	++	++	++	++
3	MR. DRUGSTORE	USA	30,616	38,981	49.5%	765	907	++	++	+	+++
4	BOEHRING-INGELHEIM	USA	68,834	81,217	48.3%	717	840	++	++	++	++
5	ELI LILLY	USA	82,855	97,701	40.7%	616	1,084	+++	++	++	-
6	BRISTOL MYERS SQUIBB	USA	112,710	132,980	40.3%	1,208	1,425	++	+	++	+
7	SMITHKLINE BEECHAM	UK	65,740	77,573	37.1%	717	840	+++	++	++	-
8	MERCK	USA	148,093	175,720	36.0%	1,080	2,337	++	-	++	++
9	CARDINAL HEALTH	USA	12,012	15,234	35.3%	195	190	++	+	-	+++
10	SANOFI	F	15,171	17,500	35.2%	187	233	++	++	++	-

(1) In million (2) CVA₂₀₁₈ CVA₂₀₁₉ (3) Cash Flow Margin₂₀₁₈ Cash Flow Margin₂₀₁₉ (4) Asset Productivity₂₀₁₈ Asset Productivity₂₀₁₉ (5) C1 I&D₂₀₁₈ C1 I&D₂₀₁₉ (6) Gross Investment₂₀₁₈ / Gross Investment₂₀₁₉

RETAIL

Rk	Company	Country	Market Value	Market Value	EBIT p.c.	vCVA	vCVA	Relative Importance of Value Drivers			
			(in EURO) ⁽¹⁾	(in US\$) ⁽¹⁾				2018	2019	2020	2021
1	H&M	D	14,380	10,074	60.2%	147	174	++	++	-	+++
2	SAFEWAY	USA	25,117	20,035	62.0%	517	610	++	++	++	++
3	STAPLES	USA	11,381	13,420	54.0%	127	150	++	-	++	+++
4	RITE AID	USA	10,001	12,809	47.5%	11	13	+	+	-	+++
5	CVS	USA	27,169	32,000	46.3%	475	500	++	++	++	+++
6	FINAULT PRINTemps	F	10,121	22,501	45.6%	310	370	++	+	++	++
7	WALGREENS	USA	24,730	20,213	43.5%	209	247	+	+	+	+++
8	KROGER	USA	13,141	15,505	43.2%	232	274	++	+	-	++
9	DAYTON-HUDSON	USA	20,274	23,021	39.7%	500	597	++	+	++	++
10	AHOLD	NL	10,720	23,208	39.5%	354	417	+	+	-	+++

(1) In million (2) CVA₂₀₁₈ CVA₂₀₁₉ (3) Cash Flow Margin₂₀₁₈ Cash Flow Margin₂₀₁₉ (4) Asset Productivity₂₀₁₈ Asset Productivity₂₀₁₉ (5) C1 I&D₂₀₁₈ C1 I&D₂₀₁₉ (6) Gross Investment₂₀₁₈ / Gross Investment₂₀₁₉

SERVICES

Rk	Company	Country	Market Value	Market Value	EBIT p.c.	vCVA	vCVA	Relative Importance of Value Drivers			
			(in EURO) ⁽¹⁾	(in US\$) ⁽¹⁾				2018	2019	2020	2021
1	IBM CORP.	USA	5,769	8,767	48.3%	61	68	++	+	+	+++
2	SCOR GLOBAL SERVICES	F	6,572	7,516	40.5%	135	150	-	+	-	+++
3	COMMERCE FIRST	UK	6,541	7,714	38.4%	75	88	-	-	+++	+++
4	CINTAS	USA	6,272	7,400	33.6%	47	50	+	+	+	+++
5	HAYS	UK	6,950	7,402	32.4%	133	157	++	-	++	+++
6	RENTOKIL INITIAL	UK	18,201	21,470	32.3%	352	410	-	-	-	+++
7	INTERPUBLIC	USA	6,900	11,087	32.0%	209	247	++	++	++	++
8	ADECO	CH	6,013	7,809	27.0%	705	832	+++	+++	-	+++
9	SERVICEMASTER	USA	5,501	6,501	25.7%	102	120	+	+	-	+++
10	SERVICE CORP.	USA	8,321	9,818	25.2%	50	70	-	-	+	+++

(1) In million (2) CVA₂₀₁₈ CVA₂₀₁₉ (3) Cash Flow Margin₂₀₁₈ Cash Flow Margin₂₀₁₉ (4) Asset Productivity₂₀₁₈ Asset Productivity₂₀₁₉ (5) C1 I&D₂₀₁₈ C1 I&D₂₀₁₉ (6) Gross Investment₂₀₁₈ / Gross Investment₂₀₁₉

TRAVEL, TRANSPORTATION AND TOURISM

Rk	Company	Country	Market Value	Market Value	EBIT % ⁽¹⁾	ΔCVA	ΔCVA	Relative Importance of Value Drivers			
			(in EURO) ⁽²⁾	(in US\$) ⁽³⁾				2018	2019	2020	2021
1	CARNIVAL	USA	21,779	28,567	33.3%	507	567	+	+++	-	+++
2	US AIRWAYS	USA	5,865	6,598	37.7%	657	767	+	+++	+	+
3	ALITALIA	I	4,677	5,751	30.1%	417	475	++	++	-	+
4	KUON REISEN	CH	1,013	1,105	27.0%	45	53	+++	+	+++	-
5	CONTINENTAL AIRLINES	USA	1,907	1,013	20.7%	700	307	+++	+++	-	++
6	ROYAL CARIBBEAN CRUISES	N	5,201	6,130	24.0%	10	10	-	++	-	+++
7	ACCOR	F	6,025	7,810	10.0%	91	107	+	+	+	-
8	LUFTHANSA	D	7,180	8,472	18.3%	543	640	++	++	+	+
9	SWIRE GROUP	CH	2,440	2,870	17.2%	434	512	++	++	++	-
10	DELTA AIR LINES	USA	6,205	7,427	14.0%	1,238	1,400	++	+++	+	-

(1) In millions (2) CVA₂₀₁₈ - CVA₂₀₁₉ (3) CVA₂₀₁₈ - CVA₂₀₁₉ (4) Cash Flow Margin₂₀₁₈ - Cash Flow Margin₂₀₁₉ (5) Asset Productivity₂₀₁₈ - Asset Productivity₂₀₁₉ (6) Δ ICM₂₀₁₈ - Δ ICM₂₀₁₉ (7) Gross Investment₂₀₁₈ / Gross Investment₂₀₁₉

UTILITIES

Rk	Company	Country	Market Value	Market Value	EBIT % ⁽¹⁾	ΔCVA	ΔCVA	Relative Importance of Value Drivers			
			(in EURO) ⁽²⁾	(in US\$) ⁽³⁾				2018	2019	2020	2021
1	GAS NATURALI	I	15,890	18,363	49.8%	-75	-30	-	-	-	+++
2	WILLIAMS-SOVIETANI S.P.A.	USA	11,310	13,345	34.4%	-169	-176	-	-	+	+++
3	ENERGIE ILLIUM	IS	14,049	16,577	28.3%	-77	-76	+	-	+	++
4	IBERDROLA	E	14,380	10,074	25.8%	90	81	-	-	-	+
5	EDISON	I	6,375	7,522	23.7%	147	174	+	-	+	+++
6	ELECTRABEL	B	20,300	24,058	23.1%	13	10	+	+	-	+
7	COASTAL	USA	6,922	7,450	21.2%	203	247	++	++	-	+
8	THAMES WATER	UK	5,030	6,643	21.1%	133	157	+	++	-	++
9	ENDESA	E	21,577	25,408	10.2%	-1,373	-1,620	-	++	-	+++
10	CONSOLIDATED EDISON INC.	USA	10,452	12,333	17.0%	38	44	+	-	+	-

(1) In millions (2) CVA₂₀₁₈ - CVA₂₀₁₉ (3) CVA₂₀₁₈ - CVA₂₀₁₉ (4) Cash Flow Margin₂₀₁₈ - Cash Flow Margin₂₀₁₉ (5) Asset Productivity₂₀₁₈ - Asset Productivity₂₀₁₉ (6) Δ ICM₂₀₁₈ - Δ ICM₂₀₁₉ (7) Gross Investment₂₀₁₈ / Gross Investment₂₀₁₉

Top 10 Performers by Country

AUSTRALIA

Rk	Company	Industry	Market Value	Market Value	15M p.a.	CVA	CVA	Relative Importance of Value Drivers					
			(in EURO) ⁽¹⁾	(in US\$) ⁽¹⁾				(in EURO) ⁽²⁾	(in US\$) ⁽²⁾	ΔCFM ⁽³⁾	ΔCash Flow Margin ⁽³⁾	ΔAsset Productivity ⁽³⁾	Gross Investment Growth ⁽³⁾
			31/12/88	31/12/88	84-88								
1	HAIRBY NORMAN	retail	1,303	1,303	49.8%	10	17	+	-	+	+++		
2	WESTFIELD	services	2,220	2,010	30.3%	20	23	+++	-	+++	-		
3	BRAMBLES	services	4,700	5,050	20.0%	20	31	+	-	+	+		
4	COMMONWEALTH BANK OF AUSTRALIA	banks	11,340	13,301	28.0%	371	438	++	NM	NM	+		
5	SUNCORP-METWAY	banks	1,201	1,417	28.0%	75	80	++	NM	NM	+++		
6	THE AUSTRALIAN GAS LIGHT COMPANY	utilities	2,007	2,308	20.4%	20	31	+	++	-	+++		
7	LEND LEASE COURT	services	5,788	6,820	24.8%	-4	-4	-	-	++	+++		
8	WESTYAC BANK	banks	10,778	12,717	23.3%	685	800	+++	NM	NM	+		
9	AUSTRALIA & NEW ZEALAND BANKING GROUP	banks	8,025	10,170	22.7%	302	402	++	NM	NM	++		
10	NATIONAL AUSTRALIA BANK	banks	10,673	22,002	21.0%	300	304	+	NM	NM	+++		

AUSTRIA

Rk	Company	Industry	Market Value	Market Value	15M p.a.	CVA	CVA	Relative Importance of Value Drivers				
			(in EURO) ⁽¹⁾	(in US\$) ⁽¹⁾				(in EURO) ⁽²⁾	(in US\$) ⁽²⁾	ΔCFM ⁽³⁾	ΔCash Flow Margin ⁽³⁾	ΔAsset Productivity ⁽³⁾
			31/12/88	31/12/88	84-88							
1	SPAR (A)	retail	275	205	55.0%	25	21	++	+++	+	++	
2	ÖSTERREICHISCHE ELEKTROTECHNISCHE INDUSTRIE	utilities	1,887	1,887	21.8%	418	383	-	-	-	+	
3	AUSTRIAN AIRLINES	travel, transportation & tourism	241	605	19.2%	63	53	++	++	+	++	
4	INW	industrial goods & engineering	312	244	16.8%	2	2	-	-	-	+++	
5	EVN	utilities	1,375	1,185	8.8%	33	33	-	-	+	+	
6	OMV	retails	2,188	1,805	8.8%	255	218	+	++	+	-	
7	VAI	industrial goods & engineering	172	195	6.2%	2	8	+	++	-	+++	
8	FLUCHAFEN WIEN	services	601	580	2.1%	8	7	-	-	-	++	
9	BEAC	consumer goods	421	390	1.0%	0	5	-	-	-	+	
10	AUSTRIA MIKRO SYSTEME	information/communication & telecommunication	50	81	-1.4%	18	10	-	-	-	-	

BELGIUM

Rk	Company	Industry	Market Value	Market Value	15M p.a.	CVA	CVA	Relative Importance of Value Drivers				
			(in EURO) ⁽¹⁾	(in US\$) ⁽¹⁾				(in EURO) ⁽²⁾	(in US\$) ⁽²⁾	ΔCFM ⁽³⁾	ΔCash Flow Margin ⁽³⁾	ΔAsset Productivity ⁽³⁾
			31/12/88	31/12/88	84-88							
1	LIJN (A)	retails	2,508	3,085	85.8%	167	220	+++	+++	-	-	
2	UCB	pharmaceuticals & health care	7,008	9,047	53.7%	177	200	+++	+++	+	+	
3	COLORANT	retail	2,788	3,280	38.2%	20	23	++	-	++	+	
4	FORTIS	insurance & securities	24,547	28,003	30.2%	431	500	++	NM	NM	+++	
5	BARCO	information/communication & telecommunication	2,095	3,400	35.0%	64	70	++	++	++	+++	
6	KBC	banks	10,084	23,580	30.0%	60	82	+	NM	NM	++	
7	TRACTEBEL	retails	14,040	10,577	28.0%	-22	-20	+	-	+	++	
8	ELECTRABEL	utilities	20,300	24,058	23.1%	13	10	+	+	-	+	
9	ROYALE BELGE	insurance & securities	5,513	6,505	22.7%	415	480	+++	NM	NM	++	
10	TESSENDERLO	retails	1,434	1,002	21.7%	0	11	+	-	+	++	

NM: Not Meaningful

(1) in million

(2) CVA₂₀₀₀ - CVA₁₉₉₉

(3) ΔCFM₂₀₀₀ / CFM₁₉₉₉

(4) Cash Flow Margin₂₀₀₀ - Cash Flow Margin₁₉₉₉

(5) Asset Productivity₂₀₀₀ - Asset Productivity₁₉₉₉

(6) Gross Investment₂₀₀₀ / Gross Investment₁₉₉₉

For banks and insurance companies the following expressions need to be replaced:

CVA → AVE

ΔCVA → ΔAVE

Line Investment → Equity

LI INCL → INCL

WALOC → Cost of Equity

* We have less than five years of data for these companies due to major restructuring or inconsistencies in accounting practices

FRANCE

Rk	Company	Industry	Market Value	Market Value	ISK pos.	ΔCVA	ΔCVA	Relative Importance of Value Drivers			
			(in EURO) ⁽¹⁾	(in US\$) ⁽¹⁾				31/12/88	31/12/88	94-98	(in EURO) ⁽²⁾
1	ALCANTARA HOLDINGS INTERNATIONAL	services	2,116	2,350	65.1%	18	37	+++	+	+	+++
2	ATOS	information/communication & telecommunication	2,160	2,548	40.2%	48	57	+++	++	+++	+++
3	FINAULT PRINTING	total	10,121	22,501	40.0%	310	370	++	+	++	++
4	CAP Gemini	information/communication & telecommunication	3,430	11,120	41.1%	110	140	++	+	+++	++
5	BOEHRER ALLIANCE	services	6,372	7,518	40.0%	130	150	-	+	-	+++
6	SYNTHELABO	Pharmaceuticals & health care	8,700	10,275	40.0%	138	163	++	++	+	++
7	DASSAULT AVIATION	industrial goods & engineering	1,790	2,075	30.0%	200	247	+++	++	+++	-
8	SANOFI	pharmaceuticals & health care	15,171	17,000	35.2%	107	232	++	++	++	-
9	PROMODES	total	11,084	13,785	31.3%	0	7	-	-	-	+++
10	L'OREAL	consumer goods	41,020	48,116	20.7%	270	320	-	-	-	+++

GERMANY

Rk	Company	Industry	Market Value	Market Value	ISK pos.	ΔCVA	ΔCVA	Relative Importance of Value Drivers			
			(in EURO) ⁽¹⁾	(in US\$) ⁽¹⁾				31/12/88	31/12/88	94-98	(in EURO) ⁽²⁾
1	VIAI	information/communication & telecommunication	1,361	21,356	90.8%	46	505	+++	-	+++	+++
2	MLP	services	1,010	1,507	64.3%	50	100	+++	+++	++	+++
3	PORSCHE	automobile & supply industry	1,700	2,005	30.8%	201	308	+++	+++	++	+
4	MANNESMANN	computerware	38,010	44,650	30.8%	1,204	1,401	++	++	+	+
5	VOLKSWAGEN	automobile & supply industry	21,010	24,750	20.2%	3,808	4,503	++	++	++	++
6	BEIERSDORF	consumer goods	4,030	5,828	23.0%	01	72	+	-	++	+
7	HYPOVEREINSBANK	banks	25,750	30,430	21.7%	1,030	1,220	+++	NM	NM	+++
8	MUNICH RE	insurance & reinsurance	30,082	42,573	20.0%	200	247	++	NM	NM	+++
9	HENKEL	consumer goods	4,024	5,338	20.0%	378	440	++	+	+	++
10	GEHE	total	4,290	5,005	20.0%	70	80	-	-	+++	+++

ITALY

Rk	Company	Industry	Market Value	Market Value	ISK pos.	ΔCVA	ΔCVA	Relative Importance of Value Drivers			
			(in EURO) ⁽¹⁾	(in US\$) ⁽¹⁾				31/12/88	31/12/88	94-98	(in EURO) ⁽²⁾
1	BANCA FIDURAM	banks	5,544	6,541	50.7%	110	140	+++	NM	NM	+++
2	BANCA POPOLARE BRESCIA	banks	2,411	2,845	43.3%	65	77	++	NM	NM	+++
3	BANCA INTESA	banks	11,401	13,452	43.1%	270	310	++	NM	NM	+++
4	ROLO BANCA 1473	banks	10,090	11,870	40.0%	303	404	+++	NM	NM	+++
5	UNICREDITO ITALIANO	banks	23,590	27,810	30.2%	200	340	++	NM	NM	+++
6	SONDEL	utilities	1,010	1,203	33.4%	23	27	+	-	-	+++
7	TELECOM ITALIA	information/communication & telecommunication	38,238	45,152	30.8%	3,051	3,000	+	-	-	+
8	ALITALIA	transp. transportation & tourism	4,877	5,754	30.1%	402	475	++	++	-	+
9	BANCA LOMBARDA	banks	1,448	1,700	20.1%	51	61	++	NM	NM	+++
10	SAN PAOLO IMI	banks	21,140	24,600	20.2%	504	600	++	NM	NM	+++

NM: Not Meaningful

(1) In million

(2) CVA₂₀₀₀ - CVA₁₉₉₉

(3) ΔCFOI₂₀₀₀ - ΔCFOI₁₉₉₉

(4) Cash Flow Margin₂₀₀₀ - Cash Flow Margin₁₉₉₉

(5) Asset Productivity₂₀₀₀ - Asset Productivity₁₉₉₉

(6) Gross Investment₂₀₀₀ / Gross Investment₁₉₉₉

For banks and insurance companies the following expressions need to be replaced:

CVA → AVE

ΔCVA → ΔAVI

ΔCFOI → ΔCFLI

ΔCFLI → ΔCFLI

WALX → Cost of Equity

* We have less than five years of data for these companies due to major restructuring or inconsistencies in accounting practices

NETHERLANDS

Rk	Company	Industry	Market Value	Market Value	ISK pos.	ΔCVA	ΔCVA	Relative Importance of Value Drivers			
			(in EURO) ⁽¹⁾	(in US\$) ⁽¹⁾				31/12/88	31/12/89	31-89	(in EURO) ⁽²⁾
1	ALCOON	insurance & reinsurance	81,804	71,009	88.2%	571	815	++	NM	NM	+++
2	RANDSTAD	services	5,200	6,252	50.9%	84	90	++	+	+	+++
3	CETRONICS	information/communication & telecommunication	3,785	4,409	54.0%	84	75	++	+	++	+++
4	NUMCO	consumer goods	5,100	6,068	40.0%	84	111	++	++	+	+++
5	WORLD	retail	10,720	23,208	90.0%	354	417	+	+	-	+++
6	LAURUS	retail	7,601	9,071	90.9%	52	61	++	-	+++	+++
7	VNU	media & entertainment	6,188	7,109	94.7%	127	150	+	++	-	+++
8	OCE	information/communication & telecommunication	7,515	2,001	94.2%	98	45	+	+	+	+++
9	HEINEKEN	consumer goods	18,091	18,072	93.7%	110	137	-	++	-	+++
10	ASR	insurance & assurance	7,081	3,202	33.0%	40	57	++	NM	NM	+++

SPAIN

Rk	Company	Industry	Market Value	Market Value	ISK pos.	ΔCVA	ΔCVA	Relative Importance of Value Drivers			
			(in EURO) ⁽¹⁾	(in US\$) ⁽¹⁾				31/12/88	31/12/89	31-89	(in EURO) ⁽²⁾
1	GAS NATURAL	utilities	13,891	16,385	89.8%	-78	-301	-	-	-	+++
2	BANCO BILBAO VIZCAYA	banks	27,310	32,230	48.7%	645	701	++	NM	NM	++
3	UNION FENOSA	utilities	4,405	5,304	38.9%	-240	-200	-	+	-	++
4	TABACALERA	consumer goods	3,002	4,674	97.7%	70	83	++	+	+++	++
5	CORPORACION FINANCIERA ALIA	complementaries	1,040	2,300	95.1%	0	7	++	+++	-	-
6	TELEFONICA	information/communication & telecommunication	30,045	40,777	91.7%	1,503	1,845	++	++	+	++
7	BANCO SANTANDER	banks	10,837	23,409	90.2%	100	235	-	NM	NM	+++
8	BANCO CENTRAL Hispanoamericano (BANK)	banks	11,108	13,213	27.0%	200	303	++	NM	NM	+
9	AGUAS BARCELONA	utilities	2,000	3,078	27.2%	5	0	+	+	-	++
10	ZARDOYA OTIS	industrial goods & engineering	1,000	1,847	20.0%	10	22	+++	++	+++	

SWITZERLAND

Rk	Company	Industry	Market Value	Market Value	ISK pos.	ΔCVA	ΔCVA	Relative Importance of Value Drivers			
			(in EURO) ⁽¹⁾	(in US\$) ⁽¹⁾				31/12/88	31/12/89	31-89	(in EURO) ⁽²⁾
1	SWISSCOM	insurance & reinsurance	30,706	39,760	99.1%	1,708	1,600	+++	NM	NM	++
2	ZURICH ALLIED	insurance & reinsurance	20,543	34,858	20.9%	265	312	++	NM	NM	+++
3	NOVARTIS ⁽⁶⁾	pharmaceuticals & health care	109,992	122,103	20.4%	-852	-1,000	-	-	+	-
4	ADECO	services	6,013	7,803	27.9%	705	832	+++	+++	-	+++
5	KUONI REISEN	travel, transportation & tourism	1,013	1,105	27.0%	45	59	+++	+	+++	-
6	BALOISE	insurance & reinsurance	5,400	6,382	27.4%	271	310	++	NM	NM	-
7	RIETER HOLDING	industrial goods & engineering	1,120	1,320	28.9%	57	62	++	++	+	++
8	JULIUS BAER	banks	2,041	3,117	23.8%	81	90	++	NM	NM	++
9	ALUSISSE	industrial goods & engineering	6183	7,295	29.4%	257	303	++	++	-	++
10	ROCHE HOLDING	pharmaceuticals & health care	72,620	95,048	22.9%	200	230	-	-	-	+++

NM: Not Meaningful

(1) In million

(2) CVA₂₀₀₀ - CVA₁₉₉₉

(3) ΔCVA₂₀₀₀ / CVA₁₉₉₉

(4) ΔCFM₂₀₀₀ / CFM₁₉₉₉

(4) Cash Flow Margin₂₀₀₀ - Cash Flow Margin₁₉₉₉

(5) Asset Productivity₂₀₀₀ - Asset Productivity₁₉₉₉

(6) Gross Investment₂₀₀₀ / Gross Investment₁₉₉₉

For banks and insurance companies the following expressions need to be replaced:

CVA: - / VE

ΔCVA: - / ΔVE

Line Investment: - / Equity

Δ Line Investment: - / ΔEquity

WALC: - / Cost of Equity

* We have less than five years of data for these companies due to major restructuring or inconsistencies in accounting practices

UK

Rk	Company	Industry	Market Value	Market Value	LSM pos.	ΔCVA	ΔCVA	Relative Importance of Value Drivers			
			(In EURO) ⁽¹⁾	(In US\$) ⁽¹⁾				31/12/88	31/12/88	91-98	(In EURO) ⁽²⁾
1	BRITISH AIRWAYS	airline	12,009	14,871	40.2%	789	329	+++	++	+++	-
2	VOYAGEON	tourism	42,901	40,081	40.0%	234	277	-	-	-	+++
3	LLOYDS TSB [*]	bank	65,109	76,021	38.8%	1,112	1,312	+	NM	NM	+++
4	SMITHKLINE BEECHAM	pharmaceuticals & health care	65,740	77,573	37.1%	717	840	+++	++	++	-
5	LEGAL & GENERAL	insurance & assurance	13,982	16,408	36.8%	65	77	-	NM	NM	+++
6	COMPASS GROUP	services	6,541	7,718	30.4%	75	88	-	-	+++	+++
7	HAYS	services	6,950	7,402	32.4%	133	157	++	-	++	+++
8	RENTOKIL INITIAL	services	18,201	21,478	32.3%	352	410	-	-	-	+++
9	BANK OF SCOTLAND	bank	12,442	14,680	28.8%	481	557	+++	NM	NM	+++
10	GKN	automobiles & supply industry	7,057	8,309	28.0%	557	657	+++	+++	++	-

USA

Rk	Company	Industry	Market Value	Market Value	LSM pos.	ΔCVA	ΔCVA	Relative Importance of Value Drivers			
			(In EURO) ⁽¹⁾	(In US\$) ⁽¹⁾				31/12/88	31/12/88	91-98	(In EURO) ⁽²⁾
1	UNITED STATES AIR FORCE	information/communication & telecommunication	78,938	95,157	157.9%	1,068	1,264	+++	++	+++	+++
2	AMT AIRLINES	airline	61,248	71,065	145.1%	148	175	++	++	+	+++
3	NETWORKS ASSOCIATES	information/communication & telecommunication	7,587	8,367	113.8%	61	76	-	-	-	+++
4	MICROSOFT	information/communication & telecommunication	209,173	345,014	68.0%	2,178	2,570	-	++	-	+++
5	CISCO SYSTEMS	information/communication & telecommunication	124,241	140,592	60.8%	604	719	-	-	-	+++
6	CHARLES SCHWAB	bank	19,057	22,593	64.7%	134	150	-	NM	NM	+++
7	COMPUWARE	information/communication & telecommunication	12,170	14,380	64.4%	220	267	+++	++	++	+++
8	CLEAR CHANNEL COMMUNICATIONS	media & entertainment	12,172	14,302	63.0%	75	88	-	++	-	+++
9	SUN MICROSYSTEMS	information/communication & telecommunication	27,020	32,598	63.7%	404	548	++	++	++	+++
10	TELECOM	information/communication & telecommunication	11,209	13,325	63.3%	225	265	+++	+++	-	+++

NM: Not Meaningful

(1) In million

(2) CVA₉₈ - CVA₈₈

(3) ΔCFM₉₈ - ΔCFM₈₈

(4) Cash Flow Margin₉₈ - Cash Flow Margin₈₈

(5) Asset Productivity₉₈ - Asset Productivity₈₈

(6) Gross Investment₉₈ / Gross Investment₈₈

For banks and insurance companies the following expressions need to be replaced:

CVA: - AVE

ΔCVA: - ΔAVI

LSM Investment: - Equity

LSM: - ROE

WACC: - Cost of Equity

* We have less than five years of data for these companies due to major restructuring or inconsistencies in accounting practices

Methodology

The data in this study was taken from an analysis of the annual returns (plus share information data) of 5,316 companies around the world. These are the constituent companies of all Datastream's market indices and represent approximately 80% of the capitalisation of all the world's stockmarkets.

Out of this sample, 4,955 companies were classified according to industry. (In some sectors, only firms above a certain market capitalisation were included.) They were divided into 14 different categories:

- Automobiles and supply (€ 555/\$655)
- Banks (including brokerage firms) (€ 2,633/\$3,107)
- Chemicals (€ 413/\$487)
- Conglomerates (€ 742/\$875)
- Consumer goods (€ 1,508/\$1,779)
- Industrial goods (€ 1,717/\$2,026)
- Information, communications and telecommunications (€ 4,083/\$4,818)
- Insurance and assurance (€ 1,084/\$1,279)
- Media and entertainment (€ 452/\$533)
- Pharmaceuticals and healthcare (€ 1,712/\$2,020)
- Retail (€ 1,233/\$1,455)
- Services (€ 925/\$1,091)
- Transportation, travel and tourism (€ 155/\$183)
- Utilities (€ 756/\$892)

(The figures in brackets are the total market capitalisation of the companies in each sector - in billion euros and dollars.)

The total sample was then whittled down to include only those companies that had been listed on a stock exchange for five years or more. This reduced the sample size to 4,147.

These 4,147 'established' companies were then ranked according to the annual average change of their total shareholder return (TSR) in the five years between the beginning of 1994 and the end of 1998.

Relative total shareholder return (RTSR) — the TSR adjusted for local market performance $[1 + \text{company TSR} / 1 + \text{local index TSR}]$ — was also calculated for each company.

The main focus of the study was on TSR, not RTSR, on the grounds that most investors' perspective is international, at least among the markets covered by this study. Capital moves in search of the highest returns, wherever they may be. Investor decisions in these markets are not significantly influenced by local performance or by local country risk.

Each company's CVA (cash value added) was also calculated. This was the company's profit minus its capital charge, the cost of all its capital during the period.

The change in CVA was then found to be closely correlated to the external value created. So CVA, an internal measure, was used as a proxy for TSR, an external measure.

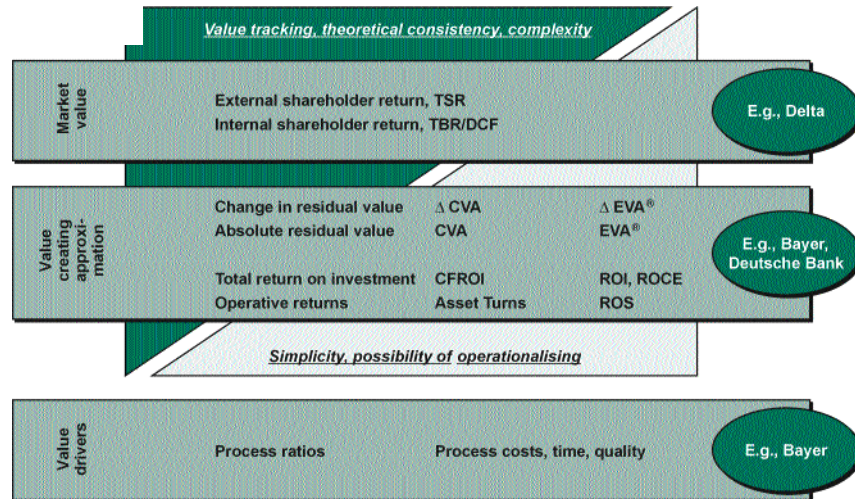
For a small number of companies, there is a deviation between the development of TSR and CVA over the five-year time frame. For example, companies record a relatively high TSR when they were privatised at a relatively low issuing share price and the stock market then adjusts the share price to the underlying performance. Thus, the Delta-CVA will produce a lower figure than the TSR, since the internal performance did not produce the same increase in value. Another deviation is caused when the internal performance slows down in the very last year of the study period. The internal performance is measured as the change between 1993 and 1998, while the TSR is an average yearly rate. Also, the share price sometimes does not fully reflect the change in internal performance yet. (Compaq is an example of a company affected in this way.)

Total Business Returns (TBR) is an alternative proxy to TSR. TBR simulates TSR by using a dynamic methodology that compares today's equity value with future equity values. The equity values are internally generated and based on adequate valuation methods. Of the two TSR proxies, CVA and TBR, CVA is the simpler one.

Exhibit 20

Topography Of Value Metrics

Example Overview



Source: BCG analysis

Exhibit 21

Total Business Return (TBR) is the Internal Analog to TSR

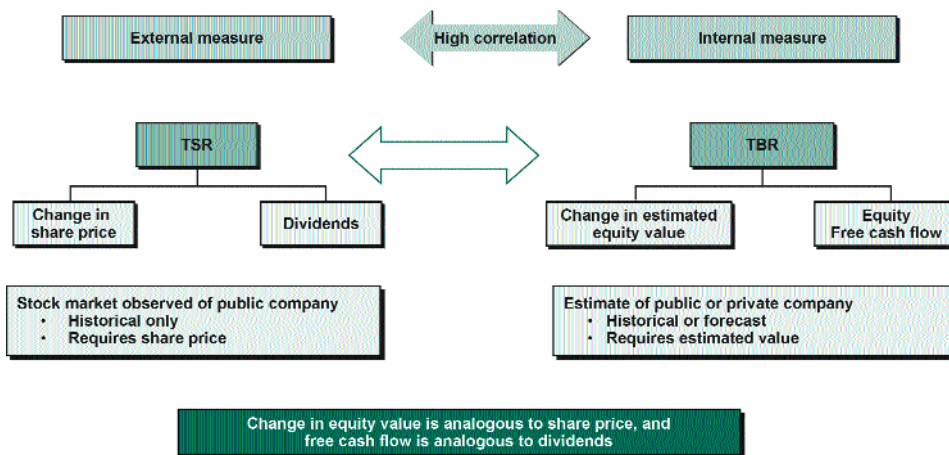
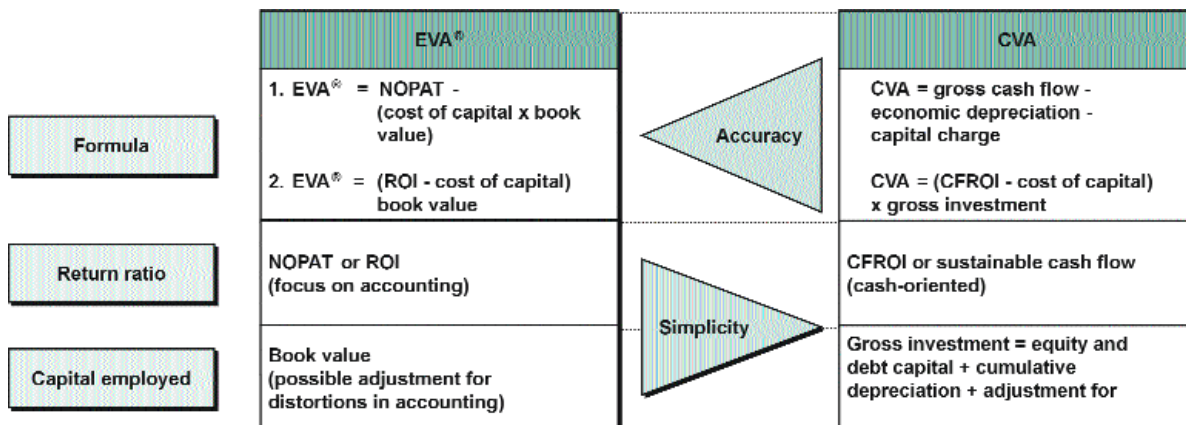


Exhibit 22

EVA® and CVA: Two Ends of a Continuum



The change in CVA (or 'residual income') is equal to the growth of investment multiplied by the original CFROI (the cash flow return on investment), plus the change in CFROI multiplied by all assets. The change in the CFROI, in turn, is equal to the change in the cash flow margin times the change in asset productivity.

Hence each company's CVA (and, by proxy, its TSR) is determined by three things: its cash flow margin, its asset productivity, and its growth in capital invested. The measure also takes into account changes in the cost of capital, but does not include the market's expectations of future performance.

Exhibit 23

CVA Expresses Residual Income

Concept and example												
<p>1 Direct calculation $CVA = \text{gross cash flow} - \text{economic depreciation} - \text{capital charge}$</p> <p>2 Indirect calculation $CVA = (\text{CFROI} - \text{cost of capital}) \times \text{gross investment}$</p> <p style="text-align: center;">with</p> <p>Capital charge = cost of capital x gross investment</p> <p>$CFROI = \frac{\text{Gross cash flow} - \text{Economic depreciation}}{\text{Gross investment}}$</p>	<table border="0"> <tr><td>Gross cash flow</td><td>150</td></tr> <tr><td>Economic depreciation</td><td>50</td></tr> <tr><td>CFROI</td><td>10%</td></tr> <tr><td>Gross investment</td><td>1,000</td></tr> <tr><td>Cost of capital</td><td>10%</td></tr> <tr><td>Capital charge</td><td>100</td></tr> </table> <p>1. $CVA = 150 - 50 - 100 = 0$ 2. $CVA = (10\% - 10\%) \times 1,000 = 0$</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>CVA is the residual cash flow minus the implicit cost of reinvestment and the cost of capital</p> </div>	Gross cash flow	150	Economic depreciation	50	CFROI	10%	Gross investment	1,000	Cost of capital	10%	Capital charge	100
Gross cash flow	150												
Economic depreciation	50												
CFROI	10%												
Gross investment	1,000												
Cost of capital	10%												
Capital charge	100												

Exhibit 24

CFROI Takes the Reserves for Future Investments into Account

Definition of CFROI	Formula								
$CFROI = \frac{\text{Gross cash flow} - \text{Economic depreciation}}{\text{Gross investment}}$ <p>Economic depreciation is the amount that has to be put aside annually to finance future replacement investments</p>	$CFROI = \frac{\text{Gross cash flow} - \text{Economic depreciation}}{\text{Gross investment}}$ $\text{Economic depreciation} = \frac{WACC}{(1 + WACC)^n - 1} \times \text{Depreciable assets}$								
Definition of components	Example								
<p>WACC = Weighted average cost of capital</p> <p>Gross cash flow = Adjusted profit + interest expense + depreciation</p> <p>Gross investment = Net current assets + historical initial cost (possibly adjusted for inflation)</p> <p>Asset life = Economic operating life of the mix of assets</p> <p>Nondepreciable assets = Assets that flow back into the books at the end of their operating life</p>	<table border="0"> <tr><td>Gross cash flow =</td><td>150</td></tr> <tr><td>Gross investment =</td><td>1,000</td></tr> <tr><td>Nondepreciable assets =</td><td>200</td></tr> <tr><td>Asset life =</td><td>10 years</td></tr> </table> $\text{Economic depreciation} = \frac{10\%}{(1 + 10\%)^{10} - 1} \times (1,000 - 200)$ $= 50$ $CFROI = \frac{150 - 50}{1,000} = 10\%$	Gross cash flow =	150	Gross investment =	1,000	Nondepreciable assets =	200	Asset life =	10 years
Gross cash flow =	150								
Gross investment =	1,000								
Nondepreciable assets =	200								
Asset life =	10 years								

Each company was graded (with one, two or three stars) according to its improvement in these three areas over the five-year period.

Rankings were made of the top 100 companies in two regions (Worldwide and Europe), as measured by their average annual growth in TSR.

The top 10 companies in each of the 14 different industrial categories were also listed, as were the top 10 companies in each of the following countries:

- Australia (€ 265/\$313)
- Austria (€ 27/\$32)
- Belgium (€ 192/\$227)
- France (€ 747/\$881)
- Germany (€ 910/\$1,074)
- Italy (€ 427/\$504)
- The Netherlands (€ 564/\$665)
- Spain (€ 284/\$335)
- Switzerland (€ 580/\$684)
- UK (€ 1,841/\$2,172)
- US (€ 9,339/\$11,019)

(The figure in brackets is the market capitalisation of all the companies in the sample from that country — in billions of euros and dollars.)

All monetary figures are quoted in both euros and dollars. The exchange rate used is taken on 4th January 1999.

The Boston Consulting Group

Amsterdam	Dallas	Los Angeles	Oslo	Tokyo
Atlanta	Düsseldorf	Madrid	Paris	Toronto
Auckland	Frankfurt	Melbourne	San Francisco	Vienna
Bangkok	Hamburg	Mexico	São Paulo	Warsaw
Boston	Helsinki	Milan	Seoul	Washington
Brussels	Hong Kong	Monterrey	Shanghai	Zurich
Budapest	Jakarta	Moscow	Singapore	
Buenos Aires	Kuala Lumpur	Mumbai	Stockholm	
Copenhagen	Lisbon	Munich	Stuttgart	
Chicago	London	New York	Sydney	

BCG