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Julie Froud, Sukhdev Johal, Adam Leaver, Karel Williams

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Faculty of Social Sciences, The Open University,
Walton Hall, Milton Keynes, MK7 6AA, UK
Tel: +44 (0)1908 654458 Fax: +44 (0)1908 654488
Email: cresc@manchester.ac.uk or cresc@open.ac.uk
Web: www.cresc.ac.uk

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Julie Froud, Adam Leaver and Karel Williams are members of Manchester Business School, UK and of the ESRC Centre for Research in Socio-Cultural Change (CRESC), where Karel Williams is co-director. Sukhdev Johal is a member of the Management School, Royal Holloway, University of London.

Contact details

Karel Williams
CRESC
University of Manchester
178 Waterloo Place
Oxford Road
Manchester M13 9PL, UK

Email: karel.williams@manchester.ac.uk

Tel: +44(0) 161 275 8985

Fax: +44(0) 161 275 8986

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Abstract

GE and its long serving CEO, Jack Welch, were icons of success through the 1990s. The company's 20 year unbroken record of earnings increases justified Welch's status as the most admired chief executive of his time. This quite exceptional success is usually attributed to some combination of Welch's leadership and GE's internal culture and organisation. Welch himself encouraged such views with his narrative and performative defence of GE which was not a conglomerate because its diverse operations were unified by initiatives such as 'Work-Out' and 'Six Sigma'. These initiatives were generally presented in business books and the media as transferable techniques which could produce success elsewhere. Against this, we argue that GE's success can more plausibly be attributed to an undisclosed business model which combines two complementary businesses: GE's industrial businesses generate high ROCE, low sales growth and a perfect credit rating which is used by a rapidly expanding financial business, GE Capital, which generates high sales growth and low ROCE. The implication is that Welch is a Machiavellian figure who understood how to work in different registers on the performative explanation and the corroborating numbers.

GENERAL ELECTRIC: THE CONDITIONS OF SUCCESS

Introduction

By the later 1990s, GE and its long serving CEO Jack Welch were icons of business success whose lustre was not diminished by the new economy crash at the beginning of the decade. In 2002, GE came top of Fortune's most admired companies list for the fifth year in a row (19 February 2002) and, at the beginning of this period, Fortune (22 November 1999) described Welch as 'the most widely admired and imitated CEO of his time'. In 2004, several years after his retirement, Jack Welch still commands a top three position in the Financial Times' list of most admired executives. It is easy to understand the basis for this hero worship. GE under Welch in the decades of the 1980s and 1990s was the only US giant firm from the glory days of the 1960s which could, despite increasingly difficult product markets, apparently meet the requirements of a more demanding capital market. The Financial Times' (20 January 2004) report on the 'world's most respected companies' asked CEOs about the companies they most admired and one CEO then commented that GE had 'survived the pitfalls of many blue chips, while others have fallen'. Against this background, GE and Welch must appear as a brilliant success.

Behind the iconic status of GE and Welch is a familiar long-established frame of reference which explains 'greatness' by cutting between the undisputed exceptional achievement and its socio technical conditions, which are identified within a belief system and then elaborated in a hagiographic literature. This includes many books because in academe, as in journalism, length is the writer's homage to worldly importance. Thus, there are at least 50 books about GE and Welch (including almost inevitably an uninformative autobiography by Welch himself) which reflect on the conditions of GE's financial achievement in Welch's leadership and GE's organisation and thus generically identify the conditions of achievement as the right kind of management. Although the identification starts with the well-known financial success, such books, however, are generally not interested in financial analysis of GE's operations and performance.

Before turning to GE, it may be helpful to note that this kind of cross cutting reference between achievement and conditions was established long before the concept 'management' came into general use in the 1950s and the identifications made through such reference are usually problematic. Thus, if we consider the original Henry Ford and Ford Motor Company in the early twentieth century, Henry's undisputed achievement was the motorisation of America through a combination of cheap product and high wages and the conditions of that achievement were generally located in the production techniques and factory lay out which were definitively described in Arnold and Faurote's (1914) book describing the Highland Park Plant. The preoccupation with productive intervention was coherent with assumptions of the epoch, articulated in the textbooks of 'business administration' by authors like E.L. Jones (1916) who included layout in the syllabus. But our own revisionist work on how Henry Ford built the Model T shows that the established causal identifications were largely imagined: the moving assembly line was relatively unimportant at the time as a source of cost reduction and Ford's high flow proto Japanese techniques have subsequently been caricatured as (inflexible) mass production (Williams et al. 1993).

The current doxic accounts of GE and Welch raise many of the same problems in a different register where the discursive a priori is supplied by the management of change (not business administration). GE and Welch's undisputed achievement is the nearly unbroken run of earnings increases which sustains the stock price and justifies a P/E ratio much higher than for other 'old economy' stocks. As Fortune (19 February 2002) enthused, 'quarter after quarter, year after year, GE's earnings come gushing in, usually at least 10 per cent higher than the year before, and almost invariably inline with analysts' estimates'. This achievement

is both interestingly less socially transformative and apparently more technically difficult than anything which Henry Ford did. And the achievement is generally referred to its socio-technical conditions in the leadership of Welch as CEO and the internal culture and organisation of GE. Thus Fortune (19 February 2002) noted GE's 'long history of training great managers, its straight talking celebrity CEO, its vaunted culture of entrepreneurship and achievement'. Insofar as different media and academic authors only disagree about the relative contributions of leadership and organisation, our case makes a revisionist argument that all these identifications are imagined and have misleading effects (just like so much earlier analysis of Ford's assembly line and mass production).

The case which makes this revisionist argument is organized in a relatively straight forward way with two sections on narrative followed by another two on numbers. The first two sections explore existing identifications which relate GE's exceptional financial achievement to its conditions and these two sections analyse in turn the industry frame and company narrative. As section one argues, the industry frame is problematic because GE is by most standards a conglomerate that operates across many industries when conglomerates are out of fashion. GE avoids the stigma by putting up the narrative and performative defence that GE is not a conglomerate because the diverse operations of GE across unrelated product markets are unified by management initiatives such as 'Work Out' and 'Six Sigma'. When these initiatives are validated by their link with the unbroken record of financial achievement, we argue the result is that GE has become a (management) brand.

The second section turns to the company narrative which mainly originates with outsiders and does so in ways that illuminate how financialized economies proliferate much information but very little critical knowledge. Section 2 shows that, while some analysts have raised criticism of GE's performance, they are generally incorporated into a community where media critics allege that 'unbelievers' are ostracized and marginalized. Business media coverage is more independent, which is evident in its questioning or (sometimes) negative treatment of GE in the early 1980s; subsequent analysis shows that Welch and GE move along a reputational S curve which flattens out in the early 2000s. Popular business books are then analysed in the remaining part of Section 2 where a comparison of several books by different authors brings out their stereotyped nature because they refer GE's success to either leadership and/or organisation.

If GE is described in these many admiring narratives, our case then aims to deconstruct that achievement. For this purpose, the financial information from GE is an invaluable resource because basic information, like business segment sales revenue, cannot be manipulated and moreover forensic analysis discloses much about the how and why behind the headline results. Sections 3 and 4 demonstrate this point by analysing the numbers in the long twenty-year time frame which is particularly illuminating in this case because GE has changed its sources of revenue quite radically over two decades.

Thus, section 3 uses basic divisional information which shows that GE over this period is a tale of two complementary businesses that combine to produce the miraculous financial achievement of the Welch years: GE's industrial business generates high ROCE with low sales growth, while a financial business, GE Capital, generates high sales growth and low ROCE. This view is immediately different because GE Capital barely figures in the management school narratives of GE. Section 4 then takes the argument one step further by providing an in depth analysis of what we call GE's (undisclosed) business model, whereby the industrial business is run for cash and bulked out with services which cover the hollowing out that would otherwise be inevitable. Meanwhile the financial business is expanded up to the limit of the credit rating against a background of continuous large-scale acquisition and (to a lesser extent) divestment of business units. This (undisclosed) business model is in no sense a hidden one; all of the elements we identify are derived from GE's accounts or other relevant sources such as company statements. But there is little attempt by external

commentators to go beyond the company's narrative of initiatives and achievement in a way that seeks to understand the business model, rather than the organisation and its leader.

In contrast, our analysis is interesting in a number of ways. It provides an essential context within which Section 5 analyses the moves of GE since 2001 under its new CEO, Jeff Immelt. Because GE is at the end of a finance-led growth trajectory, Immelt has turned to large industrial acquisitions which are a much riskier way of buying growth and earnings. It also allows us to revalue Welch's achievement. GE under Welch was a brilliant success but the conditions of that success are very different from those that figure so prominently in GE's own performative frame, or in the many outsider narratives which unquestioningly accept the attribution of GE's exceptional success to outstanding management. If we assume the business model is the result of something other than inadvertence and serendipity, the Machiavellian virtue of Welch and his senior management team was to see that the narrative and performative moves were necessary but not sufficient. Sustained success also depended on pulling levers to obtain earnings from finance, an important part of a business model that was little discussed in public. While such insight and complexity is exceptional, issues about undisclosed business models do arise in other business cases and always have the effect of making corporate governance and investor decisions much more difficult.

While this sets GE's achievement in a different perspective, we would emphasize that this case is not an exercise in muckraking that impugns GE's corporate integrity or its management's honesty. Our methods of analysis are completely different from those of O'Boyle (1998) in his highly critical book which establishes GE's bad character by focusing on negative incidents like GE's responsibility for polluting the Hudson river with PCBs. Our revisionism is based on publicly available financial information, which gives an overview of the two businesses and GE's undisclosed business model. If our story is new and different, it is because considerable effort is required to analyse the information so as to generate a different story. The lesson of this case is that a shallow world prefers congenial narratives of management success, which falsely present GE as a model for others and a source of transferable lessons for success. That shallow preference needs to be challenged if we wish to understand what management can do in a world where it is very unlikely that GE's management techniques would lead to financial success in firms with different business models. GE demonstrates only that exceptional success depends on aligning a strong and appealing corporate narrative with a corroborating record of financial performance that deflects difficult questions.

1. Industry Frame: 'Not A Conglomerate'

The idea of industry frame may seem paradoxical in this case because GE has no strong industry affiliation. By any standard, GE in 1980 or 2000 was (and is) a conglomerate which sells into unrelated product markets. This section describes how this identity was a representational and practical problem for GE from the early 1980s because conglomerates were unfashionable and regarded with suspicion by the capital market so that their shares generally traded at a conglomerate discount and there was often pressure for divestment and spin offs to increase value. GE under Welch dealt with the stigma of being a conglomerate in a way that was coherent with the rest of its management style. Thus, discursive attack was used as the best form of financial defence, which could enhance the GE share price and protect the combine from break up. The conventional narrative defence was that the different GE businesses were one way or another connected so that there was synergistic gain from combining the apparently unrelated businesses as a 'business engine'. The innovative performative defence was that the company was unified under Welch's leadership by a series of initiatives such as 'Work Out' and 'Six Sigma', which were widely discussed in the media and business press before being imitated by other giant firms.

The huge success of these efforts, in their own terms, is indicated by the way in which GE now figures in *Business Week* lists, not as the world's most successful conglomerate but as one of the 'world's ten most valuable brands'. The *Business Week* 2004 list (9 August 2004) credits GE with a brand value of \$44 billion which makes it the fourth most valuable brand in the world behind Coca Cola, Microsoft and IBM. As is usually the case, the calculation of brand values involves statistical hocus-pocus with adjustments for patents and 'customer convenience' subtracted from a total for abnormal profits after deducting cost of capital. But the interesting point is that eight of the other top ten brands are corporations like Coca Cola or Disney which have a limited span of goods and service products (e.g. soft drinks) or have a range of goods and services that are related in the product market (e.g. film production, distribution, theme parks, cable tv and merchandising). The two exceptions in the *Business Week* list of brands are Marlboro and GE, with Marlboro a product line that is much narrower than the parent corporation and GE a conglomerate whose product lines are so diverse that, in 2004, it advertizes under the meaningless slogan of 'imagination at work'. If brand unity is discernible in GE it is because Welch created a management brand by insisting that unrelated products embody the common values of GE leadership and organisation.

In any discussion, the starting point must be that GE's product range is bewilderingly diverse. GE's business units, for example, currently make or sell domestic refrigerators, jet aircraft engines, medical scanners, TV and film content and distribution, plus a huge variety of financial products like leasing or insurance to corporate and domestic consumers, including many who have never bought any GE industrial product. In this respect, GE is completely different from GSK, which has all its activity in pharmaceuticals and most of its profit in ethical pharmaceutical blockbusters in a small range of therapeutic segments. Equally, GE is not much like Ford whose industry affiliation remains strong because Ford's assembly and manufacture is in autos, as is its captive finance house which mainly meets the needs of Ford dealers and customers.

Exhibit 1. GE sales revenues and profit in 2002, by reported business segments

<i>GE Business Segment</i>	<i>Sales revenues (\$ mill)</i>	<i>Earnings¹ (\$ mill)</i>
GE INDUSTRIAL		
Aircraft Engines	11,141	2,060
Consumer Products	8,456	495
Industrial Products and Systems	9,755	999
Materials	7,651	1,125
NBC	7,149	1,658
Power Systems	22,926	6,255
Technical Products and Services	9,266	1,562
GE CAPITAL SERVICES		
Commercial Finance	16,040	3,185
Consumer Finance	10,266	1,930
Equipment Management	4,254	311
Insurance	23,296	(509)
All Other GE Capital Services	4,331	(291)
GE CONSOLIDATED²	131,698	14,118

Source: GE Annual Report, 2002, p.16

Notes:

- a) Earnings are presented as operating profit for GE Industrial businesses (ie earnings before interest and other financial charges, income taxes and accounting changes) and as after tax earnings (before accounting changes) for GE Capital Services businesses, reflecting the importance of financing and taxation to the capital businesses.
- b) Note that GE Consolidated is not equal to the arithmetic sum of the GE Industrial and Capital Services businesses because of corporate items, such as the effect of pension and other benefit plans and restructuring costs, which are not allocated to a particular segment.

Within a few years of becoming chief executive, Jack Welch began a process of restructuring the company which involved selling off or closing down some outlier activities: for example, Utah mining was sold in 1982 and small appliances/ GE Housewares was sold to Black and Decker in 1984. In this period under Welch's number one/ number two initiative (described below) the aim was to focus on a core of well-positioned, high performing businesses. But, it quickly became clear that this initiative did not prevent the acquisition of new businesses in unrelated activities, if they could be represented as quality businesses. Thus, GE in the first half of the 1980s moved into new activities such as broadcasting, with the purchase of RCA in 1986, and diversified its financial activities with purchase of Employers Reinsurance in 1984. The net result of Jack Welch's acquisitions and divestments was not a company with a narrower scope, but rather a differently put together conglomerate.

Exhibit 1 presents a basic classification of GE's business activities in 2002 as disclosed by the company. Two main points stand out. First, in terms of generic categories GE has large industrial and commercial businesses, each of which contribute well over \$50 billion of turnover. Within each of these two main divisions, GE has a range of diverse activities and the two largest activities (power systems and insurance) each separately accounts for no more than about 20 per cent of GE's total turnover. The second major point arises from the awesome size of GE whose aggregate turnover in 2002 was \$131 billion. In a company of this size many household name GE business units would make medium sized stand alone business but account for a very small part of the giant conglomerate's revenue or profits. Thus, NBC, which includes the US terrestrial TV network, accounted for no more than 5.5 per cent of turnover in 2002.

When Welch came into office in 1981, conglomerates had already gone out of fashion. Business analysts as diverse as Michael Jensen (1989) and George Soros (1987: 133-4) were concerned to distinguish the potential of the leveraged buy outs (LBOs) and mergers of the 1980s from the earlier failed conglomerate merger boom of the 1960s, which Soros described as an 'ultimately self defeating process'. Investment fund managers were sceptical on the grounds that conglomerates were not transparent and undermined the investor's ability to allocate capital between sectors. As a British investment banker explains, the market now prefers 'pure plays' to conglomerates:

...today's fund managers do not want corporate management to select their exposures for them. They want to be able to pick and choose between a range of quoted companies that have stripped themselves down to their core business and are, as a consequence, focused. They want simple and understandable investment propositions. Hence the pressure for the divestment of non core operations, demergers, spin-offs, tracking stock, carve outs.

(Golding 2001: 165)

This strong preference, which dated from the 1980s, was reinforced by the pursuit of shareholder value in the 1990s, when under the influence of authors like Rappaport (1998)

and consultants like Stern Stewart (1995, 1998), firms were encouraged to review underperforming assets and unbundle or divest low return activities.

All this was reflected in GE's share price up to the later 1990s. For a blue chip conglomerate like GE, the benchmark is the overall P/E ratio of the S&P500, which collectively is a kind of mega conglomerate bundling many of the activities in GDP. The obvious target is for a conglomerate like GE to have a higher P/E ratio than the S&P as a whole. But from the early 1980s into the late 1990s GE was trading at a level no better than, and in some years at a discount to, the S&P500. Towards the end of this period, the *Wall Street Journal* (4 August 1994) stated that, although many admired Welch's management, some in the investor community viewed GE as 'a growing collection of disparate companies in which a domineering personality substitutes for business focus'.

If GE wanted to displace 'the 'C' word' (Slater 1993: 198–201), the first most obvious resource was narrative and Welch made the argument that, despite the apparent diversity, the different parts of GE did fit together in ways that added value. Conglomerate diversity has traditionally been defended with claims that the conglomerate's portfolio of business units can raise returns or at least reduce investor risk if the diverse activities in the business portfolio combine different patterns of cyclicalities, growth and cash generation. Welch's early 1980s version of this argument was his so-called 'business engine' concept, whereby GE was described as a collection of businesses that make a strong whole, allowing participation in many markets and working together 'like pistons' so that slow growing businesses like lighting provide the cash fuel for the faster growing parts, like financial services (Tichy and Sherman 1993: 25). The engine metaphor was new and was then rather confusingly developed by adding the distinction between long and short cycle businesses. But all this does little more than restate the BCG 'product portfolio matrix' and the box diagram about stars, dogs and cash cows which may still figure in strategy textbooks but does not much influence market judgements.

Hence, the importance of adding a performative element around several company-wide initiatives which stemmed from a few 'big ideas' and which manifestly did reshape the company quite radically. This did represent a new style at GE which enacted Welch's claims that, 'I don't run GE, I lead GE' (Slater, 1999: 31). He used a performative method to rationalize GE's existence to outsiders and employees alike and increasingly to identify a unifying organisational focus within the business portfolio. The initiatives came in two successive phases: the 'hard' restructuring initiatives of the 1980s which met with a mixed reception but did help the share price; and the 'soft' restructuring of the 1990s which framed Welch and GE as brilliant successes and turned GE into a brand.

The first and most controversial of Jack Welch's initiatives was set in motion in the early 1980s by his declared mission to 'become the most competitive enterprise in the world by being number one or number two in market share in every business we are in' (GE Annual Report 1984: 2). Where this target could not be met, management should 'fix, close or sell'. As Tichy and Sherman (1993: 72) note, at the end of his first year as CEO Welch explained he did not believe in a centralized strategy but he did believe in a 'central idea - a simple core concept that will guide General Electric in the eighties and govern our diverse plans and strategies'. Of course many organisations set themselves targets for upward mobility. But most such organisations do not then enact their ambition and disrupt organisational lives, as GE did in the 1980s, by dramatically restructuring its activity base and sacking a substantial part of the workforce. When Welch took over, GE employed 420,000 and, according to Tichy and Sherman (p.10) some 170,000 jobs were then lost through 'lay offs, attrition and other means' as part of a larger restructuring where 150,000 were transferred in through acquisitions and 135,000 jobs were transferred out via sale of businesses, with divestment between 1980 and 1984 accounting for 20 per cent of the 1980 asset base.

As is often the case with such management exercises, the number one or two rule was not consistently used and could not be rigorously applied. As Welch (2001: 237) admitted in his autobiography, the rule was ignored at GE Capital where ‘we didn’t have to be No 1 or No 2’; and in a 1999 interview he accepted GE managers’ claims that industrial managers were playing redefinition games as ‘everyone is defining their markets smaller so they can be number one or two’ (Slater 1999: 180). The performative achievement also remains thoroughly ambiguous though not without admirers. In retrospect, for his admirers of the 1990s the no 1 or no 2 initiative reflected Welch’s unsentimental prescience about a world that would become ever more (internationally) competitive so that still profitable businesses would struggle unless they had (or could move towards) market leadership. Reflecting on the 1980s in his 1990 ‘Letter to Share Owners’, Welch wrote: ‘we believed only businesses that were number-one or number-two in their markets could win in the increasingly global arena’ (GE Annual Report 1990: 1).

At the same time Welch’s detractors suspected that GE was, like many other giant firms, in retreat and avoiding Japanese competition: maybe GE was not so different from a financially opportunist, low tech conglomerate like Hanson whose house rule was not to compete in markets where it faced Japanese competition. The reception was thus understandably mixed. The business media (which will be considered in the next section) were initially negative as the new CEO lost his family name and acquired an unflattering epithet as ‘Neutron Jack’, in a phrase supposedly coined in 1982 by *Newsweek*, which implied ruthless downsizing that was surely more about cost cutting management than about leadership. The market was more positive but also guarded: GE’s price/earnings ratio did no more than track the S&P 500 as the market responded to restructuring associated with 10 per cent compound growth of earnings and many wondered whether GE could do any more than cut costs.

In performative terms, by the late 1980s Welch needed another big idea and some new initiatives that would accentuate the positive and eliminate the negative. This was supplied by some fresh thinking about how the CEO, head office and corporate infrastructure could add value to GE’s diverse operations. The arguments for defending a head office traditionally came out of Chandler’s 1962 work on m form and rested on a set of rational planning assumptions about how head office could allocate capital and add strategic vision. And such controls remained part of Welch’s management practice, which involved tight management on allocation of capital and careful scrutiny of financial results (Tichy and Sherman 1993: 95). But the rhetoric was changed as Welch inflected the arguments for head office, so that they fitted with 1990s thinking about competence and the learning organisation by emphasising values, leadership and knowledge transfer across divisions. From this point of view, Welch’s next big idea at the end of the 1980s was ‘integrated diversity’. This allowed Welch to explain that GE was not a conglomerate because it demonstrated ‘integrated diversity’.

A conglomerate is a group of businesses with no central theme. GE has a common set of values. We have Crotonville, where we teach leadership. We have a research lab that feeds all of our businesses. We have all the resources of a centralized company.

(Welch, quoted in Slater 1993: 199)

It is this elimination of boundaries between businesses and the transferring of ideas from one place in the company to another that is at the heart of what we call integrated diversity. It is this concept that we believe sets us apart from both single product companies and from conglomerates. ...by sharing ideas, by finding multiple

applications for technological advancements and by moving people across businesses to provide fresh perspectives and to develop broad-based experience. Integrated diversity gives us a Company that is considerably greater than the sum of its parts.

(GE Annual Report 1990: 2)

In due course this big idea segued into Welch's early 1990s principle of 'boundarylessness' as 'the value that underlies GE's increasingly supple organizational style' (Tichy and Sherman 1993: 74). This principle emphasized informality and candour in a delayered organisation without 'organisational silos'. Though linguistically clumsy, boundarylessness was, according to Welch the only way that GE would be able to achieve its productivity goals (GE Annual Report 1991: 2-3).

The 'Work-Out' initiative was a further development of GE's 'software' (GE Annual Report 1991: 1), introduced in 1989 as an enactment of GE values and a central element in the attempt to break through boundaries. It reflected frustration with the limited reach of the GE staff college at Crotonville, which could only involve a fraction of the workforce through traditional training methods (Welch 2001: 182). Under Work-Out, GE staff from all levels came together for sessions based on the idea of the town meeting, where employees were allowed to ask their managers awkward questions about why things were done in particular ways and to suggest improvements to processes that would save time and cash. The initiative was based on the principle of empowering the workforce, requiring middle managers to come out from their offices and making all employees responsible for GE's continued success. By 1992, more than 200,000 employees, some 85 per cent of GE's staff, had taken part in a Work-Out session (Welch 2001: 183) and the company considered this an important element in the kind of cultural change it was trying to work at GE, while also improving processes and reducing costs or expanding sales. According to Welch:

my view of the 1990s is based on the liberation of the workplace, everybody a participant... In the new culture, the role of leader is to express a vision, get buy-in, and implement it. That calls for open, caring relations with every employee, and face-to-face communication. People who can't convincingly articulate a vision won't be successful. But those who can will become even more open – because success breeds self-confidence.

(Tichy and Sherman 1993: 247)

This was reflected in the development of Work-Out through successive phases, which put more emphasis on leaders as 'professional change agents'. Indeed, if Welch has been lauded as *the* business leader of the 1990s, his claim would be that he had created a whole culture of leadership within GE where leadership is likened to guerrilla warfare against bureaucracy and formality. This has benefited the company as a whole as well as nurturing executive talent for other corporations.

With the reduction of 'management' and the dismantling of bureaucracy, leaders have moved quickly to the front, creating a vision for each business and articulating their vision so clearly and compellingly that an entire organization can rally around it and turn it into reality.

(GE Annual Report 1987: 4)

But the touchy, feely stuff was interestingly combined with the hard edge of performance requirements. Work-Out was accompanied by Welch's now famous annual review of all GE managers, foreshadowed in the 1991 'Letter to Share Owners', which announced that it was necessary for managers to share GE 'values' as well as deliver on the targets (GE Annual Report 1991: 4-5). This annual review involved classifying managers into the ranks of A, B

and Cs where the As got stock options and the Cs were encouraged to find new challenges outside GE. As Welch wrote in 1991: 'In the first half of the 1980s we restructured this Company and changed its physical make-up. That was the easy part. In the last several years, our challenge has been to change ourselves' (GE Annual Report 1991: 4) and performance review was a way to enforce this.

Interestingly, the next major new initiative from the mid-1990s was Six Sigma, which combined hard and soft management. Six sigma was a set of generic statistical techniques which GE borrowed from AlliedSignal and Motorola. They were used to improve product and process quality and thereby to reduce costs and improve relations with customers. Again, GE explains this initiative as involving and rewarding the workforce at all levels: 'quality is the responsibility of every employee' (GE undated a: 2), while also delivering a bottom line impact as costs are lowered and customers are 'delighted'. According to the company: 'GE's success with Six Sigma has exceeded our most optimistic predictions. Across the Company, GE associates embrace Six Sigma's customer-focused, data-driven philosophy and apply it to everything we do' (GE undated a: 3). Various estimates have been given of the savings made through quality improvements, but the more important aspect of all this, according to Welch, is that it contributes to building GE as a 'learning organization' where 'everyone in GE gets up in the morning and comes to work every day trying to find a better way' (Collingwood and Couto 2002: 94). If the earlier ruthless focus on cost cutting never vanished from GE in the 1990s, the wrapper changed so that the initiatives were increasingly about vision and values.

The succession of initiatives ended in dot com farce in a way which raised serious questions about what Welch was doing as CEO and what his initiatives contributed. At the height of the new economy boom, Welch decided that 'the opportunities ebusiness creates for large companies like GE are unlimited' (Slater 2003: 131). He then launched an e-business initiative whereby divisions were obliged to set up a unit called 'DestroyYourBusiness.com', charged with reinventing the business model, just as senior colleagues were to be mentored by their juniors in using the net (*Economist* 16 September 1999; *Forbes* 24 July 2000). Interestingly, again this was inflected towards the hard stuff of saving internal costs and meeting external needs because Welch was very clear about the need to use digital technology to improve productivity and make GE a global supplier of choice (GE Annual Report 1999: 6-7; Welch 2001: 341-5). Thus, medical systems could overtake Siemens if it used e-business internally to reduce product development time by 25 per cent and inventory by 40 per cent (*line 56 Magazine* October 2001).

This e-commerce initiative must be considered in the context of the earlier initiatives from 'number one or number two' onwards. Taken together, they suggest very strongly that Welch had excellent timing and a shrewd intuitive sense of how passing management fashion and new economic direction could be turned into a GE initiative. This then demonstrated the company's timely commitment to going forward through management and incidentally gave Welch a Zelig-like ability to put himself into all the big historic pictures of late twentieth century management. The e-business initiatives also demonstrated GE and Welch's luck because they were not reputationally damaged by DestroyYourBusiness.com. The business, media and political scripts in the years 1999 and 2000 were then full of performative folly, so that the majority afterwards had a vested interest in discounting whatever was said and done in that period as a kind of dalliance with e-business, an out of character madness in an otherwise exemplary life.

This was all the more appropriate because, by this stage, Welch had made himself into a star through touring, one man performances and memory feats. Each year began with a January meeting for Welch and GE's top 500 operating managers at Boca Raton, Florida. 'Session C reviews' in April and May took Welch into the field to review the progress of GE's top 3,000 executives where he knew the top 1,000 by sight and name (*Business Week* 8 June 1998). Through the year, there were monthly sessions at the GE training centre in Croton on Hudson

which might involve a four hour unscripted session in ‘the pit’ for Jack and a group of GE executives completing a three week development programme (*Business Week* 8 June 1998). Here again there was development because by the 1990s, according to one of his former colleagues, Welch had replaced ‘yelling and screaming for performance... (with) a much more motivational approach’ (Larry Bossidy, cited in Tichy and Sherman 1993: 257). There was the same development in Jack’s communication with outside audiences where, by the end of the 1990s, Welch’s annual letter to shareholders had become an annual event. Increasingly smaller amounts of the letter were taken up with outlining the financial performance of the year, which was generally presented in an understated and factual way, while most of the text was given over to explaining GE and the unifying philosophy that was driving it on to ever better results.

From Welch’s explanation of the importance of learning and development (Welch 2001: 169–84), and the reception from commentators like *Business Week*’s John Byrne (who later co-authored the Welch autobiography), casual readers might be excused for thinking that GE had become an educational institute, or even a centre for personal development. In his final letter to shareholders in the 2000 annual report and accounts, Welch summarizes his achievement:

The most significant change in GE has been its transformation into a Learning Company. Our true ‘core competency’ today is not manufacturing or services, but the global recruiting and nurturing of the world’s best people and the cultivation in them of an insatiable desire to learn, to stretch and to do things better every day.

(GE Annual Report 2000: 2)

All this was a considerable achievement for Jack and GE who continuously reinvented themselves for 20 years. In an interview for the *Harvard Business Review* in 2002, Welch concludes by saying that he would like his gravestone to say ‘People Jack’ (rather than ‘Neutron Jack’ or some other epithet), because the single most important part of his job has been ‘spend(ing) time with people’ (Collingwood and Coutu 2002: 94). It is hard to think of any other company that managed through performative initiatives and big ideas to reincarnate as soft leadership-for-change in the 1990s after previously incarnating the hard, defensive management in the 1980s. But, as we saw in the case of Ford, other firms had their own initiatives and the main difference is that the GE initiatives were increasingly identified as the conditions of GE’s success and packaged as lessons or exemplary, transferable techniques which others could use. The intense interest in the initiatives was, of course, stimulated by outstanding financial results, as summarized in Exhibit 2. The 400 fold increase in sales and the much larger rises in profit and market value provide the context for the sustained fascination with the company by outside commentators. We take up this issue of outside reception in the next section on external commentary, especially media and popular business books.

Exhibit 2. GE’s Headline Performance

	<i>1980</i>	<i>2000</i>	<i>% (nominal) change 1980–2000</i>
Sales Revenues \$ million	24,959	129,853	420
Net Income \$ million	1,514	12,735	741
Market Value \$ million	12,044	507,377	4,113

Source: GE Annual Report and Accounts, various years.

2. Company Narrative In Media And Business Books

This section turns from the company's own account to the reception of that account and the overlapping construction of a narrative by three groups of outsiders: analysts, journalists and the academics and/or consultants who write popular business books. The story here is complex because the main role in analysing and interpreting GE has been taken up by the business media and writers of business books, while analysts have generally played a more low key role. The business media provide a kind of real time commentary where judgements change over the 1980s and 1990s as Welch and GE move along a reputational S curve; while the popular business books from the early 1990s onwards offer a hagiography which builds the cult of Jack Welch as great CEO. The narrative reception and embroidery of GE's account by writers and journalists establishes GE as a management practice that can be encapsulated in key principles, actions and beliefs which, significantly for many commentators, can be learnt by others and transferred to different organisations.

The differences in these diverse literatures should not be suppressed. But it is also worth noting that there is a generic form to the argument that GE management saves. In management thought, as in cinema, the power is in the editing and the causal connection between GE's management techniques and superior performance is suggested by juxtaposition through a jump cut from results to initiatives. The technique can be illustrated by choosing, more or less randomly, any competently written business book where GE figures as a major example. Consider, for example, the book on 'trajectory management' by Paul Strebel, a Professor at the Swiss IMD management school. Strebel's first shot announces GE's undisputed achievement which is 'two decades of high powered growth' (Strebel 2003: 163). In the second shot, Strebel identifies key initiatives (Globalization & Workout, Services & Boundarylessness, Six Sigma & A team and e-Business) as 'trajectory drivers' that allowed the company to engineer upward shifts in 'product/ market innovation' and 'value chain efficiency' (see Strebel 2003: 172-5 and especially Figure 10.2). Although Strebel explicitly does not believe in one best way, the juxtaposition suggests that others can get the results by applying the techniques. More explicitly, Ulrich *et al.* (2002) have made one of GE's initiatives the focus for a 300 page book, *The GE Work-Out*, whose subtitle 'How to implement GE's revolutionary method for busting bureaucracy and attacking organizational problems – fast' gives an instant guide to the purpose of the book and its potential relevance to other firms.

The Analysts

No giant company of GE's scale and scope could escape critical analysis of its actions and results. But an infatuation with Welch began to develop in the late 1980s and was sustained through to his retirement in 2001, so that the CEO and his company mainly got media hagiography. Journalists and writers of business books increasingly pushed a line on exemplary GE and inspirational Welch, often including how-to-do-it tips, so that these writers were selling the management brand in much the same way as style magazines sell a look. This case study focuses on the GE publishing industry in book and article form. The combination of sustained media interest with many book length studies is almost unique to GE and Welch and so provides an interesting opportunity to consider a narrative of corporate purpose and achievement developed outside the company. The availability of this resource (as well as reasons of space) means that in this case study we do not give the same degree of attention to analysts as in our cases on GlaxoSmithKline and Ford. However, the analysts do deserve a few paragraphs of comment because they are a potentially important part of the GE story: they are generally a low-key group of commentators who occasionally make important interjections whose impact seems muffled.

Discussion of the analysts' contribution to understanding GE must start from events since the new economy crash in 2000. The failure of analysts to anticipate the Enron and WorldCom collapse and their earlier role in boosting new economy companies have cast doubt over analysts' capacity to produce an independent critical commentary on the substance and sustainability of (apparent) corporate success (see, for example, Fuller and Jensen 2002). The problems are clearly greatest in the case of companies which are heavy users of investment banking services for acquisition, IPO or bond sales and which thereby generate fee income for the financial services conglomerates that employ many of the analysts. The resulting conflicts of interest and double standards were dramatized by the conduct of star internet stock analysts like Henry Blodget whose published reports boosted a dot com stock which he rubbished in private emails, or Mary Meeker who was alleged to have had conflicts of interest between equity research and investment banking (*Wall Street Journal* 29 April 2003, 3 November 2003). GE was not of course an insubstantial dot com, but its continued acquisitions over twenty years must have generated fee income which set up substantial conflicts of interest and potentially inhibited criticism by many analysts. When Welch's successor, Immelt, turned to large scale industrial acquisition, GE became in 2004 the largest single corporate source of fee income for the investment banking industry when it paid \$454 million to its financial advisers, according to Dealogic Research. This was reported in the *Financial Times* under the worldly headline 'GE tops the list for helping to boost bankers' bonuses' (24 January 2005).

If much analyst commentary on GE has been anodyne and descriptive, this cannot be attributed simply to conflicts of interest. Given the sustained combination of alluring headline performance numbers and the apparent difficulty in understanding such a large and diverse company from its published accounts, most commentators (including analysts) have tended to fairly uncritically recap the headline numbers and the company's explanation. The size and complexity of GE has been repeatedly invoked as itself a major problem because as one analyst observed 'it is an extremely difficult company to evaluate because there are so many moving parts' (cited in *Fortune* 24 May 2001). Diversity certainly adds complications. GE is generally followed by industrial analysts because it is classed as an industrial, not a financial firm, given that its share of turnover from industrial divisions is (deliberately) kept above 50 per cent. Of the 19 analysts listed on GE's web site in November 2004, all appear to have their major affiliation or experience in following industrial companies. Arguably most industrial analysts will have limited ability to understand the GE's capital services, whose financial products and markets are both bewilderingly various and often disconnected from those in the industrial businesses. As Standard and Poor's credit rating analyst, E. Richard Schmidt, writes in his explanation of how S&P analyses GE Capital Corp., 'in the current environment of increasing disclosure in financial statements, many analysts who are more familiar with industrial companies do not fully understand what the expanded disclosure information means in terms of risk for a finance company' (S&P 2002: 2).

GE also allegedly works to incorporate its analysts into a small community around the company. In the web casts of analyst calls, CEO Immelt replies to each questioner by first name (see for example the transcript of the 2003 Annual Business Update and Outlook, hosted by Immelt, GE 2003). The *Economist* (2 May 2002) has argued that GE 'manages expectations about its earnings by managing its analysts' so that analyst forecasts are within a very narrow range, and all are within GE's own range. In all fairness, this kind of convergence is not unique to GE but critics allege that GE goes further by giving preferential treatment to those who play a part in developing the corporate narrative. Again according to the *Economist*, GE 'continues to treat analysts, journalists and other outsiders as if they either belong to the family and are believers, or do not' (2 May 2002).

It is also interesting to note that GE is covered by relatively few analysts despite its huge market value. For instance, *Fortune* (24 May 2001) points out that only 28 Wall Street analysts cover GE, compared with the 47 who follow Gillette (with one-thirteenth of GE's market capitalisation). Arguably, none of those analysts has the independent status and

reputation of an auto analyst like Gary Lapidus in the US and certainly they have not put together an independent critical narrative, as Lapidus did for Ford, by emphasising the cross subsidy from trucks to cars which was not disclosed in the accounts. Various GE analysts have made shrewd critical points, as Jeanne Terrile of Merrill Lynch did when she calculated that 4 per cent points of GE's 9.9 per cent annual growth between 1985 and 2000 came from acquisitions (*Fortune* 4 September 2001) but somehow or other anomalous findings are not turned into an independent critical narrative, nor taken up by other commentators in a sustained way. Such observations are neutralized by GE's reassuring performance and steady earnings growth which makes some analysts feel comfortable in treating GE as a 'trust me' story with no further (critical) analysis required. Interestingly, GE has had on and off problems with non-believers from outside the analysts community, most notably with Bill Gross of PIMCO fund management who advised against buying GE commercial paper on grounds of risk because, he claimed, this was a financial company masquerading as an industrial company. This line of criticism is an important cue for our analysis of the business model in the next major section on numbers.

Business Press

If analysts are too often inhibited, media journalists have a good deal of formal freedom, subject to the practical constraint of deadlines. Their urgency limits the scope for research and reflection and establishes a bias against understanding. This is reinforced by media specialisation, which increases the demand for short items that fit formats like business news bulletins. Contrarian and dissident narratives need development time which everyday journalism does not provide. Hence the strong tendency to herding in journalists' business press stories about GE where new stories typically are pegged to a foreground event (e.g. the latest GE results or a major acquisition) whose background is then filled in by a quick scan of clippings files and analysts reports where collective judgement congeals and is supported by interviews with company insiders. The business journalists' judgement of corporate achievement and purpose changes over time, though usually rather more slowly than in political journalism. Under multiparty systems, where sceptical judgement can seldom be contained for long, most administrations move along a curve of rapidly declining reputation as experience of actions and outcomes accumulate so that all political careers end with unfulfilled promise or failure. The case of Welch and GE is interestingly rather different because here the CEO and his company move along a rising reputational S curve over a much longer time frame of some 20 years. Media hostility and scepticism about GE in the early 1980s gave way to admiration and a sharp rise in reputation through the later 1990s, which then levels off in the early 2000s.

The real time commentary of business journalism is often fixed, rationalized and valued by a few labels or factoids which convey powerful images that can be used in two and a half minute stories. Through the early 1980s, the unease of media commentators was epitomized in the 'Neutron Jack' epithet which circulated through the pages of the business press. In 1984, *Fortune* had named Welch as 'America's toughest boss' on the basis of GE's plant closures and lay-offs, as well as the way in which Welch treated his management staff. The tone of business press features on the GE company was usually questioning and sometimes hostile. Here, for example, as late as 1986, is an openly sceptical *Fortune* magazine.

...to the casual eye, much of what General Electric has been up to lately seems to epitomize the humbled circumstances of American business. For more than a century GE brought the world wondrous inventions, from light bulbs to electric dishwashers to CAT scanners, enhancing people's lives and creating jobs. By contrast GE's most

visible moves in this decade appear grim and unimaginative.... (H)as this great enterprise been reduced to boosting profits by firing people and buying other businesses?

(*Fortune* July 7 1986: 42)

However, by the mid-late 1980s, the doxa was changing as the media came to accept that Welch had wrought a transformation in GE and identified the need for change well before other companies and commentators. This discovery should be set in the larger context of increasing social acceptance of the Reagan/Thatcher programmes of neo liberal framework reform, which of course required managers who ostentatiously did what was necessary to exploit new opportunities at the company level. Thus, while Welch was frequently criticized for large scale downsizing in the early 1980s (sometime at profitable plants and businesses), by the end of the 1980s other giant corporations had added down or rightsizing to their armoury and this was no longer treated as exceptional. The reputational transformation was complete when, in 1991, Welch was named ‘American Manager of the Year’ by the National Management Association in an award which reinterpreted the lay offs as a radical delayering of the company (*Management Review* Oct 1991: 7). As for the GE company, from the late 1980s it began to get very positive reviews in the US and British business press. The reviews generally worked by antithesising old GE as a supposedly slow, flabby bureaucratic company and new GE as a lean and agile competitor created by Welch.

‘In less than seven years, John F Welch Jr has transformed an overweight, somnolent General Electric Company into an agile and highly profitable corporate enterprise – a model for American industry in the Age of Japan’, taking GE from ‘smokestack’ to ‘fastmoving, high-tech behemoth’

(*Business Month* March 1988: 24).

Jack Welch turned ‘GE from a textbook case of massive, bureaucratically managed conglomerate into a new model of decentralized, liberated management’. Through acts like throwing away rule books and reducing HQ staff from 1,700 to 1,000, ‘this change has been traumatic, requiring a mixture of ruthlessness and constant cajoling and speechmaking’.

(*Economist* 7 January 1989)

And, by this stage, it was possible to quote analysts and others whose judgements concurred and added authority to the revaluation:

According to James Magin of LF Rothschild, Unterberg, Towbin: ‘when he took over, Wall Street considered GE a well-managed, successful, powerful company. Welch was one of the few people who recognized that this wasn’t true. He’s proved to be an absolutely terrific manager’.

(*Financial World* 15 April 1986)

Through the 1990s the reputation of Welch and GE rose in much the same way as the company’s share price and the doubts of the 1980s vanished into the rear view mirror. The Harvard academic Christopher A. Bartlett was cited in the *Economist* (18 September 1999) noting that Welch’s early years of brutal, cost cutting had been balanced by ‘revitalisation’ and that subsequent success was rooted in the ‘movement of ideas and management talent around the group’. Through the 1990s, the media put more and more emphasis on the leadership techniques and organisational innovations of GE so that, as Welch was coming up to retirement, the issue was very much framed in terms of Welch’s historical legacy and GE’s contribution to US corporate management more generally. Thus, thirteen years after its 1980s

questioning of the downsizing of GE, *Fortune* was adopting a very deferential tone in its reflections on Welch's legacy of management techniques when it claimed that 'his real legacy is the tools and leaders he has helped to forge' (27 September 1999). A few weeks later it noted that 'in addition to his transformation of GE, he has made himself far and away the most influential manager of his generation. (Indeed his only competition would be Alfred P. Sloan)' (*Fortune* 22 November 1999). Thus, Welch as CEO had become a business press icon, whose conduct and techniques have exemplary, transferable value.

All this was barely dented by Jack's messy divorce, which cast doubt on his motives but not on his achievements. The papers released during the course of reaching a divorce settlement showed that Jack Welch was just like other US top managers, in that he cut himself a very good deal as CEO and in retirement, with free tickets to major international sporting events and large bills for the running of his New York apartment among the items disclosed (*Forbes* 6 September 2002; *Wall Street Journal* 27 November 2002). Following hostility in the business press, Welch voluntarily modified the deal to eliminate all the perks, except those associated with office support normally given to retired GE chairmen and vice chairmen (*Forbes* 16 September 2002) While Jack the star was personally diminished by the public disclosure of his cupidity, nothing that came out during the divorce settlement had any implications for Jack the manager who has remained a hero and on that basis continues in retirement to publish his management penseses.

(Popular) Business Books and Media

Through the media commentary of the 1990s, Welch became an A list celebrity whose persona and achievement were all the more interesting because his background was working class Irish and, on the law of averages, Welch should have become a police lieutenant or fire chief rather than a sharp doctoral student with a mild stutter who joined a blue chip company and metamorphosed into the most admired CEO of a whole generation. As the Economist (18 September 1999) observed with a little condescension, 'the train conductor's son from Salem has become the Princess Diana of the business press, his every move recorded in a series of cover stories'. According to an interview published in the Harvard Business Review, in an era when business leaders moved much closer to 'the center of popular culture... No CEO exerted a more magnetic pull on the media than Jack Welch' (Collingwood and Coutu 2002: 88-90). The result was 'more than a dozen books at last count, innumerable mentions in the press and more than a half-dozen appearances on the covers of both Fortune and Business Week' (Collingwood and Coutu 2002: 90)

This section considers the books that take (or include) Welch and GE as their object. It does so primarily by considering two best selling books: *Control your Destiny* by Tichy and Sherman, originally published in 1993, and *Built to Last*, originally published by Collins and Porras in 1994 (and where we refer to the 3rd edition, published in 2000). These books have been chosen for two reasons. First, both books are generally well presented and fluently argued from a reasonable evidence base so that they provide classic examples of how the devices and techniques of the popular business text can be used to wrap Welch and GE by plausibly associating achievement and conditions. Second these two books usefully illustrate opposite choices within the one field about the conditions of that achievement: Tichy and Sherman put the main emphasis on Welch's leadership in his term of office as CEO; while Collins and Porras put the emphasis on the long term excellence of the organisation before and after Welch. While this interpretative difference about the lessons of Welch and GE is interesting, both texts illustrate an intellectual problem which is characteristic of popular business texts: just as in Womack *et al.* (1990) on the auto industry, these two books on GE cite confirming evidence in a way which does not stimulate discovery or reflection but vindicates a pre-existing position. Our discussion of these texts is rounded off by a broader survey of other books on Welch and a brief discussion of Robert Slater's *29 Leadership Secrets from Jack Welch*, which is a good example of hagiography about the business leader.

The Tichy and Sherman and the Collins and Porras books are written by teams that combine a hybrid academic consultant with a collaborator who is a journalist or a full time consultant. The hybrid academic /consultant has a cv which includes periods of (staff) employment in blue chips or major consultancies. They are unlikely to spend much time grading student essays and are more likely to be working on executive education as well as consulting outside the university. Consider, for example, the book jacket biographies of Jerry Porras and Noel Tichy:

Jerry J Porras is the Fred H Merrill Professor of Organizational Behaviour and Change at Stanford University Graduate School of Business. He is the author of *Stream Analysis* and the co-inventor of stream analysis software, used for organizational change diagnosis. He also directs Stanford's Executive Program in Organization Change. Previously he held positions at General Electric and Lockheed.

Noel Tichy is an authority on organizational transformation. He is a professor at the University of Michigan School of Business and director of the school's Global Leadership Program. He has consulted to GE since 1982 and ran GE's Crotonville Training Centre for two years.

(Tichy and Sherman 1993)

Deformation professionnelle encourages such authors to meet the demand for a 'runaway national best seller', where airport bookstand sales are encouraged by endorsements from the *Harvard Business Review* and quotes by businessmen. The centre piece (or final section) of the work is likely to be the packaged lessons of success which means that this is as much a product as it is a good read.

Thus, Tichy and Sherman's book, written in the early 1990s, is, first, an explanation of Welch's management principles and actions within GE and, second, a 'Handbook for Revolutionaries' who wish to emulate the success by applying the Welch approach. The authors assert that 'the lessons we have drawn from General Electric's experiences apply to almost everyone' (1993: xxv), whether 'a small business, a ten person corporate department, or in a multi-billion enterprise'. The book ends with a 80 page handbook for revolutionaries which offers examples, diagrams, checklists and questionnaires, which together provides a kind of generic workshop manual to allow any reader to do in his/her company what Jack did in GE. The emphasis on packaged lessons of success is even stronger in Collins and Porras (2000). These authors take GE and Westinghouse as one of 18 pairs of companies where, in each case, the authors claim to have matched a 'visionary company' and a more mundane 'comparison company' with the aim of determining the organisational conditions of long term excellence by a small elite of super companies (2000: 2-3). The book then substantially consists of series of chapters that draw on company experiences to distil general lessons. From this point of view they find the history of GE and Westinghouse instructive because Westinghouse invented AC technology, which GE subsequently adopted (over its own product), while GE instead 'invented GE' through institutions such as the GE Research Laboratory. The lesson is:

if you see the ultimate creation as the company, not the execution of a specific idea or capitalizing on a timely market opportunity, then you can persist beyond any specific idea-good or bad- and move towards becoming an enduring institution.

(Collins and Porras 2000: 29)

The nature and conditions of success are differently identified in the two books. For Tichy, the success of GE is attributed to Welch as the leading man in a 'three act' drama' which presents the performative initiatives as a story about how reverses and struggle were turned into the resolution of permanent revolution. Act I ('the awakening') runs from 1981 to about

1986 with 'the fusty, bureaucratic company Welch had inherited no longer existing' (1993: 149). Act II focuses on building values and capacity amongst GE's senior managers and features Tichy's own involvement with GE from 1985 to 1987 as manager of Crotonville, where executives were trained to lead by sharing ideas and information and building the values of GE. Act III ('revolution as a way of life') after 1988 extends change to the lower and middle tiers of management and spreads boundarylessness.

Throughout, much emphasis is put on the idea of leadership, as opposed to management: 'managing doesn't interest Welch much. Leadership is what he values because that's what enhances his control over the organisation' (1993: 195). Welch is credited throughout with a crucial role, for example, in Act II through 'transformational leadership' (p.159) and interpersonal skills (p.196). The twin notions of the visionary leader and the learning organisation permeate Tichy's other books, where GE is used as a case study in leadership. For instance, Tichy and Cardwell (2002: 8), described GE as 'the world's largest teaching infrastructure', citing the claim from Jack Welch that 'I probably spend 40 per cent of my time leading the company, selecting, coaching, deciding who gets which jobs' (p.112).

By way of contrast, Collins and Porras simply take a much longer term view of the case and attribute the success not to Jack but the organisation he inherited:

Obsessing on Welch's leadership style diverts us from a central point. Welch grew up in GE; he was a product of GE as much as the other way around. Somehow GE the organisation had the ability to attract, retain, develop, groom and select Welch the leader. GE prospered long before Welch and will probably prosper long after Welch. After all, Welch was not the first excellent CEO in GE's history and probably will not be the last

(Collins and Porras 2000: 34).

Thus, for Collins and Porras, Welch was not special in GE terms but the latest in 'a long heritage of managerial excellence atop GE' (2000: 171) and they claim that 'Welch's immediate predecessor, Reginald Jones, retired as 'the most admired business leader in America' (p.170).

If the conditions of success are differently identified in the two books, the Collins and Porras account is immediately much more interesting because it suggests the cult of Welch rests on a rewriting of history. But both teams of authors are alike in that neither is much interested in deconstructing the achievement of GE by focusing on empirics or including any empirics which might challenge or complicate the authorial line. As in Strebel (2003) considered at the beginning of this section, in both books the relation of causality or justification is established by juxtaposing assertions about brilliant success with claims about its conditions.

Collins and Porras have some excuse for this because their object is 18 pairs of companies and they present long run comparative analysis, including a curve of Total Shareholder Return, which shows that the visionary companies outperformed the market from 1926-90 (2000: 6-7). Apart from such generalities, they do include one interesting GE exhibit which ranks Welch against his predecessors: taking the first eight years of his term, these authors find that Welch did no better in financial terms than Jones in the eight years of his office (2000: 169-73). Using return on equity as the measure, Welch comes 5th out of 7; although tellingly if the measure is whether GE beats average market stock returns, Welch does better than most of his predecessors, as Exhibit 3 shows.

Exhibit 3. Collins and Porras' Performance Rankings of Chief Executive Eras at GE

<i>Rank</i>	<i>GE Chief Executive Era</i>	<i>Average Annual Pretax Return on Equity</i>
1	Wilson, 1940–49	46.7%
2	Cordiner, 1950–63	40.5%
3	Jones, 1973–80	29.7%
4	Borch, 1964–72	27.5%
5	Welch, 1981–90	26.3%
6	Coffin, 1915–21	14.5%
7	Swope/Young, 1922–39	12.6%

<i>Rank</i>	<i>Average Annual Cumulative Stock Return Performance Relative to General Market</i>	<i>Rank</i>	<i>Average Annual Cumulative Stock Return Performance Relative to Westinghouse</i>
1	Swope/Young, 1922–39	1	Cordiner, 1950–63
2	Welch, 1981–90	2	Jones, 1973–80
3	Cordiner, 1950–63	3	Swope/Young, 1922–39
4	Borch, 1964–72	4	Wilson, 1940–49
5	Wilson, 1940–49	5	Welch, 1981–90
6	Jones, 1973–80	6	Borch, 1964–72

Source: Collins and Porras, 2000, pp.308–9.

Note: Return on equity database available back to 1915 (Coffin was in office from 1892). Stock return database available back to January 1926.

This exhibit offers a measured assessment of the relative success of Welch's stewardship and also focuses attention on one key piece of evidence that vindicates Collins and Porras' focus on the organisation, rather than the individual. Those who turn to Tichy and Sherman in search of further information on performance in the Welch years will be disappointed. The main exhibits are six graphs and bar charts covering the 1981–92 period on two facing pages: on the one side we have 'the performance story' in three exhibits with GE total sales, productivity and stock price all increasing gratifyingly; on the other side is 'the human story' with head count and organisational layers both going down appropriately and the number of employees with stock options going up appropriately (1993: 6–7). This might be called the mixed assortment approach to confirming evidence. Other evidence used in the book to illustrate Welch's positive results is very limited, with in some cases opinion substituting for any more elaborate evaluation, as when it is claimed that:

Work-Out has made believers of GE's top 1,000 or 2,000 executives. I've been inside scores of the world's best and biggest companies, and I can't think of another where intellectual freedom and like-mindedness co-exist to an equal degree.

(Tichy and Sherman 1993: 258)

In many other books, the focus is on Welch and the titles of these books indicate the preoccupation with the man. See, for example: Stuart Crainer & Des Dearlove's *Business the Jack Welch way: 10 secrets of the world's greatest turnaround king*; Jeffrey A. Krames' *The Welch way: 24 lessons from the world's greatest CEO* and *Jack Welch lexicon of leadership*; Robert Heller's *Jack Welch. The giant of corporate management who created billions for investors*; Janet Lowe's *Jack Welch speaks* and *Welch: a business icon*; Robert Slater's *29 Leadership secrets from Jack Welch (2003)*, *The new GE* and *Jack Welch and the GE Way*

(1999a); and James W. Robinson's *Jack Welch on leadership: executive lessons of the master CEO*. Such books are generally distinguished by their striking absence of interest in the GE organisation and their claimed understanding of the mind of Welch. They are variably derivative and secondary, with Heller's book one of the most limited in terms of analytical content and Slater's three books amongst the best. But all these books fit into a problematic where the object is leadership and the result is hagiography of the leader as a kind of religious prophet or great political leader whose thoughts and epigrams must be extensively quoted in a context where Jack's analyses and actions are invariably correct.

The whole genre is epitomized by the interview with Welch in Slater's (2000) *GE Way Fieldbook*. Welch responds to the sycophantic first question about brilliant success by invoking the initiatives:

Q. The last year or two at GE have been so excellent. Every year GE gets better and better. How do you account for that?.....

A.You have to take the initiatives and you have to understand they've all become broader and deeper.

(Slater 2000: 171)

As for Welch's contribution, that is summed up in a series of extended quotes in Slater's shortest book, which presents the thoughts of chairman (and CEO) Jack. Thus Slater reprises Welch's distinction between (inspirational) leadership and (routine) management:

Leaders... inspire people with clear visions of how things can be done better. Some managers, on the other hand, muddle things with pointless complexity and detail. They equate (managing) with sophistication with sounding smarter than anyone else.

(Welch, quoted in Slater 2003: 17)

Simplicity in message or product design is crucial to the communication of that vision because as Welch says:

whatever it is - we're going to be number one or number two, or fix/close/sell or boundarylessness - every idea you present must be something you could get across easily at a cocktail party with strangers.

(Welch, quoted in Slater 2003: 66)

The status of visionary prophet/leader is conferred by reporting every Welch diagnosis as correct and every initiative as an appropriate response, as in the following quote from Welch's 2000 letter to shareholders:

seeing reality for GE in the '80s meant a hard look at a century-old portfolio of business. Seeing reality today means accepting the fact that e-business is here, it's not coming, it's not the thing of the future, it's here.

(Welch, quoted in Slater 2003: 10)

Jack Welch does not inhabit an everyday world of ambiguity, contradiction and unintended consequences and the key give away in the hagiography is that there is never any irony in any of the descriptions of initiatives and their implementation. At times, the result is unintentionally comic as in Slater's deadpan report of how Jack Welch encouraged reluctant managers to take Six Sigma training and enrol in a 'new warrior class' of 'green belts' and 'black belts' by sending a fax which announced that completion of such training was a

prerequisite for future promotion: ‘after Welch’s fax, the number of applicants for Six Sigma training programs skyrocketed’ (Slater 2003: 103). But laughter would be inappropriate for those who believe in the visionary leader who, in hagiographic books and media coverage of the late 1990s, was increasingly credited with superhuman insight. Here, for example, is Slater citing Welch’s claim that he can see into the heart of managers: ‘I can smell when someone running (a business) isn’t doing it right’ (2003: 16). Or again, here is *Business Week* quoting a GE middle manager on how Welch knows them, despite their relative insignificance in the huge organisation: ‘We’re pebbles in an ocean, but he knows about us’ (8 June 1998).

In many ways, the increasingly cultish tone of commentary on Jack Welch from the later 1990s is not so much a lapse from good taste as the logic of the management belief system given GE’s 20 year record of financial success, which ensures that many who might otherwise mock have stayed to pray. At which point, it is sensible to switch between registers, from narrative to numbers, and register some discrepancies which can provide a critical antidote.

3. Deconstructing The Numbers: A Tale Of Two Businesses

For critical researchers wishing to understand GE under Jack Welch, the financial numbers are a hugely neglected resource. This is partly because, as noted in our introduction, academics are increasingly divided into two camps. On the one side are economic fundamentalists whose positivistic use of numerical evidence is limited by their pointillist concept of capitalism; and on the other side there are the social constructionists who see numbers as just another social fabrication. Our own position is rather different. GE’s numbers are of course produced within the socio-technical-legal conventions of generally accepted accounting practice (GAAP) but the corporate financial results are quite distinct from the narrative and performative because there is limited scope for creativity when it comes to key measures like corporate cash or divisional sales. Although GE may work hard within the (sometimes flexible) framework of accounting rules and norms to present results in such a way as to support management objectives, GE’s financial numbers are not a function of the narrative and performative assemblies that we have considered in previous sections. Thus, interesting insights and analysis can be generated in the GE case by cutting between the two registers of numbers and the narrative, especially when the time frame is lengthened so that analysis can focus on longer term performance trends which are not the main concern of journalists or stock market analysts.

As we have seen in the review of the literatures on GE, the books on Welch and GE do include long run comparisons of ten or twenty year performance after 1981. But the dominant approach is to cite what in Tichy’s case we called a mixed assortment of corroborating numbers in a before-and-after frame so that readers can appreciate the x fold increase in share price or the y fold increase in sales over the two decades when Welch was in charge. In such comparisons, statistics are being used in a rhetorical, decorative kind of way. There is, for example, usually no attempt to deflate output and profit indicators from nominal to real, though the 1980s and 1990 were decades of commodity price inflation; nor is there any discussion of whether the share price increase reflected unsustainable bull market price rises rather than permanent management success in creating value. When comparisons are included, as with Slater’s graph of GE returns v S&P returns (1999: 8), the claim ‘GE consistently outperforms the market’ manifestly does not fit the graph presented in the book, which suggests this claim does not apply to the decade of the 1980s.

There is nothing new about all this because corporate financial performance has often in the past been constructed (at least in the short term) by finding numbers whose increase confirms a stereotype of purpose and achievement that derives from narrative and performative sources. Fortunately, it is possible to deconstruct such numbers as we showed in our analysis of another GEC (General Electric Company) some twenty years ago (see also Chapter 5 of the

introduction to this book). British GEC was, like GE in the 1970s, a manufacturing conglomerate which made everything from power generating sets to consumer white goods and TVs. The defensive merger which created the new firm under Arnold Weinstock was regarded as an outstanding success. Our 1983 case, revised that judgement by the simple expedient of applying a price index: although nominal sales increases were impressive, real sales had increased by just 13 per cent over the decade of the 1970s and there was no organic growth (Williams *et al.* 1983: 145). British GEC's industrial operations were being run for margins on exacting financial criteria which also encouraged risk aversion and defensive retreat. By the 1990s this revisionism had become the received wisdom as Weinstock and his company were increasingly seen as clever but uncreative in a world which had discovered exciting new forms of management. In his autobiography Welch himself dismisses Weinstock as the 'green eye shade accountant'.

Interestingly, Robert Heller's web site sets up a contrast between bad GEC under Weinstock and good GE under Welch. The quality of the oft cited evidence on GE under Jack is such that this comparison only raises new questions about these two giant manufacturing conglomerates: does Welch's inspired leadership through performance produce hugely better results than Weinstock's financial control, which produced a profitable but shrinking manufacturing base? This question can only be answered in the 2000s by producing a much more sophisticated analysis, for several inter-related reasons. First, GE is more complex than British GEC. Second, our standard analysis now includes a much broader range of variables including balance sheet as well as operating performance. And third, the advance of financialisation means that stock market performance indicators now have a primary importance which they did not have in the early 1980s. This more sophisticated analysis is provided in two stages as this section of our case deconstructs the financial numbers on GE and the next section adds the necessary interpretation by providing an analysis of what can be termed, *the undisclosed business model*.

The deconstruction of the financial numbers in this section does undoubtedly diminish the achievement of GE under Welch, but this deconstruction should be read in the context of the next section on the business model. Taken together, sections 3 and 4 of this case accept that GE's performance was a huge achievement, but a rather different one from that constructed by writers exclusively preoccupied with endless management moves and initiatives. What Welch did was to identify business model levers (like the growth of financial services) and pull the levers hard while also generating narrative and performative framing that increases advantage by projecting purpose.

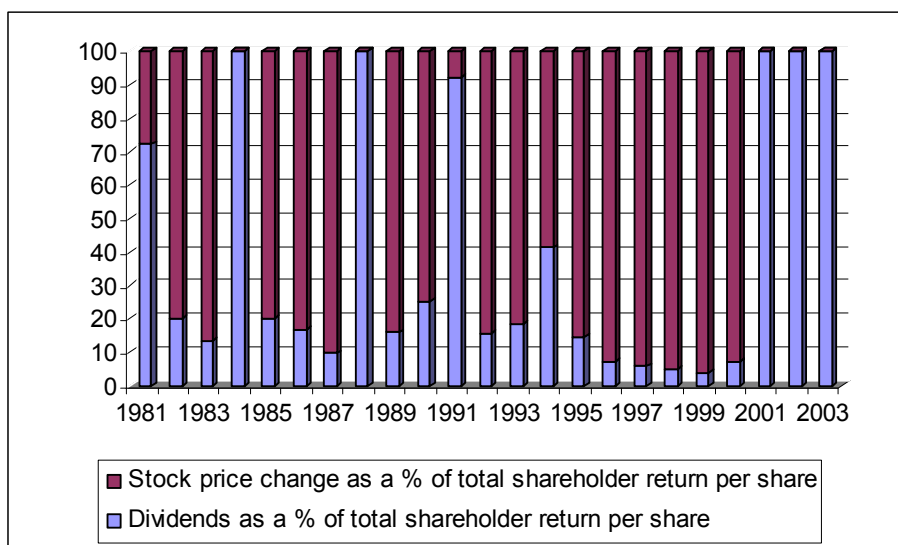
Stock Market Performance: Dividends and Stock Price

The analysis begins with returns to shareholders because these returns have a primary importance after financialisation when they are the privileged measure of success. The two components of total shareholder return are dividend payouts and share price and the immediate task is to consider the relative importance of each variable and the extent to which it reflected a durable contributions to value which made GE an attractive investment.

During the period that Welch was CEO of GE, as we noted in Chapter 4 of our introduction to this book, giant US firms were not generally increasing distributions to shareholders. And, in this context, GE's policy was to maintain its already generous pay out rates. Since 1980, total dividends have generally remained at about 40–45 per cent of net income, with some cyclical variability; payout rates are usually higher in years with lower net income (Table 1). This pattern is fairly similar to (and, if anything, slightly lower on average than) what can be observed in the S&P500 as a whole, where dividend payouts as a share of net income vary cyclically from about 35 per cent to 75 per cent and with an average of almost 50 per cent from 1980 to 2002. GE's dividends per share (allowing for share splits) rose from \$0.13 in the early 1980s to around \$0.75 (in 2003 prices), while dividend yield has fallen from around 5

per cent to around 2 per cent as the share price has risen. The importance of dividends is very variable and depends on the year and the investor's holding strategy. Exhibit 4 and Table 1 shows that dividends are an insignificant part of total return to shareholders in years of booming stock price (e.g. 1996–2000) but they account for all or most of the gain in seven of the years between 1980 and 2003, including 2001 to 2003. In this sense, dividends matter as soon as stock prices cease to rise and GE's ability to sustain generous pay-outs from increasing profits differentiates it from weaker manufacturers like Ford.

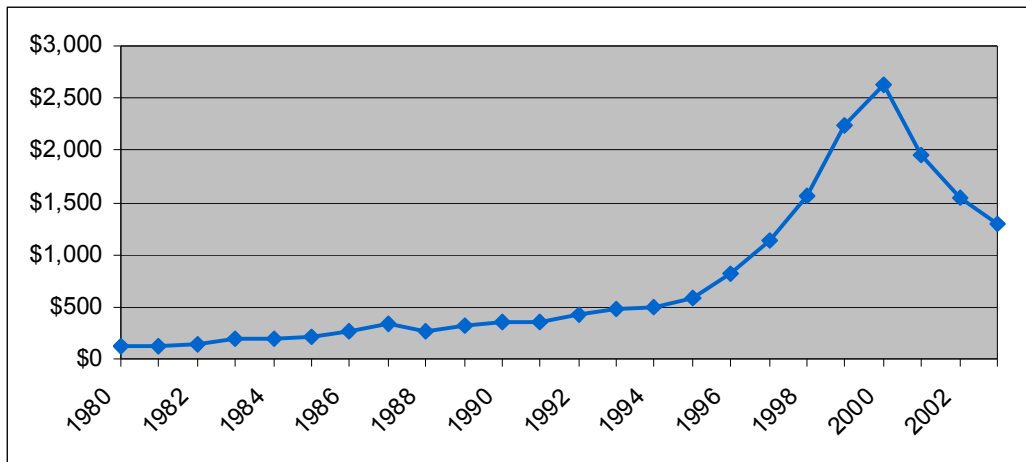
Exhibit 4. Composition of GE's total shareholder return (% shares)



Source: GE Annual Report and Accounts, various years.

For long term shareholders, the major element in total shareholder return was the increase in GE's stock price, in line with other US giant firms. After adjusting for stock splits and using real 2003 prices, GE's share price rose from around \$120 per share in 1980 to \$2,600 at the peak in 2000, before falling back to a little under \$1,300. In nominal terms, the 1980 base point was \$54 per share, rising to \$2,450 at the peak. This represents an increase of 974 per cent in real terms (or 2,287 per cent in nominal terms) from 1980 to 2003, or a more impressive 2,084 per cent real increase from 1980 to 2000 (4,441 per cent in nominal terms). This trend, illustrated in Exhibit 5, certainly appears to support the widely held view that Jack Welch was responsible for a huge increase in shareholder wealth, though clearly even the behemoth GE was not immune from general investor sentiment after 2000, when GE's share price fell by some 51 per cent in real terms (47 per cent in nominal terms) over the three years to 2003. Thus, while all shareholders have enjoyed the dividends but the extent to which individuals have benefited from share price appreciation depends on the timing of purchase and sale. GE's stock performance in Exhibit 5 is clearly strong but it is also important to put this in the context of, first, the company's steady growth over two decades and, second, the larger group of US giant companies to establish the extent to which it is exceptional.

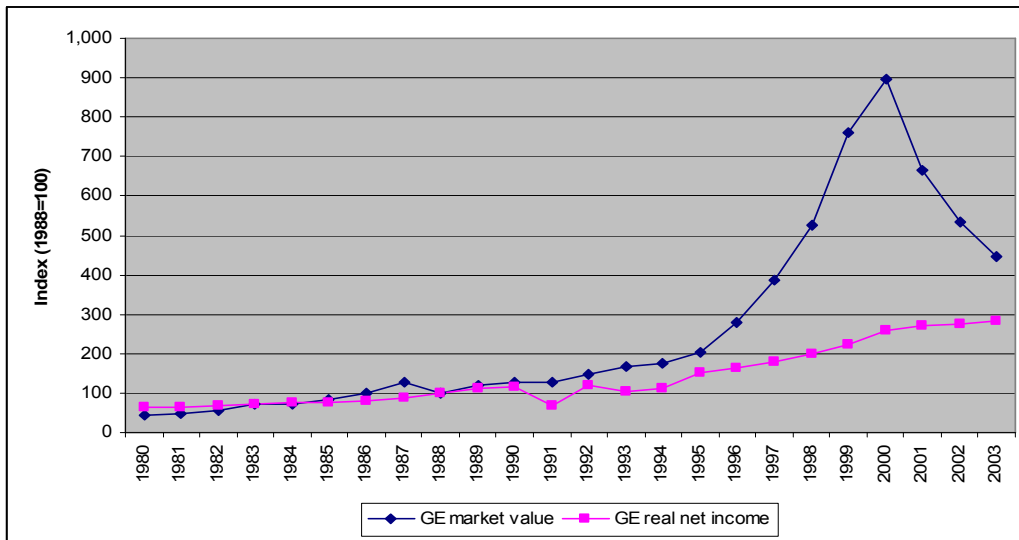
Exhibit 5. GE stock price 1980–2003 (using the average stock price during year and adjusted for stock splits, in real 2003 prices)



Source: GE Annual Report and Accounts, various years.

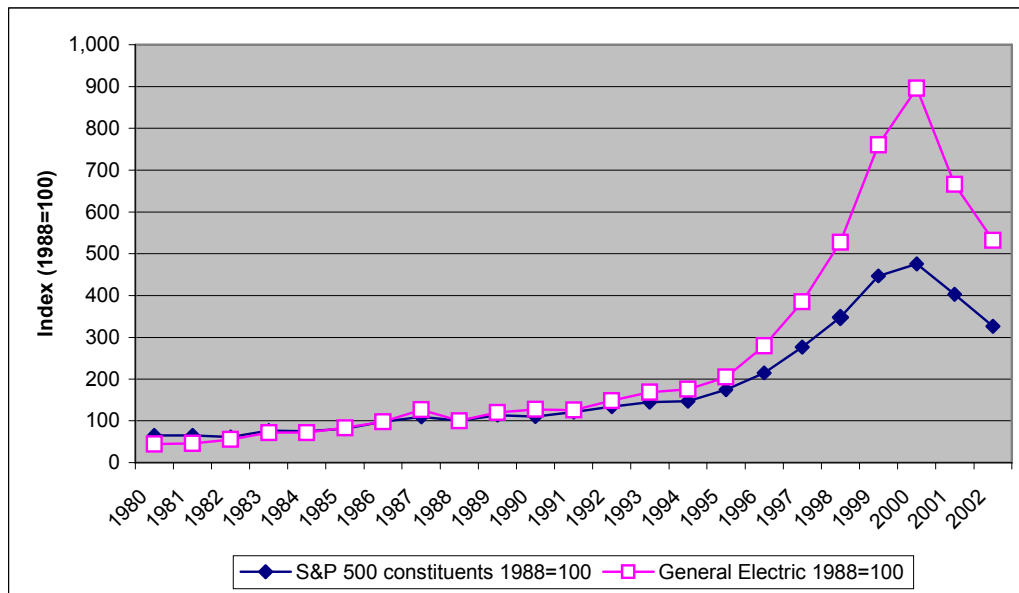
Many commentaries on Welch and GE use market capitalisation (rather than share price) as the measure of value creation for shareholders and Table 2 shows that GE's market capitalisation did increase around 21 fold, from \$12 billion to \$270 billion by 2003 (and to \$500 billion at the 2000 peak). In interpreting this large increase, of course, it is important, first, to bear in mind that GE was expanding fast during this period and its market value is partly a reflection of size and thus future earnings potential of the firm, and, second, to consider whether GE's valuation was moving ahead of other giant firms in the US. Exhibit 6 presents indices of market capitalisation and net income to provide some perspective on the first of these points. This graph shows that it is after 1995 that there is a difference in trends so that GE's market valuation moves significantly ahead of its earnings performance. Of course, the later part of the 1990s was characterized by a heady bull market in which stock prices generally moved sharply upwards. In order to assess GE, therefore, we also need to compare the company against other giant US firms: did GE's market value race ahead of its peers or are the trends in Exhibit 6 part of a more general corporate phenomenon?

**Exhibit 6. A comparison of GE's market capitalisation and net income, 1980–2003
(Index: 1988=100)**



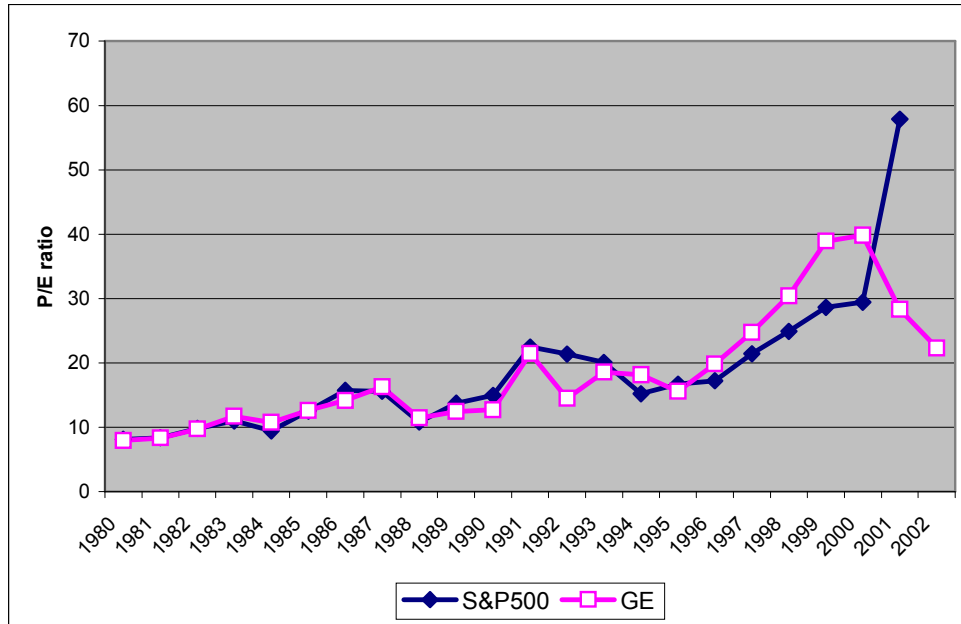
Source: GE Annual Report and Accounts, SEC 10K, Annual Abstract of the US and NYSE website.

Exhibit 7. GE market capitalisation, compared with the S&P 500 (indexed at 1988=100)



Source: GE Annual Report and Accounts and Compustat.

Exhibit 8. GE price/earnings (P/E) ratio, compared with the S&P 500



Source: GE Annual Report and Accounts, SEC 10K, Compustat.

Note: The S&P 500 P/E value for 2002 has been removed from this graph. In 2002 the overall P/E was 103: this is an outlier figure, distorted by write downs at AOL Time Warner. The removal of this observation improves the scaling and readability of the graph. The full data is in appendix Table 2.

Exhibits 7 and 8 provide some insight on this by comparing the market capitalisation and price-earnings ratio of GE against the S&P500 as a whole. As in Exhibit 6, there is a marked change in Exhibit 7 after 1995: up to 1995, GE’s market value moves in an almost identical way to that of the S&P 500; after 1995, the GE’s market value begins to rise faster than that for the S&P as a whole, followed by a sharper decline after the peak in 2000. Similarly, in Exhibit 3.8, GE’s P/E ratio rises from around 15 towards 40 at the 2000 peak, before falling back to less than 20. The answer to the question of whether an investment in Welch’s portfolio of businesses is valued more highly than the S&P500 as a whole is interesting: in P/E terms, GE does not consistently outperform the S&P 500, as Exhibits 7 and 8 show. On these measures of performance, GE matches the S&P500 during the 1980s, lagged during the first half of the 1990s in terms of P/E, before racing ahead in the period 1996–2000. After 2000, however, GE’s P/E ratio is again lower than that for the S&P 500 as a whole, as a result of a stock price that has fallen more precipitously than those of many other companies.

The results of this brief examination of stock market performance are insightful. The narrative and performative accounts of GE suggest 20 glorious years of management, an assertion usually supported with dubious before and after long run statistical comparisons. A more detailed deconstruction of stock market performance shows that in market terms, there were five glorious years from 1996 to 2000. In comparative terms, GE’s dividend yield was no higher than the S&P 500 in most years and GE’s P/E ratio more or less tracks the S&P 500 almost exactly up to 1997 when it starts to grow faster, with a large difference in growth rates from 1997 to 2000. This was clearly an achievement for a blue chip conglomerate in the period of the ‘new economy’ when investors were buying into technology stocks under the influence of narratives of digital transformation. But it very definitely is not a sustained

increase in shareholder value because in most years the market's belief in the Welch is clearly limited.

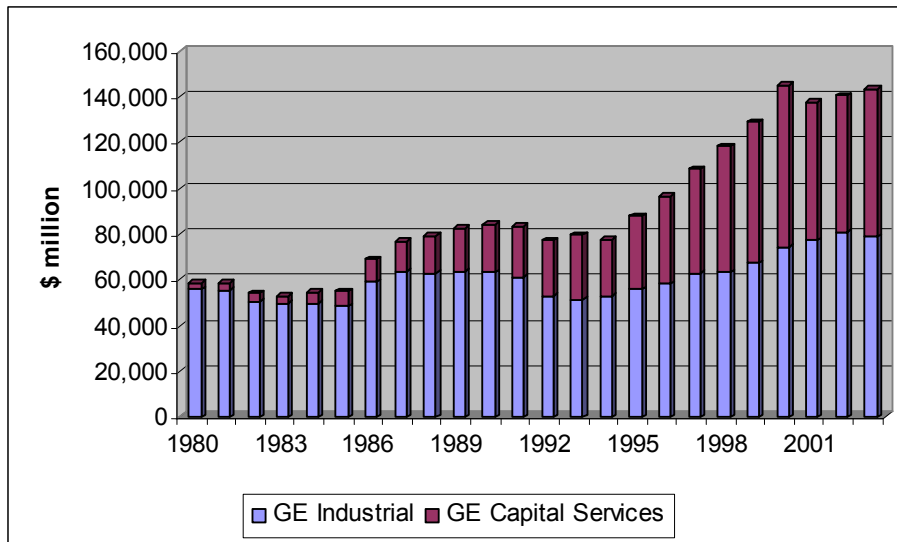
Operating Performance: Sales Growth and ROCE

Operating performance is not the same as stock market performance but, by the 1990s, it has to be constructed through the gaze of the stock market and the promises of the academics and consultants selling shareholder value. Thus, it is not enough to increase sales and to have profits but, according to opportunity cost logic, the company must also have a rate of profit greater than the cost of capital if it is not to destroy value. In practice this means more than 10–12 per cent after tax in the 1990s. If we exclude the new economy period in the second half of the 1990s, the stars of the stock market with fancy price/earnings (P/E) ratios were pharma firms like Glaxo, which combined sustained double-digit rates of sales growth and of return on capital. The question about operations is, how far does GE fall short of this star status?

Many of the before and after comparisons cite GE's fivefold increase in sales revenues (turnover) from \$25bn to \$129bn between 1980 and 2000 (See Exhibit 2 and tables 3 and 4). In considering sales growth, we can begin by converting nominal data into real values (by discounting to remove the effects of inflation). Table 5 presents sales in 2003 prices. Predictably, the rate of real sales growth is much less impressive than the nominal rate of growth. In real terms, GE sales rose from \$59bn to \$134bn over the 23 years from 1980, suggesting real growth over the period of 128 per cent, compared with 438 per cent in nominal terms. As we noted in the introduction to this book, any large group of giant companies tends to grow no faster than GDP. So GE's 20 year compound growth rate of almost 4 per cent looks very respectable because it is nearly twice as fast as the long run rate of GDP growth, though it should be noted that this headline rate of growth was achieved by a company which, as we shall see in the next section, was making large acquisitions that boosted growth. If GE was not a GDP company over this 20 year period, there was always the suspicion that it might become one. This was explicit in the early 1980s and again by the early 2000s when problems of cyclicalities hit several of the industrial businesses at the same time as unexpected downturns in areas like insurance.

The story of sales growth gets much more interesting if we divide GE into its two main components: industrial and finance (GE Capital or GE Capital Services as it has also been known, GECS). It then becomes clear that almost all of the growth in sales originates in GECS and that therefore this is a tale of two businesses, one high growth and the other low or no growth. The result over twenty years is that GECS' share of turnover increases rapidly. There is also a sharp contrast in nominal growth rates, as Table 4 illustrates. GE consolidated has grown at an average of 8 per cent per annum with a small fall in nominal sales recorded in only four years since 1980 and with growth of more than 10 per cent achieved in nine years (Table 4). The financial services side of the business has achieved double-digit growth in every year since 1980, with the exception of just three years when GECS lost sales. GECS average annual growth of 23 per cent dwarfs that of the industrial side of the business, which grew at around 5.5 per cent (or 3.8 per cent in real terms) per annum. The result of differential growth rates is that industrial becomes relatively less important as GECS becomes more important. In 1980 GE's industrial businesses contributed more than 95 per cent of total sales revenues and this remained above 90 per cent until 1988. From the late 1980s, however, GE Capital Services (GECS) contributed an increasingly large part of corporate revenues until it accounted for almost half of all sales by 2000.

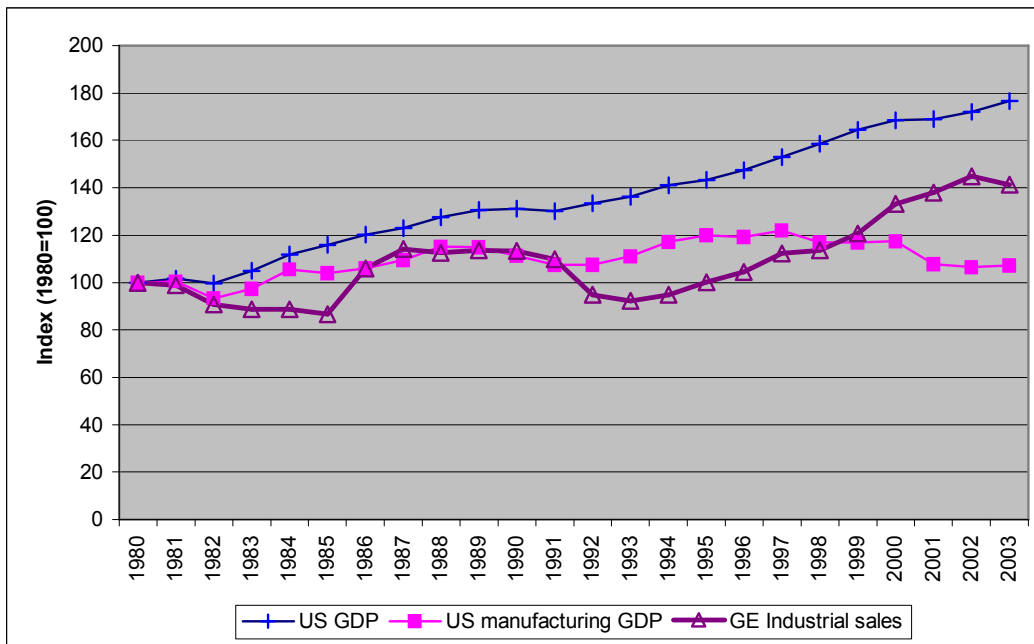
Exhibit 9. GE real sales revenue 1980–2003 \$million (in real 2003 prices) and showing the split by major division



Source: GE Annual Report and Accounts, various years.

If the analysis is made in terms of real sales and the focus is narrowed onto industrial and the businesses within industrial, the results are even more striking because the no growth status of industrial becomes all the clearer. As Table 5 and Exhibit 10 show, from 1980 to 1998, in real terms GE industrial sales are flat but varying cyclically with successive economic cycles leading to peak-to-trough variation from \$63bn to \$48bn. By way of contrast, GECS, has real growth of 1,825 per cent from 1980 to 2003 which lifts sales from \$3bn to \$64bn in 2003 prices (Table 5). Broadly, over this long period, GE industrial follows the pattern of US manufacturing: Exhibit 11 compares GE Industrial with both US GDP and US manufacturing growth and shows that GE Industrial and US manufacturing follow almost exactly the same pattern of growth over 22 years, with a faster growth only apparent after 1998. Maintaining real growth in GE Industrial over this period is, at one level, an achievement, made possible by renewing the industrial businesses to remove those that fail to make sufficient contribution to growth.

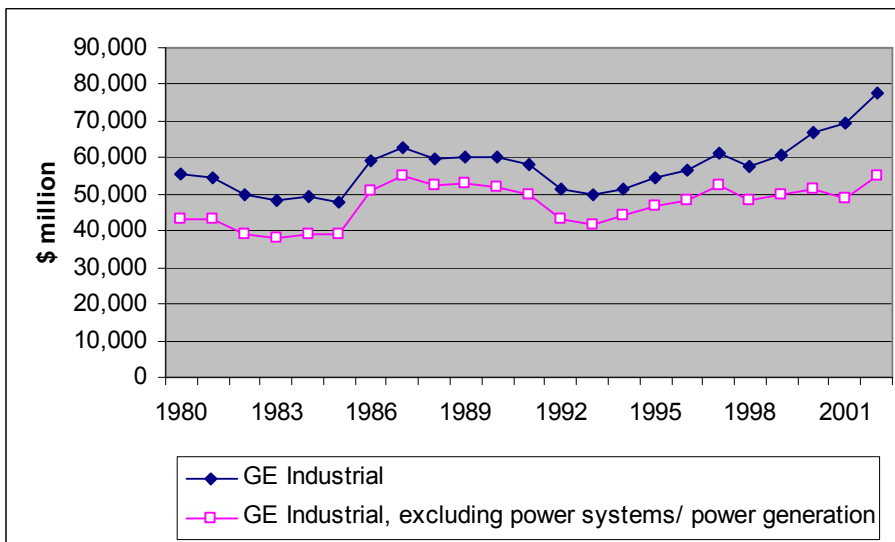
Exhibit 10. GE industrial growth, compared with GDP and US manufacturing (all in real 2003 prices, indexed at 1980=100)



Source: GE Annual Report and Accounts, various years and US Bureau of Economic Affairs

Note: GE Industrial sales in the late 1990s and early 2000s were boosted by its power systems business – see Exhibit 11.

Exhibit 11. GE industrial real sales \$mill (in real 2002 prices) and showing the power systems/power generation segment



Source: GE Annual Report and Accounts, various years.

In narrative and performative terms there is a huge difference between Jack Welch and Arnold Weinstock but if we compare the real sales growth of Weinstock's GEC industrial conglomerate in the 1970s with the Welch GE industrial business up to 1998, there does not seem to be much difference in terms of their consequences for long term sales growth. As Table 5 shows, after 1998 there is a change in the trend because real sales in GE industrial then move up by a step increase towards \$80bn at the peak in 2002 (Exhibit 10). This step increase is an undoubted achievement but does not indicate a break and a new trend to organic growth. As we argue below, the increase of industrial sales after 1998 is due to particular and non-sustainable circumstances; this becomes clearer by looking at GE industrial sales by division.

Analysis of industrial sales by division is, however, complicated by acquisition and divestment. Some divisions are relatively new with the broadcasting division, for example, created after the acquisition of NBC in 1986. Meanwhile other divisions, such as natural resources were discontinued after the sale of operations such as Utah mining acquired by Reg Jones towards the end of his term. Matters are further complicated by segment reclassifications in 1987 and 2002 (and again in 2003). The net result is that like-for-like comparisons are very difficult and, for this reason, some of our series in the statistical appendix end in 2002 and have not been updated to 2003. For earlier years, using information from change years when old and new classifications are presented, we have constructed a continuous, consistent series on the divisions presented in Table 6.

As might be expected, Table 6 shows that the industrial businesses have different patterns of cyclical and secular growth in real sales with no real growth in appliances, cyclical variation in aircraft engine sales and fairly steady growth in broadcasting. But on the industrial side, GE's problem is that (despite acquisitions and initiatives) it has no one large industrial business which is growing fast enough to cover weakness elsewhere and lift the real volume of industrial sales. And this is not changed by the recent rise in industrial sales, which reflects a temporary boom in power systems that is due to increased orders for gas turbines arising from the deregulation of energy markets in the US. In a presentation to analysts in November 2002, GE describes the booming power systems sales as a 'bubble', implying inevitable decline after the peak effects have worked through (GE 2002b).

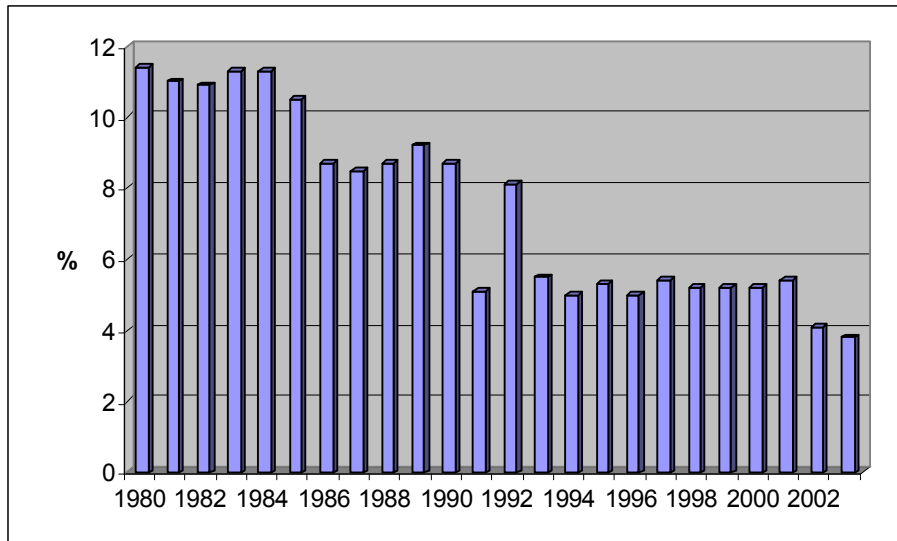
The business of power systems, which was cyclical between 1980 and 1999, had real sales running at around double the level of previous cyclical peaks by 2002 so that, power systems provided \$12 billion of GE industrial's overall sales growth of \$17 billion since 1999 (Table 6, appendix). According to the company, the bubble generated 'proceeds' of an additional \$7bn of sales between 1996 and 2002 (GE 2002b). For the power systems and energy segment as a whole, GE expected that revenues would fall from \$23bn in 2002 to \$19.7bn in 2003 as sales of equipment decline. The 2003 accounts do confirm this and show that power systems generated sales of \$18.5bn in 2003. The projected reduction is so far modest because GE assumes it can increase revenues from power generation services by winning contracts to operate and or maintain new generating sets. The effects of the 'bubble' have taken some time to work through GE's income statement and reach the bottom line because there are delays between ordering and delivery of such a large and complex product. But, the results were delivered at just the right time because they usefully cover declining real profits in several segments including appliances and materials. In terms of profit, power systems generated \$6.4 billion of GE industrial's total operating income of \$14 billion in 2002, which is some \$4 billion more than power systems had generated in any year before 1999.

It is much more difficult to say anything sensible about the sources of the sustained real sales increase in GECS because historically GE has disclosed limited consistent segmental data on GECS' financing and insurance operations. But from published information it is straightforward to compare the overall return on capital employed (ROCE) in GECS against that for industrial services and this comparison highlights a central paradox which Table 7

illustrates: the relatively declining industrial services business has a high ROCE, while the fast growing financial business has a very low ROCE so that the shift towards financial services leaves GE with an overall ROCE that is well below the target 10–12 per cent post tax recommended in 1990s shareholder value texts and discussed in Chapter 3. It is not unusual for giant firms to combine high and low growth activities, nor is it unusual for giant firms to be changing the balance of their portfolio. But we would expect such firms to be moving into growing activities that were at least as profitable as the contracting activities. In a world where the issue is not profit but the rate of profit, there is perhaps little point in achieving sales growth at the expense of substantially lower ROCE. But this is exactly what GE did under Welch.

Table 7 in the appendix shows that GE Industrial is a set of businesses, which combined have a high and increasing ROCE. The Industrial ROCE (calculated using income before interest and tax) has grown from 25–28 per cent in the first half of the 1980s to 33–43 per cent since 1995. The improvement in GE Industrial ROCE calculated using post-tax income is less spectacular and amounts to only a 2 or 3 percentage point rise with more pronounced cyclicity. But, in terms of post-tax return income, GE Industrial still achieves a ROCE of 16–19 per cent since the mid-1990s, with a return of 23 per cent achieved in 2002 which is handsome by any standard and hugely better than returns for the S&P 500 as a whole which were described in Chapter 4 of this book. GECS is a completely different story of low and (quite significantly) declining ROCE which falls from well over 20 per cent to less than 10 per cent (using income before interest and tax), or using post-tax income as the numerator from around 4 per cent to 2 per cent over 20 years. The ROCE performance of the company as a whole in Exhibit 12 is therefore determined by the growth of low ROCE finance activities at the expense of high ROCE industrial businesses, with the result that, as GECS has expanded, the consolidated company ROCE on post tax income has more than halved from 11 per cent to a little under 5 per cent using net income.

Of course, it would not be appropriate to apply the same ROCE targets to a financial as to an industrial company. Financial companies have large amounts of borrowed capital on their balance sheets (whether from retail banking customers or from the money markets in the case of non-banks) and this will always depress the return on total capital. For this reason a bank or other financial company might consider an alternative measure of capital efficiency such as the difference between the costs associated with borrowing and the gains made from charging those to whom these funds are then lent on. This change of standards also introduces a handicap element because a company that borrows cheaply, courtesy of an AAA or AA credit rating, has some inherent advantages over corporations who have to pay more to borrow and who then lend on in competitive markets. On this argument it might be unfair to consider a ROCE measure for the whole of GE, given the growing weight of its finance business. But, in our view, ROCE is an appropriate measure because GE has continued to stress that it is a technology, manufacturing and services company (and definitely not a financial services conglomerate). The logic of that identification is that ROCE does matter.

Exhibit 12. GE consolidated (post-tax) return on capital employed (ROCE)

Source: GE Annual Report and Accounts, various years.

The increasingly meagre ROCE of GE as a whole in Exhibit 12 is extraordinarily interesting for several reasons. First, it exposes the simplicity and irrelevance of 1990s shareholder value consultants and writers like Rappaport (1998) whose value management packages took abnormal profits or high ROCE as the key objective for corporate management after shareholder value. Such opportunity cost measures may be intellectually important but GE shows they can be practically irrelevant. As we have seen, GE's share performance is unremarkable and mostly tracks the S&P index (with out-performance most obvious in the 1996–2000 period) which implies very clearly that the stock market is not vindictive about low ROCE, provided earnings are being delivered and everything else is going up. But, even more interestingly, the low ROCE of GE as a whole implies that Jack Welch presided over an increasingly massive destruction of value, which did not figure in the company narrative and was never engaged by the performative initiatives. In an earlier generation, giant firms like ICI built industrial plants, expanded relatively unprofitably and paid the price in two ways: first, their main boards had to listen to presentations from young consultants whose slides showed the extent of their value destruction: second, when City opinion was against them and takeover threatened, such firms had to divest and unbundle activities like chemicals and pharma in an attempt to create value for the market. Compare and contrast GE as it piled further into relatively unprofitable financial services. Here the rest of the world had to read interviews with Welch and books by academic consultants which explain how he delivered results for everybody through performative initiatives. The GE conglomerate was not threatened by break up but allowed to carry on making acquisitions. If the numbers are not a function of the narrative, it is true that the narrative can powerfully frame judgement of the numbers. If this helps to explain how Jack Welch succeeded in deflecting interest away from an understanding of the financials and onto the initiatives, the more interesting issue for the next section is, what was GE doing?

4. GE'S Undisclosed Business Model

The third and fourth sections of this case both use numbers for critical purposes. The previous section uses numbers descriptively to observe GE's portfolio choice, which was to combine a low growth/ high ROCE industrial business with a high growth/ low ROCE finance business

in way that generated overall increases in sales and earnings but at the cost of spoilt ROCE. This fourth section shows how numbers can be used more analytically to explore the business model that explains the observed results. The term business model probably originated in Silicon Valley and passed into general usage through the writings of authors like Michael Lewis (1999) about the new economy. As we observed in the Ford and Glaxo cases, the term business model is now widely used by consultants for analysing or recommending cost recovery paradigm shifts and we have ourselves used it for critical purposes in an analysis of the way in which the new economy opened up the possibility of cost recovery from the capital market not the product market (Feng et al. 2001). Given that the term is used in different ways by various authors, it may be best to begin with a very brief discussion of business models which distinguishes between accidental and purposive business models and between explicit and undisclosed business models.

Generically, business models are about how firms recover their costs, including a surplus that represents the cost of capital. To that extent, all firms that survive for any length of time must have a business model though this result could be either the consequence of accidental developments or purposive movement planned by management. Accident here includes changes of circumstance arising from unexpected product market developments, changes in input cost or whatever; this would include a car company's unexpected success in a new market segment or an integrated oil company's windfall gains on the rising price of oil. Purpose includes actions such as deliberate labour cost reduction or avoidance of major airport hubs in a start up airline adopting a low cost model. Explicit business models are models that are disclosed in the company's narrative of purpose and achievement and discussed by analysts. The pharma industry provides a good example where the business model of marketing blockbusters is well understood by all capital market and business press analysts (though even here, companies play down the significance of me-too products). But it is also possible to have an implicit business model where major sources of profit and cash do not figure prominently in the company narrative and their implications are not understood outside the company. Thus, although everyone understands that a substantial part of Ford Motor's profits come from finance, few register the more arcane consequences such as the burden of depreciation arising from vehicle leasing.

Long run analysis of the financial numbers is crucial in distinguishing between accidental and purposive business models, as between explicit and undisclosed business models. The fascination of GE is that such analysis shows very clearly that GE had a purposive business model whereby management is clearly pulling levers hard to get cost recovery. But the model is little discussed insofar as it does not fit the narrative and performative account of moves under Jack Welch. In the section below, we dissect the different elements of a business model which, taken together, were hugely effective in generating increases of sales and earnings, thus apparently validating the cult of performative management at GE. By *undisclosed* business model we do not mean that this model was ever hidden or concealed; that cannot be so insofar as this case study develops its account of GE's business model from publicly available accounting information. Rather, we use the term *undisclosed* to denote a business model which was not explicitly articulated by the company and its CEO who preferred to talk about other things and sometimes denied elements of the business model; just as outside analysts and commentators never brought the business model into focus so that it became an important element in the narratives explaining GE's success. On some issues, such as acquisition, our analysis of the business model makes points that overlap with the more sceptical analysts' discussion of GE; this overlap is identified in the discussion below. But, as we have already noted, the analysts have never had a high profile role in shaping understanding of GE. As section 1 of this case explains, the media did question GE's achievement in the early 1980s or early 2000s. But, for most of the past twenty years, the media and business books have been in thrall to what Jack Welch (and, more recently, Jeff Immelt) tell us about leadership and organisation at GE. This is certainly the easiest option for outside commentators: first, because, GE is a complicated company to understand and the

financial accounts are highly aggregated; and, second, the sustained success of the company means that some commentators see the pressing issue as explaining GE's success, rather than understanding it. Our narrative instead shows how we can put together financial information to provide an analysis of GE's success.

Our analysis of the undisclosed business model is relatively straightforward and focuses on seven principles of GE's cost recovery under Welch: first, run the industrial business for earnings; second, add industrial services to cover hollowing out of the industrial base; third, buy and sell companies through acquisition and divestment to achieve returns and growth objectives; fourth, rely on large scale acquisition to prevent like-for-like comparisons and increase opacity and the power of narrative; fifth, grow the financial services business up to the limit of the company's credit rating; sixth, accept the balance sheet costs in terms of return on capital but focus on managing return on equity and cost of capital; seventh, add financial engineering to smooth earnings and manage growth. These seven corporate cost recovery principles are analysed in turn below and, in each case, the discussion of the numbers is prefaced by a brief discussion of how the issue is represented in GE's own discourse where the principles are never acknowledged and sometimes denied.

The existing literature on GE is full of transferable management precepts which could supposedly be applied to improve performance in other giant firms. It is worth insisting therefore that the business model principles we outline are nothing of the sort because these seven principles only work in combination for GE. Other companies may combine industrial and financial businesses, as Ford does. But, with a cyclical core industrial business and without GE's triple A rating, Ford's trajectory and results are completely different. Thus, the principle denotes an internal rule which cannot be questioned or broken without risk of consequences inside GE; but such principles cannot provide rules of conduct or guides for cost recovery in other companies. As Auden observed in his marvellous poem about W B Yeats, after his last afternoon as himself, the great man became his admirers when he died; just as Jack Welch became his admirers when he retired. But only the foolish admirer believes in the possibility of greatness by mimesis.

Principle 1: Run the Industrial Business for Margins so that Its Profits Cover the Earnings Requirement

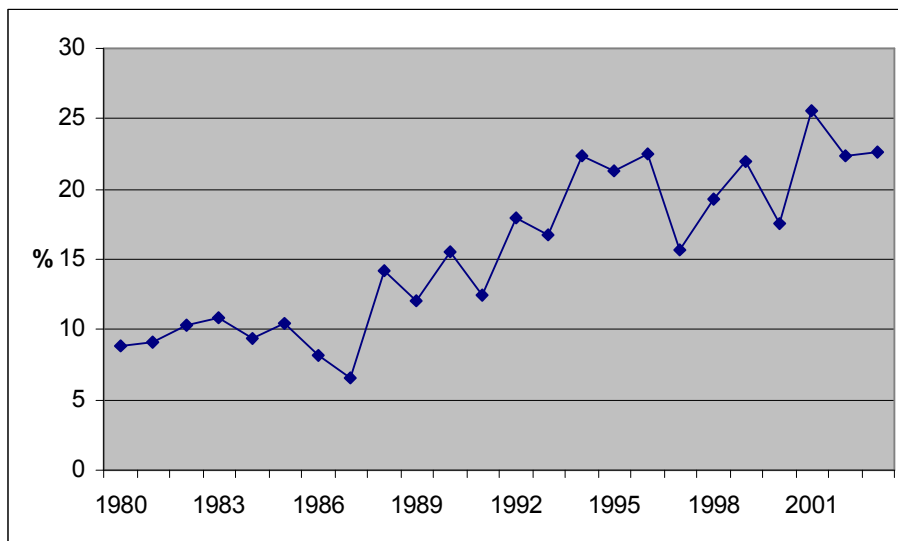
Companies which explicitly run blue chip businesses for margins, like Weinstock's British GEC, seldom enjoy a very positive reputation because there is something inherently unconstructive about management by financial hurdle. For GE, the narrative and performative is used to deflect such criticism insofar as they suggest that brilliant numbers are not the objective of management but a result that drops out from initiatives. Equally interesting in GE from the mid 1980s onwards is the absence of a high profile discourse of cost reduction. This is probably because cost reduction would sound too negative and also because it is difficult to understand the composition of costs across a diverse range of industrial businesses. In most of these businesses, the largest and most controllable internal cost would be labour, so productivity increase was used as coded GE management speak for cost reduction. Thus, the 'change acceleration process coaches workshops' at Crotonville started with an overview: 'CAP has proven to be a valuable tool that is helping GE businesses achieve measurable growth and productivity improvements' (Slater 2000: 162).

Against this rather blurred background, the numbers show very clearly that GE industrial is an operation that has been run for higher earnings when management has found it difficult to wring increasing margins out of GE capital. The argument on this point begins with the observation that profit margins on industrial businesses have increased to the point where they are higher than the margins on finance, which nevertheless retains a valuable role in generating cash. For GE as a whole, the return on sales (RoS) increased from around 6 per cent in the early 1980s to around 10 per cent by the early 2000s, with remarkably little

cyclicality (Table 8, appendix). RoS in GE Industrial grew fairly steadily from around 5–6 per cent to around 11–13 per cent, with some drop in 1991. For GECS, however, the RoS has been much more variable with some increase from 8 per cent in the early 1980s to 11–13 per cent by 1983–4, but this has since fallen back to around 6–9 per cent.

In terms of cash generation, again GE industrial manages to extract more cash in the 1990s than in the 1980s, as Table 9 shows; but the rank order between industrial and financial businesses is interestingly different because, like Ford’s captive finance business, GE Capital is more successful at generating cash than profits. In GE as a whole, operating cash flow expressed as a percentage of sales increases from around 10 per cent in the early 1980s to around 20 per cent by end 1990s (Exhibit 13). In GE Industrial, the 1990s saw a greater extraction of operating cash, from around 10 per cent of sales to 15 per cent plus by the mid 1990s. Cash flow generation in GECS has been more erratic but nonetheless generally larger in relation to its sales than in the industrial division (Table 9, appendix).

Exhibit 13. GE cashflow from operations as a percentage of sales

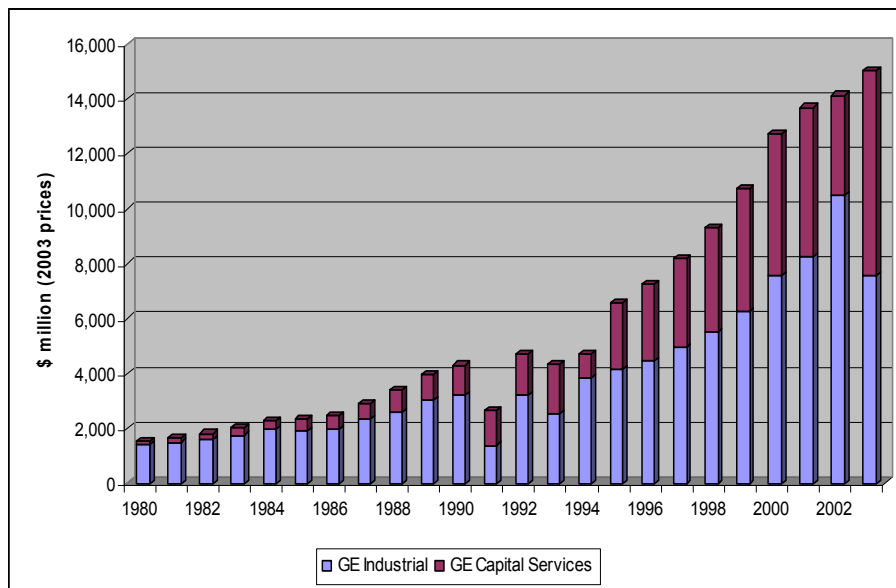


Source: GE Annual Report and Accounts, various years.

The cash from GE Capital was useful but the earnings from GE Industrial were crucial in helping to corroborate the company’s narrative where one of the key confirming pieces of evidence was the unbroken 20 year record of increases in quarterly earnings. In the company as whole, pre-tax income (profit) grew from \$2.5bn to \$19.9bn between 1980 and 2003, while net (post-tax) income grew from \$1.5bn to \$15bn (Table 10, appendix; Exhibit 14). This result depended on GE industrial extracting higher earnings from flat sales (while GE capital increased sales with flat margins) through most of the 1980s and 1990s. While GE industrial’s real sales remained largely flat over the period considered, as Exhibit 9 shows, real net income rose from around \$1.5bn in the early 1980s to \$10bn by 2002, falling back in 2003 (Table 12, appendix). At the same time, GECS net income rose spectacularly from \$0.2bn to over \$5bn in 2000/2001 and \$7.4bn in 2003. The size of GE industrial and the improvement in margins were enough to raise GE’s overall RoS through a process that was reaching its limits by the end of the 1990s. Attempts to maintain cost savings, and to extend these from GE Industrial into GECS, have been the impetus for the company’s digitization initiative which was started until Welch and continued under Immelt. According to the 2001 Annual Report, cost savings of \$1.9bn were generated through ‘e-Make’ and ‘e-Buy’ (GE 2001 Annual Report p.3).

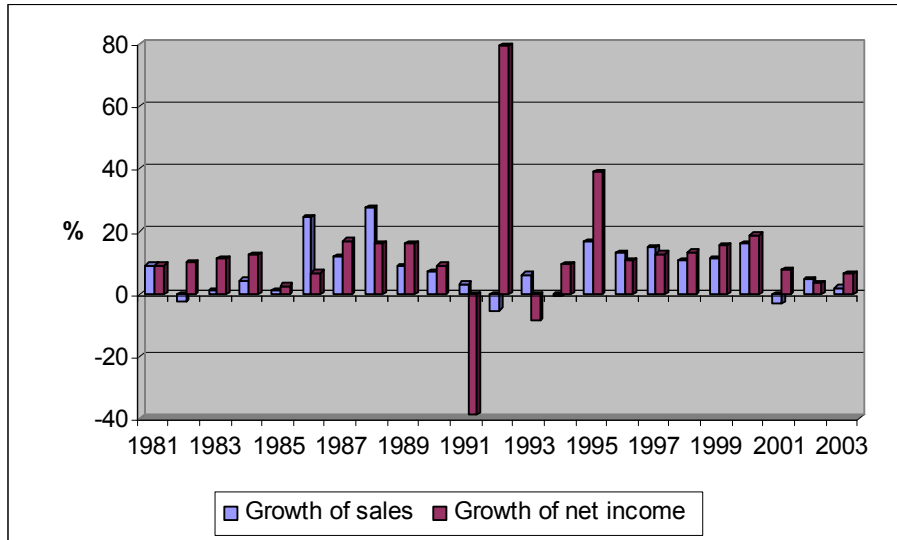
Looking back at the 1980s and 1990s, a sustained margin improvement of the kind observed at GE is unlikely to be delivered without explicit targeting of financial returns, rewards and punishments for business managers who deliver or default, and maybe acquisitions and divestments of businesses with the right and wrong characteristics. This is especially so, given the record of GE as a whole in two successive decades; as Table 4 shows, in the 1980s, sales and profits were rising at roughly similar rates, while in the 1990s, GE consolidated managed to increase net income by 12.7 per cent on the back of a 6.9 per cent average increase in sales revenues (see also Exhibit 15). The implication is that GE's earnings success story, especially in the 1990s, is explained as much by focused cost control in GE Industrial as by growth in GE Capital. GE Industrial has contributed the greater share of income in every year although this share had fallen from over 90 per cent to around 60 per cent by the early 2000s with the growth of GE Capital. GE Industrial becomes proportionately more important in 2002 due to the boost received from booming sales in the power generation business (as discussed in section 3). Overall, GE Industrial (nominal) net income grew in every year except 1985, 1991, 1993 and 2003, as Table 4 shows, and, in most years, growth was in excess of 10 per cent with some years showing much larger gains. On this point, the GE narrative aligns with outcomes, because the absence of strong cyclicality is almost certainly the joint result of a diverse portfolio of businesses with strong market positions.

Exhibit 14. GE real net income \$mill (in real 2003 prices) and showing contribution of the major divisions



Source: GE Annual Report and Accounts, various years.

Exhibit 15. GE annual growth in sales and net income (%)



Source: GE Annual Report and Accounts, various years.

Early in Welch’s tenure, GE made a major miscalculation when it anticipated manufacturing growth and invested in 1980s factory automation: ‘GE lost a mound of money after getting carried away by intoxicating – and wildly unrealistic – forecasts of the new factory automation industry and GE’s place in it’ (*Fortune* 11 November 1985: 52). This mistake was not subsequently repeated on this scale (though there were problems about over optimistic demand for railway locomotives and such like), because GE had learnt its lesson, which was to pursue increased margins from manufacturing and pursue growth elsewhere from industrial services or finance.

Principle 2: Build Industrial Services to Cover the Inevitable Hollowing Out of Ongoing Manufacturing Businesses.

GE’s commitment to services demonstrates the company’s capacity to be first mover through sector matrix strategies (see Chapter 5) before the term had been invented. The contrast with Ford under Jacques Nasser is interesting because in so many ways, including sector matrix and management evaluation, Nasser was a follower who had read (and indeed hired) Noel Tichy and rather naively admired the other Jack (Tichy 1999: 82; Detroit News 21 November 2001; Business Week 25 June 2001). More to the point, the development of industrial services met a local need at GE Industrial. Here, the growth of services turnover could cover the otherwise inevitable hollowing out of ongoing manufacturing businesses through downsizing or divestment of those businesses that could not meet increasingly exacting return criteria. The contrast with GEC under the clever Arnold Weinstock is instructive because Weinstock could not combine margins and growth as Welch’s GE did by acting so as to avoid the consequences of perceived hollowing out of the industrial businesses. As with the substitution of productivity increase for cost reduction, GE also showed considerable narrative flair in the way it represented its commitment to services, where it elided financial and industrial services in a way that discouraged questions about either.

By far the largest element in GE’s service offering is financial services which generally have no connection with GE industrial products (GE Capital is definitely not a captive finance

operation like Ford Credit). But GE has traditionally constructed a narrative of GE as a technology-based company that puts the emphasis on industrial services as support for the primary industrial product which is a jet engine, a turbine or a medical scanner. Thus Welch argued: ‘without products you are dead.... If I fail to introduce a new medical scanner, how many hospitals are likely to come and see me for new services’ (Welch, quoted in Slater 2003: 117). As for GE Capital, that does not just supply credit for the buyers of GE aircraft engines or Ford vans, but adds other services into a bundle. According to former GECS head, Gary Wendt:

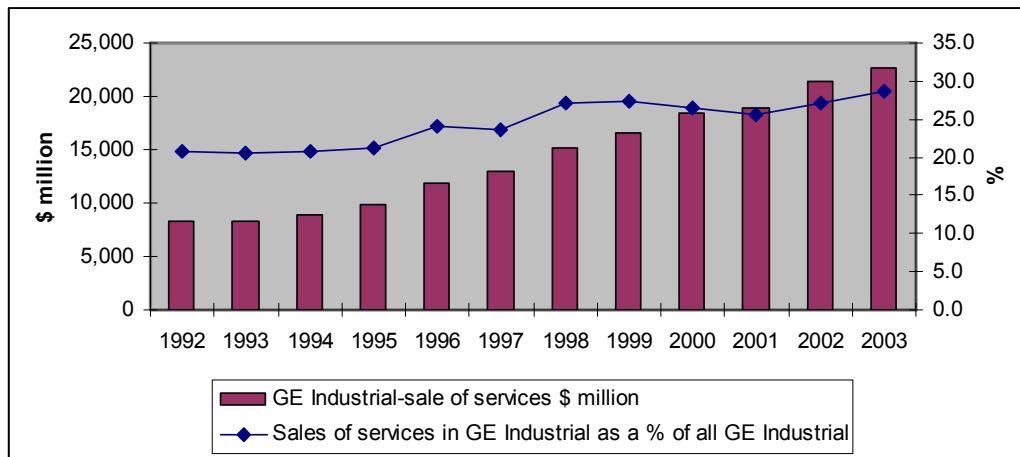
We try hard not to finance straight, basic stuff. Instead of just leasing a van, we’ll bring it to you, give it new tires and drop it off in Portland. Sure we’ll charge you a little more, [but] it’s the push toward service – and we don’t just mean being friendly.

(Forbes 21 April 1997: 46)

Thus logistics management is provided alongside truck leasing, while aircraft leasing and flight training are packaged up with aero engines.

The development of services within GE Industrial was clearly an explicit objective in the 1990s; symbolically illustrated by the purchase of aero engine maintenance businesses from British Airways and Varig. From the GE accounts, it is difficult but not impossible to measure the importance of services in the GE industrial product mix and the contribution that services make to GE Industrial profitability. Exhibit 16 presents data on the share of services in GE industrial sales for the period 1992–2002; this is consistent with the more limited internal information on the share of services in GE Industrial sales revenue which the company released to Slater (1999: 178). The company accounts shows there was a major push into services after the early 1990s which raised the share of services in GE Industrial sales from 21 per cent in 1992 to 29 per cent by 2003. Some \$7bn of the 2003 \$22.7bn sales revenue from services is derived from NBC and related broadcasting activities, but this clearly leaves significant product-related services, worth some \$15bn. The data in Table 12 also shows that the service businesses in GE Industrial was consistently profitable with gross margins never below 23 per cent and the long run average margin on services broadly in line with that on products.

Exhibit 16. The significance of sales revenues from services in GE Industrial, 1992–2003



Source: GE Annual Report and Accounts, various years.

By any standards this was a success which by 2000 allowed GE to represent itself as a post-industrial company for whom customer not product was primary. GE's services used to be called 'after-market' but, according to Paolo Fresco when in charge of the services initiative: 'Now we think servicing the customer is our primary market' (1999: 182), not least because of the limited potential for growth in manufactured items, compared with the opportunities to increase market share in related services. In its efforts to expand the size and significance of services within GE Industrial, the company started with the advantage of 'a huge installed base of industrial equipment' (Slater 1999: 179) particularly producer goods, where the norm is repair and overhaul over a long life. However, if this expansion of industrial services helped to bulk out GE Industrial, that did not solve the problem of finding growth, implying that several other levers had to be pulled at the same time.

Principle 3: Deal, so that Large Scale Acquisition and Divestment of Businesses and Companies Assists with Reach Returns and Growth Objectives.

To what extent was GE's cost recovery under Welch buttressed by selling low margin industrial businesses and buying growth and profits through financial services acquisitions? This question could not be openly discussed by an incumbent CEO because, if Welch or Immelt admitted GE's limited ability to generate organic growth, the market would immediately ask about where/when the next big deal was coming and whether a company of GE's size could do enough deals to maintain forward momentum. Thus, the company line has to be that it is not built on acquisitions. For example, Immelt in a 2002 interview claimed that:

when you look at how GE has been put together, you'll see that we are a long term player in every industry we're in. We've really invented most of these industries. We haven't acquired our way into specific businesses, except maybe for NBC; we've developed these businesses from the ground up.

(Money 1 September 2002)

In his autobiography, published after he had stepped down, Welch was notably more frank when he described GE Capital in the 1990s as 'an acquisition machine' (Welch 2001: 235) and disclosed that GE Capital under its CEO Gary Wendt had closed more than 400 deals involving over \$200 billion in assets. The company's continuing prickliness about acquisitions is illustrated by the way that the listing of selected recent deals on the investor information website has recently been modified so that, while in 2004 deals were listed under the heading 'acquisitions', in 2005 they are listed as 'growth platforms'.

GE's deal making is legendary yet it is difficult to obtain systematic information on the individual and total value of deals, let alone the effect on the company's financial results. Various estimates can be cited. The 2000 Annual Report states that 'the Company made over 100 acquisitions for the fourth consecutive year' (GE Annual Report 2000: 1) but provides no systematic information on these. *Business Week* cites information from Thompson which estimates that some 534 companies were acquired in a six year period, working out at 'more than seven per month' (*Business Week* 14 October 2000). The *Financial Times* (12 December 2004) estimates that in 2004 GE paid for or committed to \$42bn of acquisitions, suggesting that Immelt has not turned his back on acquisition as often the quickest way to find growth in a giant company.

Despite limited disclosure of such deals in the published accounts, many analysts supposed that GE was acquisition dependent and some alleged GE was in denial on the point. As we have already noted, Merrill Lynch analyst Jeanne Terrile estimated that 4 percentage points of GE's 9.9 per cent annual growth between 1985 and 2000 came from acquisitions (*Fortune* 4 Sept 2001). Nicholas Heymann, of NatWest Securities emphasized denial when he stated 'GE Capital's official lie is that 80 per cent of its growth will be internal and the rest from

acquisition' (*Forbes* 21 April 1997: 46). Heymann observes that GE Capital had bought its way into some of its growth markets. In 1993, for example, it had just one annuity product, distributed through banks, and \$525 million in deposits. 'Last year, after 9 acquisitions, costing \$6 billion, it has 14 major annuity products, 13 distribution channels and \$5.2 billion in deposits. In 1996 alone, GE Capital made 44 acquisitions, costing \$16 billion'. Immelt's moves suggest that his claim in the quote from *Money*, reprinted above is hard to sustain as recent acquisitions have helped to position GE in new areas such as water, security and Hispanic media (*Wall Street Journal* 2 December 2004). At the same time, Immelt, like Welch, has been unsentimental in disposing of businesses that don't contribute sufficiently to growth and/ or profitability or which bring too much risk. Thus in 2004 GE spun off a significant portion of its (slow growing) insurance business in Genworth, raising \$2.83bn (*Business Week* 20 May 2004).

On the basis of our own systematic analysis of the fragmentary information in the company accounts, we would agree with the analysts about acquisition dependence. The incomplete lists of GE's acquisitions in SEC filings and other sources are frustrating. They disclose much activity, with over 100 deals in some years of the 1990s, but many of these reported deals were small and did not involve significant additions like NBC (or Honeywell, which was the one that got away at the end of Welch's term). Table 13 in the appendix provides summary information on acquisitions, as disclosed by the company in press releases and, though it only lists some of the largest acquisitions, it does give some indication of the scale and range of businesses that GE has bought in the late 1990s and early 2000s.

In general however, the accounts provide exiguous information on the funding of acquisition and on the cash flow consequences of acquisition and divestment. The one useable broad measure in the accounts is cash flow applied to acquisitions – this is not a perfect indicator because it is a net figure, after the cash inflow from disposals has been offset, but it does nonetheless provide a useful guide to the scale of activity. Our data on cash flows in Exhibit 17 does suggest that the analysts like Terrile and Heymann were right: GE very much looks like it has been a serial acquirer on a grand scale. Over the 1988–2003 period, a total of \$144bn of cash (in 2003 prices) was applied to acquisitions and of this, the largest sum of \$103bn was for GE Capital acquisitions, with some \$40.4bn for industrial acquisitions. Table 14 in the appendix shows that the amount varies by year but that the spend on industrial acquisitions is fairly steady at around \$1bn to \$2bn p.a. (except 2002 and 2003, when it is much larger), while the cash cost of acquisitions in GE Capital varies between \$1bn and \$19bn. If billions quickly become meaningless in any discussion of GE, the relative importance of the activity to the company can be measured by comparing the cash spent on acquisitions with that distributed as dividends. Cash dividends account for 26–38 per cent of net income, with the average from 1988 to 2002 some 30.2 per cent of net income. Cash applied to acquisitions, however, is equivalent to anything from 12 to 138 per cent of net income and the comparable 1988 to 2002 average is around 63 per cent. Over the period 1988–2003, total cash applied to acquisitions was \$144bn, compared with \$80bn (all in 2003 prices) distributed as dividends (GE Annual Report and Accounts, various years).

Exhibit 17. Cash flow on acquisitions, including the significance of acquisitions in GE Capital Services

	<i>Cash applied to acquisitions \$ mill (2003 prices)</i>	<i>Of which, % used for GE Capital Services Acquisitions</i>
1988	5,452	15.4
1989	2,762	59.2
1990	6,473	97.2
1991	5,096	75.2
1992	2,642	100.0
1993	2,663	100.0
1994	3,237	77.9
1995	6,816	95.8
1996	6,477	79.7
1997	6,020	72.8
1998	21,024	92.2
1999	12,882	86.3
2000	2,493	50.4
2001	12,921	88.4
2002	22,045	58.5
2003	14,407	73.1

Source: GE Annual Report and Accounts, various years.

Principle 4: Use Acquisition and Divestment to Increase Opacity by Making Like for Like Comparisons More Difficult.

Opacity is important for a company like GE because it increases the creative power of the narrative and performative elements insofar as they cannot easily be checked against a numbers-based understanding of corporate achievement. As we argued in the GlaxoSmithKline case, no capitalist business is ever transparent to the point of complete predictability. But in pharmaceuticals it is certainly difficult to hide upcoming pipeline and patent problems at the end of a growth trajectory; while, in autos, there is nearly continuous real time feedback on national market trends and company market shares which gives warning of cyclicity and allows judgement of current product offering. By way of contrast, the GE accounts at segment level provide very little basis for any kind of story in a company whose conglomerate activities also prevent outsiders from using one or two product market measures as proxies for long term success or current fortunes. On this point we would argue that GE's senior management did not generally need to pursue opacity as an end in itself because GE benefited from the increased opacity created by serial acquisition and divestment under conditions of limited disclosure (even without changes in business segment reporting) in a giant industrial company.

GE has developed considerable expertise in the serial acquisition activities of finding businesses to buy, undertaking the due diligence, avoiding over-payment and then swiftly integrating its new activities into existing operations (Ashkenas *et al.* 1998). In a presentation to analysts in March 2002, the company explained that over 40 acquisitions have been completed in the Global Consumer Finance division and that the process was 'becoming a science', involving significant work pre-acquisition, including 'making hard decisions early' and having 100 day plans in place to ensure rapid integration (GE 2002a). Nevertheless, acquisition sometimes results in expensive mistakes about the choice or management of acquired businesses. The Kidder Peabody fraud (*Business Week* 22 August 1994; O'Boyle

1998: 332–56) and the Montgomery Ward bankruptcy (*Business Week* 19 May 1997) were both expensive mistakes for GE which illustrate the point that a proficient serial acquirer cannot avoid local risk and specific costs. The valuable general offset is that serial acquisition increases opacity and makes it more likely that outsiders will focus on company-level, bottom line, aggregate results and accept narrative and performative claims.

Opacity increases because acquisition and divestment with limited accounting disclosure makes long run like-for-like comparisons very difficult so that it quickly becomes impossible to judge the achievement of continuing operations or the success of bolt on acquisitions. GE has to be a ‘trust me’ story for believers because the published accounts make it difficult for outsiders to probe the sources of GE’s growth or the capacity of GE managers either to run existing businesses or to implement acquisition. Several interrelated problems arise from GE’s limited disclosure of acquisition and divestment and the limited information on business segments. As we have noted, the cash flow statement after 1988 gives cash applied to acquisitions but it does not separate the cash flow that results from divestments, nor is there any comprehensive, systematic disclosure of what is bought (or sold), when, for how much and how was it financed. The very large number of acquisitions, especially in GE Capital, aggravates these problems because deal flow in itself makes it difficult to isolate the effects of any particular single deal or group of deals. *Business Week* notes the difficulty in understanding the finance business: ‘many [investors] also wonder how a huge collection of workaday finance businesses can continue to get double-digit earnings growth without an undue reliance on acquisitions. Most comparable rivals, such as Citigroup, sport rates of just 4%’ (18 February 2002).

In terms of business segment information, that is highly aggregated and fairly uninformative. As Exhibit 18 shows, up to the 2002 reorganisation of the segments, many of the 1980 GE industrial business segments still existed in recognisable form but meaningful comparisons are difficult when the segments have changed in size and content. As for the sales turnover of GE Capital, in 1980 that was not disaggregated and, by 2002 the GE Capital turnover was organized into huge categories like ‘consumer services’ with more than a third of finance turnover in the residual category of ‘other’. The information disclosed on each segment is so fragmentary that many basic financial ratios cannot be calculated at this level. Even after Immelt’s 2002 reorganisation intended to improve transparency (GE Annual Report 2002: 6), GE still does not breakdown assets by business segment and, while there is now more information about changes in segmental revenues, there is no systematic breakdown of sales revenues into ongoing and acquired activities, as would be found in UK corporate accounts.

The limited and arguably inadequate disclosure through the 1980s and 1990s is explained partly by GE’s huge size and its status as a non financial company which means that GE does not have to disclose events and information which smaller companies or banks would be obliged to do. To begin with, GE is a huge company with more than \$130 billion of turnover in 2002 and several divisions large enough to become stand alone S&P 500 companies. In 2002, average sales revenue in S&P500 companies was \$6.2 billion so that almost all of the 2002 segments (and all but one of the new business segments identified in the note to Exhibit 18) are larger than this benchmark. Our analysis of the S&P 500 companies, reported in Part I of this book allows a fairly specific size comparison, presented in Exhibit 19. This exhibit shows that, in each of the years reported, all of the GE segments have sales revenues that would place them in the top half of the S&P 500, if ranked by sales revenues. For some segments (e.g. financing or power systems) their sales revenue places them in the top 150 S&P companies by sales revenues.

**Exhibit 18. Snapshots of GE's Main Business Segments: sales revenues in \$ million,
expressed in real 2002 prices**

GE Industrial Business Segments	1980	2002
Aircraft engines	5,710	11,141
Consumer products	13,558	-
Major appliances/ appliances	-	6,072
Industrial products and systems	9,439	12,139
Natural resources	2,990	-
Power systems & generation	12,061	22,926
Technical systems, products & services	6,628	9,266
Materials (including plastics)	4,419	7,651
Other	-	4,331
GE Capital Services	1988	2002
Financing		42,877
<i>Of which:</i>	8,833	
Consumer services		22,583
Equipment management		2,694
Mid-market financing		9,943
Specialized financing		1,773
Insurance	3,743	10,979
Securities broking & dealing	3,511	-
Other	65	16,151

Source: GE Annual Report and Accounts, various years.

Note: In 2003, GE re-classified its business segments into the following (2003 sales revenues shown in brackets): Advanced Materials (\$7,078m), Commercial Finance (\$20,813m), Consumer Finance (\$12,845m), Consumer & Industrial (\$12,843m), Energy (\$19,082m), Equipment & Other Services (\$4,427m), Healthcare (\$10,198m), Infrastructure (\$3,078m), Insurance (\$26,194m), NBC Universal (\$6,871m), Transportation (\$13,515m).

**Exhibit 19. GE segments compared with S&P 500 companies, by sales revenues
(The number of S&P 500 constituent companies with sales revenues SMALLER
than the GE business segment)**

<i>GE business segment</i>	<i>1980</i>	<i>1990</i>	<i>2000</i>	<i>2002</i>
Aircraft engines	300	376	347	347
Major appliances/ appliances		338	243	251
Industrial products/ systems/ industrial	392	372	354	358
NBC/ broadcasting		243	262	274
Power systems/ power generation	428	341	381	430
Technical systems/ technical products and services	333	308	293	323
Services and materials/ materials/ plastics	251	319	291	286
Financing		404	480	472
Insurance/ specialty insurance		218	357	345

Source: GE Annual Report and Accounts, various years and Compustat.

Note: The table should be read as follows: in 1980 there were 300 S&P companies with sales revenues less than those in GE's aircraft engines segment.

The sheer size of the company eases GE's disclosure burden because many events that would need to be disclosed by a GE division if it was a stand alone company, are less significant at the level of GE Consolidated. One of the principles of US (like UK) generally accepted accounting practice (GAAP) is that companies should explain *material* changes i.e. those changes which are potentially large enough to influence outcomes in the consolidated accounts and therefore those which an investor should be aware of. There is no mechanical or agreed definition that could be used to constitute a formal percentage rule for when an event or item is deemed material. But, it is easier to argue immateriality for most transactions for a \$130 billion turnover giant than for a \$6 billion turnover S&P500 average company. Moreover, financial companies are subject to more onerous disclosure requirements than industrial companies because of fears about the consequences of bank failure. Despite its massive finance operations, GE is classified as an industrial company and thus avoids a whole series of disclosures which financial companies would be obliged to make. It is hard to avoid the conclusion that, while GE is inherently a more complex object than most other companies in the S&P 500, in relative terms it discloses less information partly because it benefits from the unintended consequences of disclosure rules which were framed with other, simpler and smaller companies in mind.

Principle 5: Grow the Financial Services Business, Up to the Limit of The Company's Credit Rating

In Edgar Allen Poe's (1845) story, when the apartment was searched, the purloined letter could not be found because it had been hidden in the letter rack. GE Capital is hidden in much the same way inside the GE accounts exactly where it should be and, though disclosure is limited, any undergraduate accounting student could calculate (as we did in section 3) that real sales increased from \$3bn to \$58bn from 1980 to 2002 so that once negligible financial services now account for nearly half of turnover. Wall Street did worry about the dependence on GE Capital and Welch responded in 1999 by proposing a re-classification whereby GE had 20 top businesses of which 10 were in GE Capital (Slater 2000: 261). More generally, the growth of financial services does not register as GE's central achievement in the Welch years because GE Capital does not fit the narrative and performative frame. As we have noted, the company prefers to talk about growing service business in a way that brackets financial and industrial services; while much of the performative element (like number one or two in every business) simply doesn't apply in GE Capital. Furthermore, the connection between GE

Industrial and GE Capital is limited unless we start from belief in the shared values of the GE management and occasional executive move between the two parts of the business. In this context, the general lack of interest in GE Capital in many management books on GE is symptomatic: if there is a discrepancy between what management says in its script of purpose and achievement and what the company does for growth and cost recovery, outsiders with a limited interest in the mechanics of cost recovery quickly become confused about cause and effect and prefer the narrative.

The story of GE Capital is a story of upward mobility as GE has found growth of sales revenue by moving beyond captive finance into many other lines of financial business. GE has sold financial services since the 1930s, starting with domestic credit for refrigerators, a classic form of captive finance. Up to the late 1970s, GE was arguably not so different from other US corporates, like GM or Westinghouse with a financial services division whose central activity was captive finance. However, through the 1980s and 1990s, GE Capital greatly expanded and increased its offering in everything from LBO finance to store cards. GE has stayed away from retail banking and, after its problems with Kidder Peabody, moved out of securities dealing. But, in general, its expansion has been as a general supplier of consumer and commercial financial services, while also developing niche areas, such as mortgage insurance. The company's expansion into financial services is neatly summarized by *Fortune*: 'GE Capital pours wealth into the corporate coffers by doing just about everything you can do with money except print it' (21 February 1994). Hence, GECS overtook GMAC in terms of total assets in 1993 and was twice as large by 1997 (*Forbes* 21 April 1997).

Some of the major milestones are listed below:

- 1960 – the first move outside consumer finance, developing supplier credit for commercial and industrial borrowers with no connection with GE products and leading to the development of asset based lending (*American Banker* 18 October 1984);
- 1967 – the start of airline leasing with USAir; subsequently leading to working capital loans for distressed airlines like PanAm and Continental in the 1980s (*Air Transport World* August 1984). By 2001 GECAS (GE Capital Aviation Services) managed \$18 billion in assets (Welch 2001: 238);
- 1983 - GE issues a private label credit card for Apple Computer, the first time a card was issued for a specific manufacturer's product (*American Banker* 12 July 1983). This was the first step to GE becoming the world's largest supplier and manager of private label credit cards;
- 1980s - the development of range of a services including employers' insurance explicitly to help offset cyclicity in the industrial businesses (*American Banker* 8 July 1985);
- 1980s - GE became established as a leader in development of the leveraged buy out (LBO); GE 'is almost synonymous with the term leveraged buyout' according to an analyst quoted in *American Banker* (20 Feb 1986) and by the early 1990s GE had been involved with more than 100 LBOs;
- 1992 - GE moved into mortgage insurance, after the US Federal Government withdrew support;
- early 1990s - GE was one of the largest auto finance companies through the 1980s and 1990s and in the early 1990s it moved into sub-prime lending in autos for a short time.

Much of the expansion into new lines of finance business was done by bolt-on acquisition accompanied by quiet exits from old lines of finance business. Welch's (2001) autobiography discloses that there were some 400 acquisitions by GE Capital in the 1990s and many of these

were serial acquisitions designed to build specific lines of business: for example, GE spent \$27 billion between 1986 and 1994 on acquisitions in store cards (*Fortune* 21 February 1994). The whole process of internal expansion and acquisition was driven by high margins: in the late 1970s, for example, Welch claims that leveraged leases on aircraft ‘could earn 30 per cent or better returns’ (Welch 2001: 233). Because such finance businesses have few barriers to entry, the classic pattern is that returns fall with intensifying competition and the flip side of serial acquisition is serial exit as GE protects its margins on finance by quitting commodified areas. It is much easier to do this in finance by withdrawing capital than in manufacturing where employees, suppliers and dealers are all affected. According to Gary Wendt, then CEO of GE Capital, ‘the LBO business was like being on a treadmill.... The opportunities were so great at the inception, it was hard to get off’ (*US News and World Report* 29 April 1991), but GE then had to reduce its involvement as the profitability of such deals declined in the late 1980s.

GE Capital is therefore a changing portfolio of (temporarily) high return finance businesses with a quite different set of profit possibilities than a captive finance operation like Ford Credit, which is effectively confined to auto finance. Serial acquisition was possible because there was a formulaic element to many of the finance businesses which GE entered or exited. In the case of store cards, for example, it was possible before acquisition to assess the quality of the receivables and the effectiveness of debt control; just as it was possible to measure the post acquisition gains which could be made by using GE’s triple A credit rating and treasury expertise to borrow more cheaply than the average mid Western department store operator. High velocity acquisition was also attractive given the falling return on capital discussed in section 2, suggesting that movement into new markets and products (as well as expansion of the more profitable existing ones) was driven by the need to prevent overall GECS returns falling too quickly.

At the same time, entrance into and exit from so many different financial businesses requires judgement, skill and procedures that should not be underestimated. We know very little about how the acquisition and exit machine was operated but the Welch autobiography does include some clues. Much depended on the prospecting and deal making abilities of a handful of individuals such as Gary Wendt at GE Capital: this may well be a special case where the divisional CEO was probably worth much more than he was paid. And this was backed up by scrutiny of acquisition proposals at monthly GE Capital Board meetings (Welch 2001: 231) where Welch almost certainly added more value than in his (higher profile) monthly performances in the pit at Crotonville: ‘... potential deals are put through a monthly torture chamber. The meetings are hands-on, no-holds-barred discussions among some 20 GE insiders with more than 400 years of diverse business experience’ (Welch 2001: 231). The discussion was based on a ‘deal book’, summary and a ‘pitch’ to the board which through the 1990s was accepting about four deals per month and considering more (Welch 2001: 244).

In all this, the GE Capital Board was engaged in high stakes risk management where misjudgements about a class of business would have undermined GE’s financial record. By way of contrast, Westinghouse, GE’s conglomerate rival, had its finance arm liquidated by the parent company after losing almost \$1 billion in bad property loans in 1990 (*Economist* 30 April 1994). GE Capital’s expertise in making acquisitions is acknowledged by S&P as one of the factors that supports its AAA rating: ‘GECC (GE Capital Corp.) tends to be a very savvy buyer, understanding the various business risks and pricing the acquisition appropriately’ (S&P 2002: 2).

If the expansion of GE Capital rested on judgement and controls, it also reflected the structural advantage of the triple A credit rating which effectively made the financial business (as user of the credit rating) dependent on the industrial business (as credit rating generator); and this in turn set limits on how much GE could expand without risking reclassification by credit rating agencies. GE Industrial may be a low growth business but it has high margins, is

consistently profitable over the cycle and has funded almost all of the dividends that GE consolidated has paid out, as well as providing the funds for acquisitions and repayment of debt. This solid industrial base is the basis for GE's AAA credit rating, which allows GE Capital to borrow cheaply the large sums of money which it lends on to consumers and commercial customers. A good credit rating has traditionally lowered the cost of borrowing and provided GE Capital with a competitive advantage over other (financial) companies that have to pay more to borrow. GE frequently boasts that it is one of only seven industrial companies in the US to have an AAA rating and this provides a considerable cost advantage over rivals including banks like Citigroup which enjoys only an AA rating, Citigroup's rating is the highest of any US bank but implies an extra \$400m a year in interest on its long term debt (*Business Week* 8 April 2002). As the argument in our Ford case suggests, matters have been complicated by securitisation which does not completely neutralize the cost and risk advantages of a high credit rating. From this point of view, GE has to contain growth of GE Capital revenues because, if more than 50 per cent of GE's revenues come from finance, GE would be reclassified as a financial company and the credit rating would probably be lowered in line with that for other finance houses. Thus by the late 1990s, with GE Capital accounting for 40 per cent of turnover, if GE wanted to maintain growth, it had to find ways of bulking out the industrial part of the business and this partly explains the interest in large scale industrial acquisitions like those of Honeywell (which was blocked by EU regulators in 2001) and of Universal, which GE did acquire from Vivendi in 2004.

Principle 6: Add Financial Engineering to Smooth Earnings and Improve Results

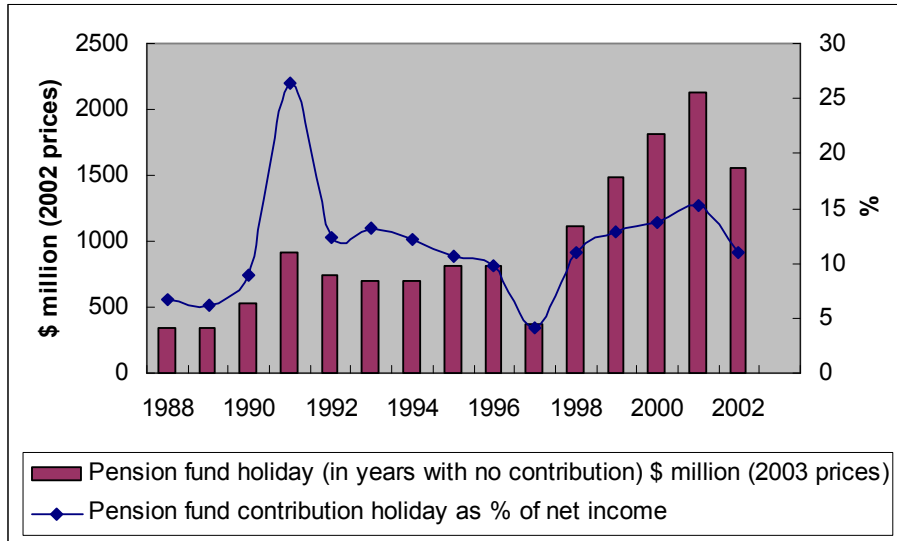
Earnings management had not acquired its current negative connotations when the smooth upwards trend of GE quarterly profits, and the management which always delivered, were being celebrated in the 1980s and 1990s. Nevertheless the company has always been defensive about its use of financial engineering to smooth earnings and find extra profits because, of course, the narrative of growth with the supporting numbers hardly fits with suspicions about cheap tricks and improvement of the numbers. The standard company response is that GE 'manages businesses, not earnings' (GE 2001 Annual Report: 3; Fortune 4 March 2002 [quoting Welch]). Cynicism was also partly forestalled by folksy domestic economy imagery: thus Jack Welch used to say 'We pay our bills quarterly'' (Money 1 September 2002) and he played with the idea of GE as a grocer's shop (Business Week 8 June 1998). GE was not of course a grocer's shop but a highly financialized company run by financial sophisticates who had entirely legitimate opportunities to smooth earnings and find extra income from sources such as pension contribution holidays.

In a large, complex and endlessly restructuring company like GE, smoothed earnings could notionally be produced by offsetting gains and losses from operations and from restructuring. For example, this might include offsetting gains from the sale of an asset against non-operating costs (such as those that result from restructuring activities) in another part of the business. Given the limited amount of accounting disclosure, such arguments must be speculative and hypothetical, though many might think the perfect quarter by quarter earnings growth record must raise suspicions. GE has been defensive about this: in the 2001 Annual Report, Immelt states that GE delivered over \$17 billion of cash flow in 2001 – 'try 'managing' your way to cash flow of that magnitude – year after year' (2001: 3). Immelt and his CFO, Keith Sherin have also asserted that, even in a post-Enron era, 'they find it incomprehensible that anyone would want them to report 30% earnings growth one quarter and 3% the next if they can avoid it. 'It just doesn't make any sense to us in managing a business' Sherin says' (*Fortune* 4 March 2002).

On the use of pension fund contributions to stoke earnings growth, the position is much more straightforward. During the 1990s bull market, GE like other giant US companies, boosted its net income (entirely in accordance with US GAAP) by taking an extended break in its contributions to the corporate pension scheme, as the value of pension assets rose and the

fund accumulated large surpluses. More unusually, for GE this continued into the bear market as the company has continued to enjoy a contributions holiday up to and including 2002. This has a significant and beneficial effect on net income. Our data (extracted from the company accounts) in Exhibit 20 shows that net income was boosted by around 10 per cent or more in most years from 1988 to 2002 (see also Table 15, appendix).

Exhibit 20. GE: the value of pension fund contribution holidays



Source: GE Annual Report and Accounts, various years.

Of course, since equity prices have slumped with the 2000 bear market, the accumulated pension surpluses have been steadily declining, as Table 15 shows. At the peak in 1999, the pension fund was in surplus of \$26.6bn, which had fallen to \$4.5bn by the end of 2002 due to lower contributions and much lower rates of return on pension fund investments. This suggests that the pension contribution holiday must now be fairly short lived and GE's net income will be some 10 per cent lower when the company begins to contribute again. Even making optimistic actuarial assumptions, it is hard to see how GE can avoid paying into its pension scheme unless equity values recover quickly and strongly.

Pensions provide one, significant example of how earnings can be affected by the way in which management treats certain items. Standard & Poor's analyst Robert Friedman, reworked GE's profits more systematically over the period 1995–2001: when non-core items (such as gains on pension fund assets) were removed, he found that annual growth was only 9.2 per cent (*Economist* 26 October 2002). Though many firms would be pleased with such an achievement, Friedman's figures suggest that GE failed to make the 'double-digit growth' for which the company had become so renowned.

Principle 7: Accept the Balance Sheet Cost and Risk of Expanding Financial Services

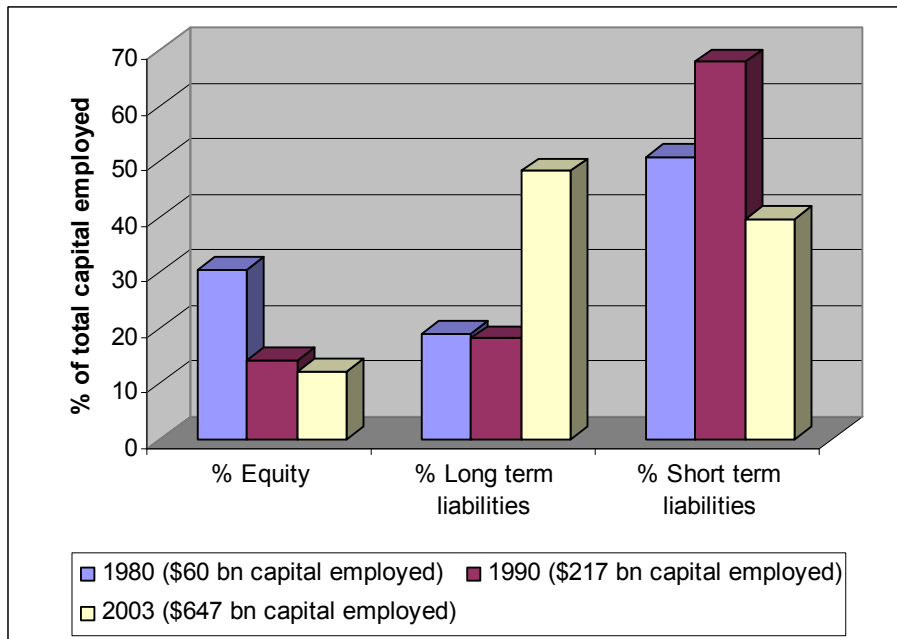
This is an issue where GE does not need a narrative because the balance sheet is nearly invisible in most public discussions of GE; under the letter B in their book's index, Tichy and Sherman include boundarylessness and business engine but not bonds or balance sheets. And as we have seen in our discussion of share price, Wall Street and the analysts know but do not apparently care about the low ROCE that is the result of a heavily capitalized balance sheet. But this is an issue for the company because cost recovery through finance had a balance sheet cost and created new risks. Because GE does not have a retail banking operation it

needs large amounts of debt finance to support its activities of consumer and commercial financing. Thus the decision to grow GECS has resulted in a transformation in GE's balance sheet as the company is now geared up for financial services lending and requires sophisticated treasury operations to ensure that it borrows at the lowest possible cost to the company.

Capital productivity is something GE does not talk about because the push into finance has meant that capital employed has risen much faster than sales: as Table 16 shows, in the early 1980s, less than a dollar of capital was required per dollar of annual sales, whereas by the early 2000s, this now stands at more than four dollars of capital for each dollar of annual sales. The balance sheet has been quite radically restructured as a result of the expansion of the finance business, as Exhibit 21 and tables 17 and 18 show. Most of the extra capital comes in the form of debt not equity: at the consolidated level, equity has fallen from around 45 per cent of long term capital employed in 1980 to around 12 per cent by the late 1990s, as GE has become much more reliant on debt and other liabilities (Table 18, appendix). Long term and short term liabilities have risen by 4,670 per cent and 1,290 per cent in real terms respectively, while shareholder equity has grown by a much more modest 260 per cent since 1980 (Table 18). Almost all of the liabilities are associated with GECS. GE industrial liabilities have not risen far or fast during the 1980s and 1990s: because the industrial businesses were cash generative there have not been large demands for borrowing to fund new investments. Short term finance has always been important to GE but as the GECS operations have grown, the finance side of the company had around \$170bn in short term debt and other forms of finance at any one time by 2002. Table 18 shows that while GECS has a little more than half of all the equity, it has around 75 per cent of the short term liabilities and more than 90 per cent of the total long term liabilities.

This restructuring of the balance sheet has been achieved through very large issues of debt: for example, in 1992, *Institutional Investor* estimated that GE issued \$5 to \$7bn of commercial paper every day (October 1992: 122). GE's vast appetite for debt (like its propensity to smooth earnings) earned it criticism in the early 2000s, most notably from Bill Gross of Pimco, one of the world's largest buyers of corporate debt. In March 2002 Gross announced that he would cease to buy GE's short term debt, then valued at around \$100bn, because of concerns about the amount of commercial paper, and the limited support for GE Capital in the form of bank lending: typically commercial paper is backed by equal amounts of bank lending but, according to Gross, 'GE Capital has been allowed to accumulate \$50 billion of unbacked [commercial paper] because of the lack of market discipline' (quoted in CNN Money 2002b). In addition, Gross made a more general criticism of the company as over-reliant on acquisitions for growth, financed using cheap paper or GE's own highly rated stock. Overall Gross stated that he was concerned that GE, which should be understood as a finance company, was exposed to risks that were poorly disclosed (*Economist* 2 May 2002). Coming in the wake of Enron, such criticisms from an influential market commentator unsteadied the market, leading to falls in the value of both GE's stock and its commercial paper and pushing up its financing costs (CNN Money 2002a). GE denied the accusations but also acted swiftly to reduce commercial paper from 42 per cent of total debt to 25–30 per cent, with an increase in bank lines from \$33.5bn to \$50bn (*Euroweek* 22 March 2002; CNN Money 2002b, GE 2002c).

Exhibit 21. The structure of GE's balance sheet: composition of capital employed (in real 2003 prices)



Source: GE Annual Report and Accounts, various years.

Within the constraints of its funding requirement, GE has no immediate problem and some room for manoeuvre about how it borrows but must accept longer term risks. The stock market can be kept happy because only a small part of GE's Capital is now in the form of equity so ROCE may be poor but return on equity can be kept high. Thus GE consolidated achieves a return on equity (RoE) of well over 20 per cent in most years since 1990, while the return on capital employed (ROCE) has struggled to get much above 5 per cent, despite GE industrial's heroic performance of at least 12 per cent post tax in most years and often closer to 16 per cent (Table 7). To what extent is this a problem? GE's debt and increase in gearing can be thought of as the inevitable outcome of running a large scale finance business: industrial companies that wish to lend money to commercial or domestic customers must themselves first borrow the funds to allow the transaction to occur. The debt-heavy balance sheets at GE or Ford reflect activity characteristics rather than (necessarily) any sign of corporate weakness or a failed business model. But, the scale of debt does leave the company exposed to significant potential risks arising from changes in interest rates and downgrading of GE's own credit rating, as well as to the kinds of criticisms made by Bill Gross in 2002.

Though there is no imminent threat of a credit downgrade in GE's case, the credit rating agencies as much as the equity analysts require a clear, believable narrative that must now be focused on the strengths in GE's industrial division. For much of the 1990s, GE expanded finance (through numerous acquisitions) to cover the absence of growth in its profitable industrial businesses. By the end of the 1990s as finance grew towards 50 per cent of sales, this bolt-on finance-based growth trajectory was nearing an end. Immelt's response has been to maintain the velocity of dealing but to focus more on large acquisitions for its industrial business, as well as sales of its insurance businesses to help rebalance the company, to reduce the requirement for debt and to help sustain the 2000s narrative of GE as a technology-based company with a sound balance sheet and sustainable growth.

5. Immelt: A New Chapter

When Jeff Immelt took over as CEO in 2001 he faced several challenges. First, any CEO who replaces an icon of management success has to live up to the inevitable comparisons amidst sentimentality about historic achievements and fading memories of the great man's fallibility and foibles. Second, Welch had left the GE company in 2001 somewhere near the end of a growth trajectory driven by higher industrial margins and increasing finance sales, so that any successor would have to find new ways of sustaining the growth of sales and earnings. Third, after the Enron and World Com scandals about false accounting and failed governance, GE by 2002 had to face hostile questions about earnings management, disclosure and governance controls. The story so far is that Immelt as CEO has risen to these challenges but the prospects for GE remain uncertain. Immelt has demonstrated his competence on the moves by putting together a narrative and performative response to a post-Enron America which is newly suspicious of giant firms. And the business media has been suitably impressed so that those who were initially sceptical are now increasingly respectful. But GE's prospects remain uncertain because the new strategy of buying sales through industrial acquisitions (which was initiated under Welch) remains a risky and expensive way of finding leverage. If Immelt survives until retirement at age 65, Business Week and Fortune may then be less kind to him than they were to Welch.

Integrity was something Welch did rather well. A series of scandals and crises did not tarnish the reputations of GE or its chief executive Welch, who instead earned plaudits for dealing with the problems. The standard source on GE scandals is former *Wall Street Journal* journalist Thomas F. O'Boyle's (1998) critical book which constructs a kind of charge sheet by devoting one chapter to each major scandal or crisis. These include specific incidents like GE's pollution of the Hudson river with PCBs, fraud and inadequate internal in the case of the securities trading business Kidder Peabody, charges of defrauding the US government on military contracts, as well as unfair and uncompetitive business practices in the DeBeers case. All this is set against a background of more general criticisms about Welch's management style, his focus on financial results (rather than technology) with resulting downsizing and closure and the reverberative effects on corporate America as other companies have sought to emulate GE's success. Boyle's title *At Any Cost* gives us the radical allegation that GE is a company whose ruthless ambition creates problems for those involved in GE and society more broadly. The following from the prologue of O'Boyle's book gives a flavour of the argument about the wider impact of Welch and GE:

Welch has defined the landscape in which dramatic change has occurred not only at GE but elsewhere in American business. As CEOs have sought to emulate his success, they have also adopted his tactics, and in this sense he is the father of a bare-knuckle approach to business that has won more and more believers. What mergers and acquisitions were to the 1980s, productivity – extracting more work out of every fewer people – has been to the 1990s. It is a manic quick-fix done at the behest of Wall Street in which businessmen have become desensitized to the damage they do to society.

(O'Boyle 1998:15–16)

[Welch] has been a proactive catalyst of change, anticipating events rather than reacting to them, and he ruthlessly excises the cancer that has killed many large institutions, including Westinghouse – complacency. At the same time, Welch is a person of glaring weaknesses. His way of doing business carries with it a heavy penalty, not necessarily for him or stockholders, but for the people who do his bidding and for the government and society which must often clean up his mess.

(O'Boyle 1998: 12)

While Welch was usually quick to acknowledge scandals and other problems once they had become public, his response was often that problems reflected local (cultural) failures which the CEO and head office then resolved in ways that demonstrate corporate integrity and personal honesty (while not accepting culpability at the corporate level. Thus, on the \$350 million fraud about fictitious trades at Kidder Peabody, Welch (2001: 225) in his autobiography concluded that the Wall Street firm 'Kidder was as culturally distant from us as GE appeared to the Kidder employees'. In the same book Welch, as honest Jack, insisted that 'integrity' is a key part of 'what this CEO thing is all about': 'I never had two agendas, there was only one way – the straight way' (2001: 381).

This kind of self confidence was no longer good enough when Immelt faced new challenges after the false accounting at Enron and WorldCom raised more general concerns about the reliability of reported earnings in giant corporations. This inevitably raised questions about GE's opaque accounting practices and, in a changed climate, the unbroken record of earnings increase was not so much achievement as cause for concern. The business magazine headlines of early 2002 reflect a new paranoia about GE's record of sustained earnings growth with limited disclosure. *Fortune* (19 February 2002) summarized the new view by posing and answering a question: 'What's so great about GE? Plenty. But now that smoothly rising earnings are now suspect, our most admired company is too'. Limited disclosure quickly became an issue. *Business Week* (18 February 2002) asked quite directly 'GE: More disclosure please' and a couple of months later returned to raise larger issues about whether it could be kept going 'How does GE grow? Investors ask if it can keep delivering those famous double digits' (*Business Week* 8 April 2002). *Fortune* (24 May 2001) was facetious: 'Accounting in Wonderland, Jeremy Khan goes down the rabbit hole with GE's books'. The problem was not that GE was any less solid but the media were (finally) more sceptical. As *Business Week* observed in a cover story (29 April 2002) Welch's achievements were now part of an earlier age of credulity: 'when (Jack)... delivered double digit earnings growth quarter after quarter, everyone marvelled at the accomplishment rather than question how he did it'.

What Immelt did was to move purposively in narrative and performative terms so as to contain the reputational threat and ensure that a phase of hostility and cynicism towards corporate America after Enron (coming at a time when GE's growth rates had faltered) did not lead to any long term falling out with GE. He showed his grip on affairs by operating at several levels: Immelt played the old narrative defence but also in 2002 offered finely judged concessions on disclosure, as well as taking the performative initiative through governance reform (GE Annual Report 2002: 5–6, 14–15). In response to criticisms about smoothing income, GE restated the standard GE defensive line about how 'GE manages businesses, not earnings', sometimes adding rather cryptic explanations such as: 'we offset our losses with our gains and vice versa. As we have gains, we do restructuring – we improve our other businesses to basically offset those gains' (*Money* 1 September 2002). But Immelt recognized this was not enough and also offered the concession of increased disclosure in the company accounts alongside a re-organisation of GE Capital into four separate business which, it was claimed would, give investors a clearer view of performance (GE Annual Report 2002: 6; *Wall Street Journal* 19 April 2004), as well as making analysts' briefings and other such meetings available for all via webcasts. The concessions aimed at increasing accounting disclosure were well judged from the company's point of view because two changes in segment classification in three years had the practical effect of making long term like-for-like performance comparisons more difficult.

In performative terms, Immelt took the initiative to position GE as a company on the leading edge of good governance. Following the passing of the Sarbanes-Oxley legislation, GE produced its own 19 point principles of corporate governance (GE undated b) intended to allow the company not only to comply fully with all regulatory requirements but to 'try to satisfy the spirit, not just the letter, of the new corporate governance requirements and... to

act promptly to implement changes in governance, and not wait for ‘formal’ effective dates in the law’ (GE undated c). In this way GE set itself up as a company that was committed to good governance, for example introducing strict independence tests for directors and changing the membership of its board to ensure that a majority were independent. The retirement of two long standing board members, Paolo Fresco and Scott McNealy from the board served to underline governance as a new priority (GE Annual Report 2002: 42). Immelt’s early emphasis on corporate governance has now broadened into ‘values’ (GE annual Report 2002: 14; *Fortune* 15 November 2004), which of course echoes Welch very strongly.

In narrative and performative terms, Immelt’s early moves suggested he understood that side of the business. Immelt’s more difficult task, however, was to find the levers that could sustain the trajectory of double digit revenue and earnings expansion when, as already argued, Welch had taken GE to the limits of its old trajectory. When it came to levers, Immelt acted in a way which was entirely logical and immediately satisfied the markets and the business press. But, in our view, Immelt’s actions leave unposed and unanswered questions about whether GE can keep it going in the longer term. As Exhibit 16 shows, the distinction between the industrial and services part of GE is not always clear cut, with services contributing around a quarter of the revenues for GE Industrial. But, if we wish to understand business model levers and leverage, it is best to start from a distinction between the industrial and capital services divisions of GE, not because it has any inherent significance but because it separates two bundles of businesses with different characteristics in terms of revenue growth, margins and implications for the credit rating. Immelt’s strategy in relation to financial services and industrial may not represent a set of principles but it does represent a new direction.

New direction (1) Review the portfolio of financial holdings and sell as well as hold.

The portfolio of financial businesses cannot grow much beyond its current 40 per cent share of GE without threatening the credit rating; and the natural tendency of margins in many established financial services businesses is to decline under pressure of competition. Hence the importance of reviewing the portfolio and discarding unattractive financial businesses (which logically creates space for their replacement with financial or industrial businesses). For example, in 2004, GE began the process of spinning off its life and mortgage insurance businesses, Genworth Financial Inc, with sales of \$9.8 billion and net income of \$935 million in 2003. *Business Week* estimated that, when completed, this will release \$3.34 billion, which could be applied to acquire faster growing businesses, as well as to improve the transparency of the balance sheet by removing the insurance business’ need for significant amounts of debt (supported by GE), which provides the collateral for insurance but also lowers rates of return (*Business Week* 31 May 2004).

New direction (2) Make major industrial acquisitions.

The portfolio of industrial businesses offers limited growth in the longer term and industrial margins have already been raised to the point where it would be difficult to extract more. Hence, the attraction of buying more industrial turnover and earnings through acquisitions, which also incidentally help to create the space for a financial acquisition because any growth in the industrial part of the business allows GE Capital Services to expand in line. Welch had recognized as much with his attempt to buy Honeywell, a deal that was frustrated by EU competition policy. However, Immelt has subsequently acquired a number of large businesses, including Universal Studios from Vivendi and Amersham (see Table 13, appendix) which bolster the non-finance part of the business, allowing Immelt to re-position GE more strongly as a technology company.

The dialectic of financial portfolio review and industrial acquisition is a complex one whose outcome cannot be predicted. Immelt and GE almost certainly do not have any worked out

game plan but will move opportunistically on acquisitions, as and when opportunity arises, especially in sheltered areas like media or defence contracting. But our verdict on the new directions has to be that it is going to be much more difficult for Immelt to keep things going with large industrial acquisitions than it was for Welch to keep things going with acquiring books of Thai auto loans or UK store card credit in many small batches. Immelt is now much more dependent on luck and judgement as the odds on continued success deteriorate. On big industrial acquisitions, there are major risks about overpaying (particularly as other players like Phillips and Siemens have overlapping approaches to expanding their healthcare and other operations) and failing to execute in a way which delivers the required operating margins or sales growth. A couple of good big industrial acquisitions would buy some breathing space, particularly if Immelt could also find some financial services bolt-ons at reasonable price/earnings ratios, but given GE's scale, adding 5 to 10 per cent to revenues from acquisitions means having to buy in activities or companies with annual sales of around \$7 to \$14 billion.

Most of this has not yet been registered by the media who, after some initial caution in his first few difficult years, have generally been impressed by Immelt's words and actions. The emphasis on transparency and governance plus the action on big acquisitions have kept media and markets satisfied. Immelt now promises a resumption of double digit earnings increases and the industrial acquisitions have been rationalized by a new Immelt narrative about a technology led GE which reconnects the company with its past as a company that fostered scientific advance through the GE Laboratory.

Immelt's first year was not easy and 2001 marked a very decisive departure from the kinds of earnings announcements that had become the norm under Welch. In retrospect, the problems in 2001/2002 with depressed stock markets, a faltering US economy and terrorist attacks allowed a rebasing of GE as a company which, like others, was not immune to disappointing results. In 2001, GE's revenues fell 3 per cent, while earnings rose 11 per cent and stock price fell 16 per cent (GE Annual Report 2001: 1); in 2002, revenues were up 5 per cent, earnings up 7 per cent and stock price down 39 per cent (GE Annual Report 2002: 5). While the incoming CEO could not be blamed for weak results in 2001 and 2002, he can of course, take charge of the return to form and put his own mark upon GE's new era. At the end of 2003, Immelt started to talk about a return to double digit earnings growth in 2005 (*Business Week* 1 December 2003; *Business Week* 10 January 2005) and this has helped to encourage investors whose growing confidence led to a share price recovery that has allowed some of the post-2000 slump to be regained. In the first quarter of 2005 (as this book went to press), Immelt was able to deliver his earnings triumph, with a 19 per cent increase in revenues producing a 25 per cent boost to earnings (GE 2005a: 1). Interestingly, the company was also sufficiently confident about its strong results to offer a breakdown of growth, revealing that just over half (i.e. 10 per cent) of the overall revenue gain was organic.

While it is too soon to tell whether GE is back on a sustained path of double digit quarterly earnings growth, it is clear that Immelt has launched his first Welch-style major initiative on innovation. This has captured media interest just as Jack Welch's initiatives did and adding a creative performative theme to accompany Immelt's necessarily more sober governance agenda. According to *Business Week*, 'Immelt is obsessed with rebuilding a culture of innovation within GE' (26 April 2004) evidenced by investing in the company's research facilities. Welch's advertising slogan *We Bring Good Things to Life* has been replaced with the new slogan *Imagination at Work* and the implicit promise of the new slogan is being fleshed out. Immelt promotes 'Imagination Breakthroughs', where 'each project has the potential for at least \$100 million of incremental growth' (GE 2005b; *Business Week* 28 March 2005) as the means to (re-)focus GE businesses on innovation. But the initiative also suggests that Immelt has studied Welch's performance and in this case has learnt some transferable knowledge about the need for a concept that can be applied on a company-wide

basis, that will apparently transform culture and which, in due course, can take the credit for transformative change with a worthwhile bottom line impact.

If it took several years for Welch to shake off his ‘Neutron Jack’ image and acquire more respectful coverage in the business press, Immelt has been accumulating respectful (and, later, more enthusiastic) coverage after less than two years in the job. By 2003, the *Financial Times* was representing Immelt as a kinder, gentler leader: ‘Jack Welch did not often need to apologise as part of his management armoury. But since he took over in September 2001, Mr Immelt, by choice and by necessity, has styled himself as a different type of leader – more collegial, less autocratic – focused on growth rather than on acquisition strategy’ (3 January 2003). One year later, the *Financial Times* presented a rather stronger and more upbeat narrative of corporate purpose, explaining how ‘at the heart of Mr Immelt’s strategy lies a belief that science holds the key to reinvigorating GE’s growth potential’ (11 October 2004). And in this climate, GE and Immelt continued to win new and old ‘most admired’ awards. In early 2005 Immelt won a place in the *Business Week* gallery of best managers (10 January 2005) with a commendation which concluded with the observation that investors were now ‘along for the ride’.

6. (Limits Of) The GE Way

This case has offered revisionist argument and evidence which questions two widely believed assumptions or assertions about GE under Welch. The first assumption is that Jack Welch’s initiatives explain GE’s performance: this assumption originates with Welch himself who in his penultimate 1999 letter to shareholders argued ‘this performance has been driven this decade by three big Company-wide growth initiatives: Globalization, Services and Six Sigma quality’ (GE Annual Report 1999: 3–6). The second assumption is that GE under Welch offers transferable lessons which could improve performance in other giant companies: this is popularized in books by authors like Slater whose dust jacket for the ‘GE Way Fieldbook’ (1999) promises ‘An action-oriented blueprint for managing like Jack Welch- and achieving Welch-like results in your organisation’.

These assumptions have been challenged in our case by arguing that the initiatives were part of the narrative and performative moves that projected corporate purpose and achievement; while the levers of financial success were part of an (undisclosed) business model about running industrial businesses for higher margins and a credit rating which allowed expansion into financial services. This argument implies limited transferability. It would be possible for other companies to buy the workbooks and copy some of the Welch initiatives, such as Number 1 or Number 2, Work Out, digitisation etc. Such imitation might achieve positional advantage or cost reduction; but such initiatives in other companies would not produce the sustained growth of sales revenue and earnings which then becomes truly dynamic in terms of the responses from investors and others when it is coupled with a corporate narrative of purpose and achievement. Management of giant firms is more complicated than authors like Slater make out or Welch would have us believe.

This conclusion forces us to rethink what we mean by corporate success and good management. Of course GE was a brilliant financial success, but not quite of the type and kind supposed in the prevailing culturalist accounts of management which, in our view, should always be cross checked against the financial numbers in a different register. Of course, Jack Welch offered leadership of the highest calibre but his was a Machiavellian virtue which rested on his understanding that narrative and performative excellence was necessary but not sufficient. In the absence of direct evidence about Welch’s private calculations, we would infer his insight from the record of sales and margins in the industrial and financial services businesses which implies understanding of business model levers which are being purposively pulled to achieve results.

Maybe it is sensible to turn the doxic question round and ask not ‘how did Jack do it?’, but ‘why can most other CEOs not do it?’. In the terminology of our introduction, most of the Welch era initiatives that pre-occupy the popular business books were moves (e.g. programmes for reducing costs) not levers. These were important insofar as they helped generate narrative and performative purpose and incidentally deflected hard questions about the sources of growth and profit and the future trajectory. But the GE numbers were generated by pulling cost recovery levers which most managers do not have or cannot easily shift: for example, GE built financial services on a triple AAA credit rating where Ford had to do the job on a single A rating in the 1990s (see Exhibit C2.11 for details). Even the brightest and best of managers cannot escape structural constraint: in businesses like lighting or domestic appliances, GE returns performances that are what we would expect in mature, competitive activities.

The only general lesson of Welch and GE is that high level management in complex operations is an activity which is perhaps best understood through the classic Machiavellian categories of *virtu*, *fortuna* and *occasione*. The art of management here is to understand what is possible and necessary by holding the narrative and performative separate from the business model in internal calculation and then bring them together by public association in media and market commentary. As for the CEO, (s)he then becomes the actor who first follows the script and then learns to improvise a public rhetoric and performance while operating an undisclosed business model. This is why all these interviews with great managers about the ‘secrets of management success’ offer the reader so little because their well chosen words for the *Harvard Business Review* spin the narrative as part of the performance without clarifying the relation between moves and levers.

As for the rest of us outside GE, the main result of Jack Welch as exemplar is twofold. First, specific companies, especially in the late 1990s at the height of the cult, implemented copies of what they imagined Jack did: thus, Welch was an influence on the sector matrix strategy and the grading of managers in Ford under Jacques Nasser. Second, more generally, Welch’s example has encouraged the motivational and evangelical tone which makes the modern organisation into a place of obligatory enthusiasm for endless initiatives which often have very little connection with the levers of business performance. It was Jack Welch who encouraged GE managers to carry round statements of GE values on laminated plastic cards:

‘All of us... Always with unyielding integrity

- Are passionately focused on driving customer success
- Live Six Sigma Quality... ensure that the customer is always its first beneficiary... and use it to accelerate growth
- Insist on excellence and are intolerant of bureaucracy
- Act in a boundaryless fashion... always search for and apply the best ideas regardless of their source
- Prize global intellectual capital and the people that provide it... build diverse teams to maximize it
- See change for the growth opportunities it brings...eg digitization
- Create a clear, simple, customer centred vision... and continually renew and refresh its execution
- Create an environment of ‘stretch’, excitement, informality and trust... reward improvements and celebrate results
- Demonstrate... always with infectious enthusiasm for the customer...the **‘4-Es’ of GE leadership**: the personal **Energy** to welcome and deal with the speed of

change... the ability to create an atmosphere that **Energizes** others... the **Edge** to make difficult decisions.... and the ability to consistently **Execute**'.

(Welch 2001: 190)

In private corporations and public sector organisations, management has become something which draws on the language and emotions of sales conference and religious revival as we must all now, through passion and works, attain a higher state for love of the customer. For that, Jack Welch is partly responsible.

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Table 1 GE: The scale and significance of dividends

	<i>Total dividend paid</i>	<i>Dividend payout (as a % net income)</i>	<i>Dividend payout for the S&P500 (as a % of net income)</i>	<i>Dividend per share (adjusted for stock split and in 2003 prices)</i>	<i>Dividend yield</i>	<i>Dividends as a % of total shareholder return per share</i>	<i>Stock price change as a % of total shareholder return per share</i>
	<i>\$ million.</i>	<i>%</i>	<i>%</i>	<i>\$</i>	<i>%</i>	<i>%</i>	<i>%</i>
1980	661	43.7	40.5	0.13	5.5		
1981	717	43.4	42.2	0.13	5.2	72.2	27.8
1982	763	42.0	52.5	0.13	4.3	20.2	79.8
1983	852	42.1	48.4	0.14	3.6	13.3	86.7
1984	932	40.9	43.4	0.15	3.8	126.7	-26.7
1985	1,017	43.5	52.8	0.16	3.4	20.2	79.8
1986	1,080	43.4	59.7	0.16	3.1	16.9	83.1
1987	1,196	41.0	54.6	0.17	2.5	9.7	90.3
1988	1,317	38.9	49.2	0.18	3.4	100.0	0.0
1989	1,538	39.0	48.9	0.21	3.1	16.0	84.0
1990	1,676	39.0	55.0	0.22	3.1	25.2	74.8
1991	1,797	68.2	72.7	0.23	3.2	92.2	7.8
1992	1,985	42.0	63.4	0.25	2.9	15.6	84.4
1993	2,228	51.6	56.0	0.27	2.8	18.6	81.4
1994	2,542	53.8	42.7	0.30	3.0	41.2	58.8
1995	2,816	42.8	45.2	0.33	2.7	14.7	85.3
1996	3,125	42.9	37.0	0.36	2.2	7.2	92.8
1997	3,526	43.0	37.6	0.40	1.7	5.9	94.1
1998	4,089	44.0	38.4	0.46	1.4	5.1	94.9
1999	4,796	44.8	54.9	0.52	1.2	3.7	96.3
2000	5,661	44.5	32.2	0.59	1.1	7.2	92.8
2001	6,551	47.9	72.4	0.67	1.7	100.0	0.0
2002	7,278	51.6	168.3	0.73	2.3	100.0	0.0
2003	7,749	51.7		0.77	2.9	100.0	0.0

Source: GE Annual Report and Accounts and 10K, various years, Compustat.

Note: The table includes a correction for share splits. Treasury shares excluded from all calculations. The data for the S&P500 is based on the annual constituents ie those 500 companies that comprise the S&P500 in any particular year; this data was derived by the authors from Compustat

Table 2 GE market value and price/earnings ratio

	<i>Average stock price per share during year</i>	<i>Market capitalisation, based on average stock value in year</i>	<i>Price/earnings ratio based on average stock price for year</i>	<i>S&P 500 average price/earnings ratio</i>
	\$	\$ million	ratio	
1980	54	12,044	8.0	8.1
1981	61	13,780	8.3	8.4
1982	78	17,657	9.7	9.8
1983	104	23,726	11.7	11.0
1984	108	24,563	10.8	9.5
1985	130	29,524	12.6	12.6
1986	155	35,389	14.2	15.7
1987	210	47,461	16.3	15.6
1988	173	38,904	11.5	10.8
1989	217	48,971	12.4	13.7
1990	251	54,788	12.7	15.0
1991	262	56,654	21.5	22.5
1992	321	68,541	14.5	21.4
1993	376	80,190	18.6	20.1
1994	403	85,831	18.2	15.2
1995	492	102,490	15.6	16.7
1996	703	144,411	19.8	17.2
1997	996	203,221	24.8	21.5
1998	1,384	282,865	30.4	24.9
1999	2,030	416,764	38.9	28.7
2000	2,452	507,377	39.8	29.5
2001	1,876	387,856	28.3	57.9
2002	1,518	315,248	22.3	103.2
2003	1,289	270,295	18.0	

Source: GE Annual Report and Accounts and 10K, various years; Annual Abstract of the United States, and Compustat.

Notes: The stock price is in nominal terms and adjusted for stock splits. Treasury shares are excluded from all calculations. Some 2002 data is derived. (Average market values used). Note that the 2002 S&P 500 P/E ratio is distorted by large write downs at AOL TimeWarner

Table 3 GE Consolidated sales revenue (turnover) and contribution from main industrial and capital services divisions

	<i>GE total sales</i>	<i>GE Industrial sales</i>	<i>GE Capital sales</i>	<i>GE Industrial sales as a % of company total</i>	<i>GE Capital sales as a % of company total</i>
	<i>\$ million</i>	<i>\$ million</i>	<i>\$ million</i>	<i>%</i>	<i>%</i>
1980	24,959	24,959	931	96.4	3.6
1981	27,240	27,240	1,074	96.2	3.8
1982	26,500	26,500	1,279	95.4	4.6
1983	26,797	26,797	1,550	94.5	5.5
1984	27,947	27,947	1,874	93.7	6.3
1985	28,285	28,285	2,302	92.5	7.5
1986	35,211	35,211	2,991	92.2	7.8
1987	39,315	39,315	3,980	90.8	9.2
1988	50,089	40,292	10,655	79.1	20.9
1989	54,574	42,650	12,945	76.7	23.3
1990	58,414	44,879	14,774	75.2	24.8
1991	60,236	45,227	16,399	73.4	26.6
1992	57,073	40,254	18,440	68.6	31.4
1993	60,562	40,359	22,137	64.6	35.4
1994	60,109	42,498	19,875	68.1	31.9
1995	70,028	46,181	26,492	63.5	36.5
1996	79,179	49,565	32,713	60.2	39.8
1997	90,840	54,515	39,931	57.7	42.3
1998	100,469	56,026	48,694	53.5	46.5
1999	111,630	60,944	55,749	52.2	47.8
2000	129,853	69,497	66,177	51.2	48.8
2001	125,913	74,037	58,353	55.9	44.1
2002	131,698	79,049	58,187	57.6	42.4
2003	134,187	78,841	64,279	55.1	44.9

Source: GE Annual Report and Accounts and 10K, various years.

Note: GE began consolidating GE Capital in 1988. Prior to 1988, GE Consolidated sales in the table are calculated as the sum of the GE Industrial and GE Capital totals. After 1988, the divisional totals will not necessarily sum to the GE Consolidated totals due to intra-company transactions.

Table 4 Growth of sales vs. growth of profits in GE and its main divisions

	<i>GE Consolidated</i>		<i>GE Industrial</i>		<i>GE Capital</i>	
	<i>Growth in sales %</i>	<i>Growth in net income %</i>	<i>Growth in sales %</i>	<i>Growth in net income %</i>	<i>Growth in sales %</i>	<i>Growth in net income %</i>
1981	9.1	9.1	9.1	7.9	15.4	23.5
1982	-2.7	10.0	-2.7	6.8	19.1	44.4
1983	1.1	11.4	1.1	8.7	21.2	32.2
1984	4.3	12.6	4.3	11.3	20.9	21.4
1985	1.2	2.5	1.2	-1.4	22.8	25.5
1986	24.5	6.7	24.5	3.4	29.9	22.0
1987	11.7	17.0	11.7	18.9	33.1	9.5
1988	27.4	16.2	2.5	9.9	167.7	42.8
1989	9.0	16.3	5.9	15.9	21.5	17.6
1990	7.0	9.2	5.2	6.5	14.1	18.0
1991	3.1	-38.7	0.8	-57.0	11.0	14.8
1992	-5.3	79.2	-11.0	133.8	12.4	19.3
1993	6.1	-8.7	0.3	-22.3	20.0	20.5
1994	-0.7	9.5	5.3	52.7	-10.2	-50.4
1995	16.5	39.1	8.7	8.6	33.3	169.5
1996	13.1	10.8	7.3	7.3	23.5	16.6
1997	14.7	12.7	10.0	10.8	22.1	15.6
1998	10.6	13.3	2.8	11.2	21.9	16.6
1999	11.1	15.3	8.8	14.1	14.5	17.0
2000	16.3	18.8	14.0	20.2	18.7	16.9
2001	-3.0	7.5	6.5	9.6	-11.8	4.3
2002	4.6	3.2	6.8	27.1	-0.3	-33.3
2003	1.9	6.3	-0.3	-27.8	10.5	105.3
Average annual growth 1980-2003	7.9	12.1	5.3	12.0	23.1	25.6
Average annual growth 1980-1990	9.3	11.1	6.3	8.8	36.6	25.7
Average annual growth 1990-2003	6.9	12.7	4.7	13.9	12.8	25.1

Source: GE Annual Report and Accounts and 10K, various years.

Notes: GE began consolidating GE Capital in 1988. Prior to 1988, GE Consolidated sales in the table are calculated as the sum of the GE Industrial and GE Capital totals. GE Industrial owns nearly all the shares in GE Capital and therefore consolidates the net income. To avoid double counting, the above calculation deducts GE Capital's contribution to GE Industrial's net income.

Table 5 GE: real sales and net income (all values in 2003 prices)

	<i>Real Sales</i>			<i>Real Net Income</i>		
	<i>GE</i>	<i>GE</i>	<i>GE</i>	<i>GE</i>	<i>GE</i>	<i>GE</i>
	<i>Consolidated</i>	<i>Industrial</i>	<i>Capital</i>	<i>Consolidated</i>	<i>Industrial</i>	<i>Capital</i>
	<i>\$ mill</i>	<i>\$ mill</i>	<i>\$ mill</i>	<i>\$ mill</i>	<i>\$ mill</i>	<i>\$ mill</i>
1980	58,856	55,753	3,103	3,382	3,125	257
1981	58,775	55,166	3,609	3,346	3,058	288
1982	54,232	50,534	3,698	3,465	3,074	391
1983	53,118	49,516	3,601	3,740	3,239	501
1984	54,708	49,512	5,196	4,039	3,456	583
1985	54,877	48,370	6,507	3,995	3,288	706
1986	68,848	59,091	9,757	4,182	3,336	846
1987	76,935	63,624	13,311	4,717	3,824	893
1988	77,942	62,697	16,580	5,269	4,043	1,226
1989	81,032	63,327	19,221	5,849	4,472	1,376
1990	82,290	63,223	20,813	6,062	4,521	1,541
1991	81,436	61,145	22,171	3,564	1,866	1,698
1992	74,913	52,836	24,204	6,202	4,234	1,968
1993	77,177	51,431	28,210	5,499	3,196	2,303
1994	74,658	52,785	24,686	5,870	4,757	1,113
1995	84,609	55,797	32,008	7,942	5,024	2,918
1996	92,970	58,198	38,411	8,548	5,240	3,308
1997	104,263	62,571	45,832	9,415	5,678	3,737
1998	113,499	63,292	55,009	10,502	6,213	4,288
1999	123,393	67,366	61,624	11,846	6,935	4,911
2000	138,817	74,294	70,745	13,614	8,064	5,550
2001	130,898	76,968	60,663	14,226	8,594	5,631
2002	134,595	80,788	59,467	14,429	10,738	3,690
2003	134,187	78,841	64,279	15,002	7,587	7,415

Source: GE Annual Report and Accounts and 10K, various years.

Notes: GE began consolidating GE Capital in 1988. Prior to 1988, GE Consolidated sales in the table are calculated as the sum of the GE Industrial and GE Capital totals. GE Industrial owns nearly all the shares in GE Capital and therefore consolidates the net income. To avoid double counting, the above calculation deducts GE Capital's contribution to GE Industrial's net income

Table 6 GE industrial division real sales by business segment (in real 2002 prices)

	Aircraft engines	Aerospace	Consumer products	Major appliances/ Appliances	Industrial products/ Systems / Industrial	Natural resources	NBC/ Broadcasting	Power systems /Power Generation	Technical systems/ Technical products and services	Services and materials / Materials /Plastics	Other	Corporate items and eliminations	TOTAL
	\$ mill	\$ mill	\$ mill	\$ mill	\$ mill	\$ mill	\$ mill	\$ mill	\$ mill	\$ mill	\$ mill	\$ mill	\$ mill
1980	5,710		13,558		9,439	2,990		12,061	6,628	4,419		481	55,287
1981	5,711		12,853		8,893	3,397		11,361	7,465	4,681		333	54,695
1982	5,744		10,960		7,339	2,926		11,086	7,510	4,209		357	50,131
1983	6,183		11,246		6,984	2,842		10,235	6,766	3,535		454	48,246
1984	6,439		6,441	6,299	6,791	1,051		10,004	7,901	3,654		585	49,164
1985	7,704		5,750	6,025	6,670			8,950	8,319	3,910		601	47,931
1986	9,678	6,940	7,314	6,714	6,727		2,967	8,300	5,078	3,753	1,262	348	59,080
1987	10,677	8,295	7,948	7,442	7,420		4,989	7,874	5,786	4,337	134	-2,030	62,873
1988	9,824	8,099		8,017	10,703		5,514	7,283	6,717	5,364	597	-2,239	59,880
1989	9,926	7,640		8,129	10,210		4,906	7,418	6,574	7,129	461	-2,047	60,347
1990	10,372	7,704		7,830	9,661		4,441	7,965	6,564	7,091	377	-1,918	60,085
1991	10,403	7,014		7,179	9,124		4,110	8,145	6,880	6,219	356	-1,546	57,883
1992	9,421			6,815	8,831		4,300	8,146	5,976	6,205	2,236	-462	51,469
1993	8,168			6,896	9,160		3,851	8,307	5,181	6,259	2,536	-258	50,100
1994	6,913			7,217	11,380		4,066	7,178	5,184	6,873	2,841	-236	51,419
1995	7,177			6,983	11,998		4,612	7,703	5,207	7,823	3,186	-337	54,353
1996	7,208			7,292	11,909		5,984	8,300	5,367	7,445	3,555	-368	56,692
1997	8,720			7,541	12,247		5,761	8,380	5,498	7,485	3,985	1,334	60,951
1998	11,328			6,183	12,349		5,798	9,316	5,858	7,299	848	-1,504	57,477
1999	11,369			6,106	12,442		6,235	10,817	7,390	7,474	667	-1,660	60,839
2000	11,225			6,131	12,338		7,078	15,476	8,242	8,098	538	-2,161	66,965
2001	11,537			5,886	11,798		5,844	20,474	9,128	7,161	451	-2,938	69,341
2002	11,141			6,072	12,139		7,149	22,926	9,266	7,651	4,331	-2,833	77,842

Source: GE Annual Report and Accounts and 10K, various years.

Notes: The TOTAL column may not equal the totals from the income statement due to the method used to calculate GE Capital's income and (less so) corporate reshuffling. Some totals are derived.

The data in this table covers 1980 to 2002. It has not been possible to include comparable, consistent data for 2003 due to a reclassification of the business segments in GE's 2003 accounts.

Table 7 GE performance - return on capital employed (ROCE) and return on equity (ROE)

	<i>Return on capital employed (using income before interest and tax) %</i>			<i>Return on capital employed (using net income) %</i>			<i>Return on equity %</i>		
	<i>GE Consolidated</i>	<i>GE Industrial</i>	<i>GE Capital</i>	<i>GE Consolidated</i>	<i>GE Industrial</i>	<i>GE Capital</i>	<i>GE Consolidated</i>	<i>GE Industrial</i>	<i>GE Capital</i>
1980	27.6	28.1	25.9	11.4	14.0	3.5	18.5	19.2	18.5
1981	28.5	27.5	31.5	11.0	13.6	3.7	18.1	18.7	18.1
1982	26.0	25.4	27.5	10.9	13.2	4.5	17.8	18.1	17.8
1983	25.5	26.1	24.1	11.3	13.4	5.6	18.0	18.0	18.0
1984	25.6	25.9	24.8	11.3	13.7	5.5	18.1	18.2	18.1
1985	25.3	25.6	24.7	10.5	12.6	5.8	16.8	16.6	16.8
1986	21.9	21.4	23.2	8.7	9.9	5.8	16.5	16.4	16.5
1987	23.7	17.3	35.7	8.5	10.6	4.6	17.7	18.9	17.7
1988	24.6	21.9	25.2	8.7	11.0	3.8	18.3	19.0	18.3
1989	28.6	25.2	29.4	9.2	12.2	3.9	18.9	20.3	18.9
1990	27.4	27.6	26.0	8.7	13.0	3.6	19.8	21.6	19.8
1991	26.7	26.5	24.6	5.1	5.3	3.8	12.2	9.9	12.2
1992	22.6	25.6	22.4	8.1	12.7	3.8	20.1	22.1	20.1
1993	17.1	23.8	15.0	5.5	9.5	3.0	16.7	16.7	16.7
1994	14.4	28.7	10.0	5.0	13.4	1.2	17.9	22.5	17.9
1995	13.8	32.6	9.8	5.3	14.6	2.3	22.2	24.7	22.2
1996	12.9	35.4	9.0	5.0	15.6	2.2	23.4	26.5	23.4
1997	12.9	36.0	9.0	5.4	16.5	2.4	23.8	28.8	23.8
1998	12.9	39.1	8.9	5.2	16.5	2.4	23.9	28.7	23.9
1999	12.4	39.1	8.5	5.2	16.7	2.4	25.2	28.2	25.2
2000	12.4	39.4	8.5	5.2	17.1	2.4	25.2	27.5	25.2
2001	12.1	43.4	7.8	5.4	18.8	2.4	25.0	31.5	25.0
2002	8.4	43.0	4.6	4.1	23.1	1.1	22.2	39.2	22.2
2003	7.8	31.4	5.5	3.8	12.3	2.1	18.9	22.4	18.9
Average 1980-2003	14.5	30.7	10.0	5.7	14.0	2.4	20.6	22.9	17.0

Source: GE Annual Report and Accounts and 10K, various years.

Note: Prior to 1988, GE Consolidated equity is the sum of the two divisions. GE Industrial equity excludes its equity holding in GE Capital Services. GE Industrial income excludes the contribution of GE Capital. GE Industrial owns nearly all the shares in GE Capital and therefore consolidates the net income. To avoid double counting, the above calculation deducts GE Capital's contribution to GE Industrial's net income.

The 1980-2003 average is a weighted average.

Table 8 GE return on sales (RoS)

	<i>Pre-tax return on sales</i>			<i>Net return on sales</i>		
	<i>GE Consolidated</i>	<i>GE Industrial</i>	<i>GE Capital</i>	<i>GE Consolidated</i>	<i>GE Industrial</i>	<i>GE Capital</i>
	%	%	%	%	%	%
1980	9.5	9.4	10.2	5.7	5.6	8.3
1981	9.2	9.1	9.8	5.7	5.5	8.0
1982	9.7	9.5	11.5	6.4	6.1	10.6
1983	10.6	10.1	16.4	7.0	6.5	13.9
1984	10.9	10.7	12.1	7.4	7.0	11.2
1985	11.0	11.0	11.1	7.3	6.8	10.9
1986	9.0	10.7	-1.0	6.1	5.6	8.7
1987	6.7	5.5	12.5	6.1	6.0	6.7
1988	9.4	8.6	9.6	6.8	6.4	7.4
1989	10.5	10.2	8.8	7.2	7.1	7.2
1990	10.5	9.9	9.4	7.4	7.2	7.4
1991	10.7	9.7	10.1	4.4	3.1	7.7
1992	11.0	9.2	11.0	8.3	8.0	8.1
1993	10.9	7.6	12.0	7.1	6.2	8.2
1994	14.4	11.4	14.8	7.9	9.0	4.5
1995	13.9	11.1	13.3	9.4	9.0	9.1
1996	13.6	11.2	12.4	9.2	9.0	8.6
1997	12.3	10.3	11.1	9.0	9.1	8.2
1998	13.4	12.4	10.6	9.3	9.8	7.8
1999	14.0	12.8	10.9	9.6	10.3	8.0
2000	14.2	13.6	10.7	9.8	10.9	7.8
2001	15.6	15.3	11.9	10.9	11.2	9.3
2002	14.3	18.2	7.8	10.7	13.3	6.2
2003	14.8	11.7	14.3	11.2	9.6	11.5

Source: Annual report and accounts, and SEC 10K.

Notes: GE began consolidating GE Capital in 1988. GE Industrial owns nearly all the shares in GE Capital and therefore consolidates the net income. Pre-1988, GE Consolidated sales is calculated as the summation of both GE Industrial and GE Capital Services totals. To avoid double counting, the above calculation deducts GE Capital's contribution to GE Industrial's net income.

Table 9 The scale of GE's cashflows

	<i>GE cashflow from operations</i>	<i>GE cashflow as a % of sales</i>	<i>GE cashflow from operations as a % of GE sales</i>	<i>GE Industrial cashflow from operations as a % of GEI sales</i>	<i>GECS cashflow from operations as a % of GECS sales</i>
	<i>\$ million (real 2003 prices)</i>	<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>
1980	5,225	12.3	8.9	9.4	
1981	5,330	13.6	9.1	9.7	
1982	5,595	13.4	10.3	11.1	
1983	5,712	14.9	10.8	11.5	
1984	5,120	16.3	9.4	10.3	
1985	5,712	13.3	10.4	11.8	
1986	5,647	28.8	8.2	9.6	
1987	5,026	15.0	6.5	7.9	
1988	11,051	49.1	14.2	9.0	32.8
1989	9,834	43.7	12.1	11.2	16.1
1990	12,729	50.3	15.5	9.0	36.3
1991	10,136	51.6	12.4	8.9	24.2
1992	13,453	50.3	18.0	13.2	29.0
1993	12,982	53.8	16.8	13.1	24.6
1994	16,634	67.9	22.3	14.3	42.5
1995	18,058	77.6	21.3	13.1	38.0
1996	20,960	68.5	22.5	18.3	29.9
1997	16,344	57.5	15.7	17.1	15.6
1998	21,871	81.9	19.3	17.9	22.5
1999	27,185	76.9	22.0	19.3	26.6
2000	24,256	69.7	17.5	22.2	14.0
2001	33,470	74.8	25.6	23.2	30.2
2002	30,137	102.0	22.4	12.8	36.1
2003	30,289	85.0	22.6	16.4	33.4

Source: GE Annual Report and Accounts and 10K, various years.

Note: Prior to 1988, GE did not consolidate GE Capital results and cash flow information was not separately disclosed

Table 10 GE pre-tax and net income and contribution by main division (industrial and capital)

	Pre-tax income						Net income					
	GE Consolidated		GE Industrial		GE Capital		GE Consolidated		GE Industrial		GE Capital	
	\$ mill	%	\$ mill	%	\$ mill	%	\$ mill	%	\$ mill	%	\$ mill	%
1980	2,493	94.3	2,352	94.3	141	5.7	1,514	92.4	1,399	92.4	115	7.6
1981	2,660	93.5	2,486	93.5	174	6.5	1,652	91.4	1,510	91.4	142	8.6
1982	2,753	91.9	2,530	91.9	223	8.1	1,817	88.7	1,612	88.7	205	11.3
1983	3,033	89.4	2,713	89.4	320	10.6	2,024	86.6	1,753	86.6	271	13.4
1984	3,356	89.5	3,002	89.5	354	10.5	2,280	85.6	1,951	85.6	329	14.4
1985	3,540	88.0	3,116	88.0	424	12.0	2,336	82.3	1,923	82.3	413	17.7
1986	3,689	101.7	3,750	101.7	-61	-1.7	2,492	79.8	1,988	79.8	504	20.2
1987	3,207	68.6	2,199	68.6	1,008	31.4	2,915	81.1	2,363	81.1	552	18.9
1988	4,721	77.2	3,484	77.2	1,027	22.8	3,386	76.7	2,598	76.7	788	23.3
1989	5,703	79.3	4,354	79.3	1,138	20.7	3,939	76.5	3,012	76.5	927	23.5
1990	6,147	76.1	4,451	76.1	1,395	23.9	4,303	74.6	3,209	74.6	1,094	25.4
1991	6,436	72.6	4,397	72.6	1,657	27.4	2,636	52.4	1,380	52.4	1,256	47.6
1992	6,273	64.5	3,702	64.5	2,035	35.5	4,725	68.3	3,226	68.3	1,499	31.7
1993	6,575	53.8	3,086	53.8	2,648	46.2	4,315	58.1	2,508	58.1	1,807	41.9
1994	8,661	62.2	4,848	62.2	2,949	37.8	4,726	81.0	3,830	81.0	896	19.0
1995	9,737	59.2	5,112	59.2	3,520	40.8	6,573	63.3	4,158	63.3	2,415	36.7
1996	10,806	57.7	5,527	57.7	4,048	42.3	7,280	61.3	4,463	61.3	2,817	38.7
1997	11,179	55.8	5,591	55.8	4,422	44.2	8,203	60.3	4,947	60.3	3,256	39.7
1998	13,477	57.4	6,952	57.4	5,161	42.6	9,296	59.2	5,500	59.2	3,796	40.8
1999	15,577	56.2	7,828	56.2	6,096	43.8	10,717	58.5	6,274	58.5	4,443	41.5
2000	18,446	57.0	9,430	57.0	7,104	43.0	12,735	59.2	7,543	59.2	5,192	40.8
2001	19,701	62.0	11,355	62.0	6,966	38.0	13,684	60.4	8,267	60.4	5,417	39.6
2002	18,891	76.0	14,423	76.0	4,547	24.0	14,118	74.4	10,507	74.4	3,611	25.6
2003	19,904	46.4	9,234	46.4	9,212	46.2	15,002	50.6	7,587	50.6	7,415	49.4

Source: GE Annual Report and Accounts and 10K, various years.

Notes: GE began consolidating GE Capital in 1988. Pre-1988, GE Consolidated sales is calculated as the summation of both GE Industrial and GE Capital totals. GE Industrial owns nearly all the shares in GE Capital and therefore consolidates the net income. To avoid double counting, the above calculation deducts GE Capital's contribution to GE Industrial's net income. Divisional totals will not sum to consolidated totals due to intra-company transactions. In particular, all 'below the line' adjustments in the accounts which cannot be attributed to any division occur between the pre-tax and net income stage.

There are significant changes or events in both GE Industrial and Capital between 2000 and 2002: in GE Capital a decline in profits in 2001 was caused by the sale of Paine Webber and in 2002 from problems in the insurance business. Most of the change in GE Industrial is a result of the power systems division.

Table 11 GE: growth in real net (post-tax) income and contribution of GE Industrial and GE Capital

	Real net income			% Share of real net income		Annual increase/decrease in real net income		
	GE Consolidated \$ mill	GE Industrial \$ mill	GE Capital \$ mill	GE Industrial %	GE Capital %	GE Consolidated %	GE Industrial %	GE Capital %
1980	3,382	3,125	257	92.4	7.6			
1981	3,346	3,058	288	91.4	8.6	-1.1	-2.1	11.9
1982	3,465	3,074	391	88.7	11.3	3.6	0.5	35.9
1983	3,740	3,239	501	86.6	13.4	7.9	5.4	28.1
1984	4,039	3,456	583	85.6	14.4	8.0	6.7	16.4
1985	3,995	3,288	706	82.3	17.7	-1.1	-4.9	21.2
1986	4,182	3,336	846	79.8	20.2	4.7	1.5	19.8
1987	4,717	3,824	893	81.1	18.9	12.8	14.6	5.6
1988	5,269	4,043	1,226	76.7	23.3	11.7	5.7	37.3
1989	5,849	4,472	1,376	76.5	23.5	11.0	10.6	12.3
1990	6,062	4,521	1,541	74.6	25.4	3.6	1.1	12.0
1991	3,564	1,866	1,698	52.4	47.6	-41.2	-58.7	10.2
1992	6,202	4,234	1,968	68.3	31.7	74.0	127.0	15.9
1993	5,499	3,196	2,303	58.1	41.9	-11.3	-24.5	17.0
1994	5,870	4,757	1,113	81.0	19.0	6.7	48.8	-51.7
1995	7,942	5,024	2,918	63.3	36.7	35.3	5.6	162.2
1996	8,548	5,240	3,308	61.3	38.7	7.6	4.3	13.4
1997	9,415	5,678	3,737	60.3	39.7	10.1	8.4	13.0
1998	10,502	6,213	4,288	59.2	40.8	11.5	9.4	14.7
1999	11,846	6,935	4,911	58.5	41.5	12.8	11.6	14.5
2000	13,614	8,064	5,550	59.2	40.8	14.9	16.3	13.0
2001	14,226	8,594	5,631	60.4	39.6	4.5	6.6	1.5
2002	14,429	10,738	3,690	74.4	25.6	1.4	24.9	-34.5
2003	15,002	7,587	7,415	50.6	49.4	4.0	-29.3	100.9
Average annual growth %						8.3	8.2	21.3

Source: GE Annual Report and Accounts and 10K, various years.

Notes: GE began consolidating GE Capital in 1988. Pre-1988, GE Consolidated sales is calculated as the summation of both GE Industrial and GE Capital totals. GE Industrial owns nearly all the shares in GE Capital and therefore consolidates the net income. To avoid double counting, the above calculation deducts GE Capital's contribution to GE Industrial's net income. Divisional totals will not sum to consolidated totals due to intra-company transactions.

Table 12 The significance of sales revenue from services in GE, 1992-2003

	<i>GE total sales</i>	<i>GE Industrial sales</i>	<i>GE Industrial-sales of services</i>	<i>Sales of services in GE Industrial as a % of all GE Industrial sales</i>	<i>GE Capital sales</i>	<i>GE Capital-sales of services</i>	<i>Sales of services in GE Capital as a % of all GE Capital sales</i>	<i>GE Industrial-gross margin on sale of goods</i>	<i>GE Industrial-gross margin on the sale of services</i>
	<i>\$mill</i>	<i>\$mill</i>	<i>\$mill</i>	<i>%</i>	<i>\$mill</i>	<i>\$mill</i>	<i>%</i>	<i>%</i>	<i>%</i>
1992	57,073	40,254	8,348	20.7	18,440			25.2	24.7
1993	60,562	40,359	8,289	20.5	22,137			23.4	23.6
1994	60,109	42,498	8,863	20.9	19,875			26.0	29.2
1995	70,028	46,181	9,836	21.3	26,492	26,025	98.2	26.7	31.0
1996	79,179	49,565	11,923	24.1	32,713	30,787	94.1	28.1	29.3
1997	90,840	54,515	12,893	23.7	39,931	35,309	88.4	25.8	27.4
1998	100,469	56,026	15,170	27.1	48,694	41,320	84.9	31.3	29.2
1999	111,630	60,944	16,600	27.2	55,749	47,009	84.3	31.9	29.4
2000	129,853	69,497	18,380	26.4	66,177	56,769	85.8	32.2	30.5
2001	125,913	74,037	18,961	25.6	58,353	54,726	93.8	33.9	28.0
2002	131,698	79,049	21,360	27.0	58,187	54,891	94.3	30.8	33.3
2003	134,187	78,841	22,675	28.8	64,279	61,356	96.5	26.5	36.9

Source: GE Annual Report and Accounts, various years.

Note: All values in this table are nominal

Table 13 Major acquisitions by GE, 2002-2004

<i>Date (of completion of deal, or announcement)</i>	<i>Business acquired</i>	<i>Cost/ method of payment (where disclosed)</i>
January 2002	Real estate and asset based lending businesses from DaimlerChrysler Services	\$1.2 bn cash
April 2002	Telemundo Communications Group, Spanish language TV network, from a private consortium (including Sony)	\$2.7 bn (\$2 bn cash plus debt repayment)
May 2002	Enron Wind	
October 2002	Deutsche Financial Services commercial inventory financing business from Deutsche Bank	\$2.9 bn (cash plus debt repayment)
November 2002	ABB's structured finance business	\$2.4 bn
December 2002	Bravo, film and arts network, from Cablevision Systems	\$1.25 bn
February 2003	First National, consumer credit arm of UK bank Abbey National	\$1.3 bn
August 2003	US commercial lending business of Dutch insurer Aegon (Transamerica Finance)	\$5.4 bn (\$1 bn plus repayment of debt)
October 2003	Vivendi Universal entertainment assets	\$14 bn approx (mix of debt reduction and equity)
October 2003	Instrumentarium, Finnish healthcare technology	\$2 bn
October 2003	Amersham, UK healthcare technology	\$9.5 bn (all stock transaction)
December 2003	IKON, business equipment leasing unit	\$1.5 bn
May 2004	Leases and secured loans from Boeing Capital (\$2 bn total)	
Spring 2004	InVision Technologies, baggage screening equipment for airports	\$0.9 bn
August 2004	Deltabank, Moscow-based Russian consumer bank	
September 2004	CrossCountry Energy, interstate natural gas pipeline infrastructure (from Enron)	\$2.45 bn (including debt), as a joint venture with Southern Union
November 2004	Edwards Systems Technology, fire detection systems (from SPX Corp)	\$1.395 bn cash
November 2004	CitiCapital's Transportation Financial Services Group, a subsidiary of Citigroup	\$4.4 bn approx cash
November 2004	Ionics, water technology and services	\$1.1 bn cash (plus \$200m debt)
Total number of deals disclosed on the GE acquisitions/ growth platform website		
2002 39		
2003 24		
2004 4 (up to July 2004)		

Source: GE website <http://www.ge.com/en/company/investor/acquisitions.htm> (accessed 1 May 2004 and 17 April 2005).

Note: In April 2005, the website lists information on 'growth platforms'; previously these were termed 'acquisitions'. This web page does not list all of GE's acquisitions, nor does it always disclose the financial term. The summary data in the final row lists deals disclosed up to July 2004, after which no further information was available (last accessed 17 April 2005). Deals are generally included above when they are concluded

Table 14 GE: scale of acquisitions, as measured by cash flows (in real 2003 prices)

	Total cash inflow \$ mill	Of which, cash from operations \$ mill	Of which, other sources of cash \$ mill	Cash applied to acquisitions		
				Total \$mill	Of which, cash for GE Industrial acquisitions \$mill	Of which, cash for GE Capital acquisitions \$mill
1980	7,233	5,225	2,008			
1981	7,993	5,330	2,663			
1982	7,292	5,595	1,697			
1983	7,907	5,712	2,195			
1984	8,901	5,120	3,781			
1985	7,278	5,712	1,566			
1986	19,848	5,647	14,201			
1987	11,577	5,026	6,551			
1988	38,279	11,051	27,228	5,452	4,611	842
1989	35,433	9,834	25,600	2,762	1,127	1,635
1990	41,425	12,729	28,696	6,473	183	6,290
1991	42,050	10,136	31,914	5,096	1,261	3,834
1992	37,714	13,453	24,262	2,642	0	2,642
1993	41,500	12,982	28,519	2,663	0	2,663
1994	50,669	16,634	34,036	3,237	714	2,523
1995	65,668	18,058	47,610	6,816	288	6,528
1996	63,666	20,960	42,706	6,477	1,317	5,159
1997	59,924	16,344	43,580	6,020	1,636	4,384
1998	92,965	21,871	71,094	21,024	1,644	19,380
1999	94,848	27,185	67,663	12,882	1,762	11,120
2000	96,761	24,256	72,505	2,493	1,236	1,257
2001	97,867	33,470	64,397	12,921	1,493	11,428
2002	137,332	30,137	107,196	22,045	9,149	12,896
2003	114,104	30,289	83,815	14,407	3,870	10,537
Total 1980-2003	286,467	199,049	87,419	143,663	40,544	103,119

Source: GE Annual Report and Accounts and 10K, various years.

Notes: Prior to 1988, GE did not consolidate GE Capital results. Between 1980 and 1986, GE did not reveal/disaggregate cash applied to acquisitions. Acquisitions exclude purchases made through transfer of shares.

Table 15 GE: contributions to and holidays from the employee pension fund (in real 2002 prices)

	<i>GE net income</i>	<i>Pension fund surplus</i>	<i>Pension fund spend (in years with a net contribution)</i>	<i>Pension fund holiday (in years with no contribution)</i>	<i>Pension fund contribution/holiday as % of net income</i>
	<i>\$mill</i>	<i>\$mill</i>	<i>\$ mill</i>	<i>\$ mill</i>	
1980	3,294	300	879		26.7
1981	3,259	509	874		26.8
1982	3,375	1,847	873		25.9
1983	3,643	3,017	981		26.9
1984	3,935	4,582	1,041		26.5
1985	3,891	8,694	723		18.6
1986	4,074	2,200	234		5.7
1987	4,595	3,908	39		0.9
1988	5,133	5,813		344	6.7
1989	5,697	6,852		349	6.1
1990	5,905	8,483		522	8.8
1991	3,472	7,687		917	26.4
1992	6,041	7,934		749	12.4
1993	5,357	4,638		706	13.2
1994	5,718	7,389		695	12.2
1995	7,736	5,503		820	10.6
1996	8,327	7,035		811	9.7
1997	9,172	7,563		370	4.0
1998	10,230	17,470		1,118	10.9
1999	11,540	26,619		1,486	12.9
2000	13,262	22,100		1,816	13.7
2001	13,862	14,773		2,122	15.3
2002	14,118	4,545		1,556	11.0

Source: GE Annual Report and Accounts, various years.

Table 16 The relationship between capital employed and sales in GE Consolidated (in real 2003 prices)

	<i>Capital employed</i> <i>\$ mill</i>	<i>Sales revenues</i> <i>\$ mill</i>	<i>Capital employed per \$ of sales</i> <i>\$</i>	<i>Annual growth in capital employed</i> <i>%</i>	<i>Annual growth in sales</i> <i>%</i>
1980	41,350	58,856	0.70		
1981	42,411	58,775	0.72	2.6	-0.1
1982	41,219	54,232	0.76	-2.8	-7.7
1983	43,032	53,118	0.81	4.4	-2.1
1984	43,813	54,708	0.80	1.8	3.0
1985	45,201	54,877	0.82	3.2	0.3
1986	58,050	68,848	0.84	28.4	25.5
1987	62,985	76,935	0.82	8.5	11.8
1988	172,514	77,942	2.21	173.9	1.3
1989	190,566	81,032	2.35	10.5	4.0
1990	216,781	82,290	2.63	13.8	1.6
1991	227,478	81,436	2.79	4.9	-1.0
1992	253,164	74,913	3.38	11.3	-8.0
1993	320,505	77,177	4.15	26.6	3.0
1994	241,559	74,658	3.24	-24.6	-3.3
1995	275,516	84,609	3.26	14.1	13.3
1996	319,846	92,970	3.44	16.1	9.9
1997	348,936	104,263	3.35	9.1	12.2
1998	402,098	113,499	3.54	15.2	8.9
1999	447,899	123,393	3.63	11.4	8.7
2000	467,172	138,817	3.37	4.3	12.5
2001	514,620	130,898	3.93	10.2	-5.7
2002	587,899	134,595	4.37	14.7	3.3
2003	647,483	134,187	4.82	10.4	-0.3

Source: GE Annual Report and Accounts and 10K, various years.

Table 17 GE: changes in balance sheet structure

	<i>GE Consolidated breakdown of capital employed</i>		<i>Equity as a % of long term capital in</i>	
	<i>Debt as a % of total capital</i>	<i>Equity as a % of total capital</i>	<i>GE Industrial</i>	<i>GE Capital</i>
1980	55.7	44.3	44.3	10.0
1981	56.4	43.6	43.6	9.1
1982	52.8	47.2	47.2	10.0
1983	51.6	48.4	48.4	9.9
1984	49.2	50.8	50.8	8.7
1985	47.4	52.6	52.6	9.0
1986	56.3	43.7	43.7	5.6
1987	57.7	42.3	42.3	6.5
1988	83.3	16.7	44.7	6.4
1989	83.7	16.3	47.4	6.7
1990	85.9	14.1	46.8	5.9
1991	87.1	12.9	44.3	6.1
1992	87.8	12.2	48.8	5.7
1993	89.7	10.3	50.5	5.1
1994	86.4	13.6	51.9	6.1
1995	87.0	13.0	53.1	6.9
1996	88.6	11.4	51.9	6.3
1997	88.7	11.3	51.1	6.7
1998	89.1	10.9	52.1	6.5
1999	89.5	10.5	51.5	5.9
2000	88.4	11.6	52.2	6.2
2001	88.9	11.1	50.0	6.7
2002	88.9	11.1	50.8	7.5
2003	87.8	12.2	56.8	8.2

Source: GE Annual Report and Accounts and 10K, various years.

Notes: Shareholder equity excludes treasury shares. From 1988 onwards, reserves of insurance affiliates are classified as long term debt.

Table 18 The composition of capital employed in GE Industrial and GE Capital (in real 2003 prices)

	<i>GE Consolidated</i>			<i>GE Industrial</i>			<i>GE Capital</i>		
	<i>Long term liabilities</i>	<i>Current liabilities</i>	<i>Equity</i>	<i>Long term liabilities</i>	<i>Current liabilities</i>	<i>Equity</i>	<i>Long term liabilities</i>	<i>Current liabilities</i>	<i>Equity</i>
1980	11,399	30,426	18,317	6,074	16,959	16,237	5,325	13,467	2,080
1981	11,910	33,762	18,486	6,238	17,688	16,311	5,673	16,074	2,175
1982	12,401	31,276	19,447	6,224	15,547	17,008	6,177	15,729	2,439
1983	12,310	36,079	20,825	6,153	16,054	17,961	6,157	20,025	2,864
1984	13,502	42,667	22,275	6,289	15,249	18,955	7,212	27,418	3,320
1985	14,431	46,851	23,777	6,172	15,252	19,840	8,260	31,599	3,937
1986	22,953	95,048	25,356	13,461	19,234	20,336	9,492	75,814	5,019
1987	28,816	100,428	26,670	15,809	20,506	20,229	13,006	79,922	6,441
1988	31,495	112,285	28,734	15,621	19,884	21,236	24,574	84,548	7,499
1989	32,878	126,670	31,018	14,648	19,825	22,006	26,600	99,399	9,011
1990	39,191	147,049	30,541	13,861	20,913	20,915	33,085	119,427	9,626
1991	40,818	157,345	29,314	16,629	20,278	18,826	34,483	127,827	10,488
1992	45,504	176,868	30,792	14,262	18,048	19,131	40,557	150,606	11,661
1993	67,330	220,266	32,909	14,336	17,917	19,134	63,838	192,204	13,774
1994	84,787	123,998	32,774	14,344	15,994	21,124	81,000	98,103	11,650
1995	113,188	126,554	35,774	14,062	17,481	20,340	109,961	99,006	15,434
1996	133,362	149,938	36,546	13,910	19,906	19,784	130,959	119,307	16,762
1997	134,926	174,483	39,527	14,734	23,129	19,740	133,568	139,795	19,786
1998	159,510	198,666	43,923	15,940	24,492	21,637	157,882	162,466	22,285
1999	180,637	220,220	47,042	17,042	27,202	24,579	178,997	179,916	22,462
2000	206,556	206,639	53,977	17,798	31,669	29,366	204,716	166,894	24,611
2001	207,132	250,494	56,994	18,530	38,553	27,273	205,403	207,204	29,722
2002	288,161	234,631	65,108	19,029	43,932	27,366	287,319	175,544	37,741
2003	312,048	256,255	79,180	27,816	32,453	33,872	303,505	205,713	45,308
% change 1980-2003	2,638	742	332	358	91	109	5,599	1,427	2,079

Source: GE Annual Report and Accounts and 10K, various years.

Notes: GE began consolidating GE Capital in 1988. Pre-1988, GE Consolidated sales is calculated as the summation of both GE Industrial and GE Capital totals. GE Industrial owns nearly all the shares in GE Capital and therefore consolidates the net income. To avoid double counting, the above calculation deducts GE Capital's

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