



# **The Impact of Design on Stock Market Performance**

**An Analysis of UK Quoted Companies 1994-2003**

**February 2004**

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## 1 Foreword

Design is a critical component of business performance. We've heard designers, commentators and companies say it. But, to date, the evidence for the link between shareholder return and investment in design has been scarce and anecdotal.

Companies the world over spend billions every year on design, from product development and packaging to web design and branding. The UK's design capability puts it at the forefront of global expertise. Yet the business case for design needs to be made with increasing confidence and precision. Companies need to justify investment in all business activities, and measure their individual impact on productivity and profitability.

Over the last few years the Design Council has undertaken a programme of research to analyse the impact of investment in design on the stock market performance of UK publicly listed companies. The results of that research could not be clearer in proving that those companies that effectively use design outperform their peers.

With a research universe of 166 design-led companies, tracked over ten years, we have seen an outperformance of 200% against the FTSE 100 and FTSE All-Share. This adds to the growing evidence that design measurably improves company performance. For the financial community, it offers a new way of looking at investment. And for business managers and designers alike, it provides the business case that is needed in an increasingly rigorous business environment.

**David Kester**  
**Chief Executive**  
**Design Council**

## 2 Main Findings

### 2.1 Overview

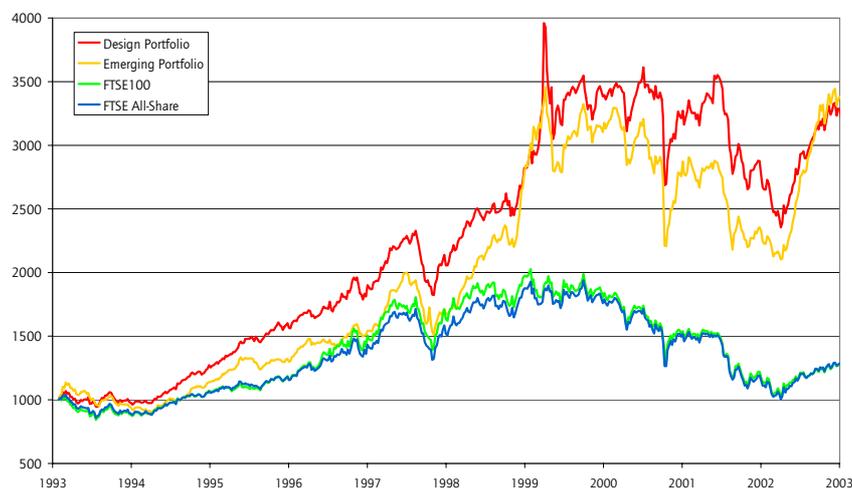
The Design Council has recently completed an analysis of the performance of UK FTSE quoted companies over the last ten years, between 1994 and 2003, encompassing a long bull market period, from March 1995 to March 2000, the bear market period from March 2000 to March 2003, and the more recent recovery period.

The key finding of the study is that a group of 63 companies identified to be effective users of design outperformed the FTSE 100 index over the full period by 200%, and also beat their peers in the recent bull and bear markets.

A number of prior studies have been undertaken around the world but all have been limited in their methodology or scale (see Appendix 1). We believe that this study offers the first conclusive evidence for the relationship between the effective use of design by corporates and an improved share price performance and therefore greater shareholder returns.

The companies in this study were selected principally on the basis of their being nominated for and winning design-related awards. The companies were grouped into two portfolios – the 'Design Portfolio' and the 'Emerging Portfolio' – comprising, respectively, high and lower scorers in terms of the number of awards won by each company and therefore the effectiveness of their use of design. The chart below summarises the performance of these two portfolios over the ten-year period of the analysis. [Note: This chart and further performance charts are included in large format in Appendix 3.]

**Chart 1: Performance over ten years 1994-2003**



As the table below shows, both the Design Portfolio and the Emerging Portfolio outperformed the FTSE indices at all stages in the cycle. This outperformance included the bear market period, from which no companies are immune, but during which both portfolios sustained much lower losses than the general stock market.

**Table 1: Portfolio performance against market indices**

Portfolios & Indices	No of Companies	Full period 29 Dec 1993 to 29 Dec 2003	Bull market 27 Mar 1995 to 31 Mar 2000	Bear market 31 Mar 2000 to 31 Mar 2003	Recovery period 31 Mar 2003 to 29 Dec 2003
<b>Absolute Performance</b>					
FTSE 100	100	+31.9%	+108.4%	-41.7%	+18.2%
FTSE All-Share	700+	+32.2%	+102.2%	-41.3%	+21.8%
Design Portfolio	63	+231.8%	+231.0%	-24.7%	+32.3%
Emerging Portfolio	103	+244.1%	+235.1%	-29.7%	+57.0%
<b>Relative to FTSE 100</b>					
Design Portfolio	63	+199.9%	+122.6%	+17.0%	+14.1%
Emerging Portfolio	103	+212.1%	+126.6%	+12.0%	+38.8%
<b>Relative to FTSE All-Share</b>					
Design Portfolio	63	+199.6%	+128.9%	+16.7%	+10.5%
Emerging Portfolio	103	+211.9%	+132.9%	+11.7%	+35.2%

## 2.2 Performance Commentary

Over the ten-year period, the Design Portfolio and the Emerging Portfolio have broadly followed the trend of the UK stock market, but exhibited a consistently higher performance at all stages in the cycle.

The Design Portfolio peaked in the week of 28 February 2000, at a 296% gain on its starting value and a rise of 20.4% over the previous week. This was driven by a more than 200% increase in the share price of Cambridge Antibody Technology Group plc (CAT) as the company announced a series of

developments, culminating in a strategic alliance in the human genome area. Other stocks with interests in biotechnology also stoked the rise. In ensuing weeks, the Design Portfolio fell back to its level of early February 2000 with a continued outperformance of the two FTSE indices.

The second highest point of the Design Portfolio was in the week of 4 June 2001, at a time when the markets were still steaming ahead on the back of the internet boom.

The Emerging Portfolio had no extremes such as that attributed to CAT in the Design Portfolio, and simply followed overall market trends, but at a consistently higher level of performance. The Emerging Portfolio achieved its high in the week of 6 March 2000, with a 246% gain on its starting investment.

**Table 2: Highs and lows of portfolio performance**

Portfolios & Indices	No of Companies	Design Portfolio High - 28 Feb 2000*	Emerging Portfolio High - 6 Mar 2000*	Largest one-week fall - 10 Sep 2001*	Bear market Low - 3 Mar 2003*
<b>Absolute Performance</b>					
FTSE 100	100	+89.8%	+92.2%	+39.1%	+2.1%
FTSE All-Share	700+	+85.3%	+87.5%	+26.5%	+0.2%
Design Portfolio	63	+295.9%	+292.4%	+168.7%	+135.6%
Emerging Portfolio	103	+235.0%	+245.8%	+121.1%	+110.2%
<b>Relative to FTSE 100</b>					
Design Portfolio	63	+206.2%	+200.3%	+129.6%	+133.4%
Emerging Portfolio	103	+145.2%	+153.6%	+81.9%	+108.1%
<b>Relative to FTSE All-Share</b>					
Design Portfolio	63	+210.7%	+204.9%	+142.2%	+135.4%
Emerging Portfolio	103	+149.8%	+158.2%	+94.6%	+110.0%
* All figures relative to 29 December 1993					



Both portfolios experienced their largest one-week fall on 10 September 2001, at the same time the FTSE 100 dropped by 6% and the FTSE All-Share by 14%. In that week, the Design Portfolio fell by 16% and the Emerging Portfolio by 19%. September 2001 was a time of immense volatility for the stock markets as investors remained unsure as to whether a bear market was taking real hold. The bear market low for both portfolios was on 3 March 2003, exactly coinciding with the lows for the two FTSE indices.

By the end of the period of this study in December 2003, both portfolios were well on their way to recovering to all-time highs, with the Emerging Portfolio showing a remarkable 244% gain, just two percentage points off its March 2000 high.

## 3 Methodology

### 3.1 General Approach

This study sought to develop an objective, comprehensive, means of identifying companies that were active and effective users of design and then to compare their performance as a group with that of quoted companies in general. This section gives a detailed review of selection, statistical and modelling principles used.

There is a wide spectrum of views as to what constitutes design in business. For simplicity, we view the two extremes of that spectrum as follows:

- **Narrow, short term approach:** Design as a largely product-based activity, focussing on applying aesthetics and form at a late stage in development, often acting in response to the market at large, leaving little room for innovation and not necessarily integrating with wider business strategy.
- **Broad, long term approach** An integrated approach using insights from design methods to guide business strategy and shape product, service and process development from an early stage, enabling innovation based on an advanced understanding of user and market requirements; addresses issues of global competitiveness and added value, offering a coordinated approach to the long term business strategy including branding, corporate identity and communications.

Moreover, the criteria as to what constitutes 'good design' can be seen as very subjective. The study therefore principally used the results of a wide range of design awards as the basis for stock selection, because of their comprehensiveness and relative objectivity. In order to ensure completeness, the study also included nominations from a Design Council panel of design experts.

### 3.2 Award and Nomination Schemes

The information used to create the database of selected companies came from five sources and is summarised in Table 3 as follows:

**Table 3: Award and nomination schemes**

Name of Scheme	Scheme sponsor	Time period
Design Effectiveness Awards	Design Business Association	1993 to 2003
D&AD Awards	D&AD	1993 to 2003
Interbrand	Interbrand	1999 to 2003
Millennium Products	Design Council	2000
Panel Nominations	Design Council	2000

These five sources provide a comprehensive database of the UK corporate sector, its use of design and its effectiveness in that activity:

**Design Business Association: Design Effectiveness Awards (DEA)**

The Design Effectiveness Awards call for joint entries by clients and designers. Awards are made for commercially successful design and therefore orientated towards the effect of design on the financial performance in the client company. The scheme is relatively small. Data for prizes and awards during the period 1993 to 2003 were used in this analysis.

**D&AD: D&AD Awards (D&AD)**

An annual awards scheme run by D&AD. The scheme spans 27 different categories encompassing all aspects of the visual communications mix (from writing and art direction to architecture, music videos and photography). It attracts more than 21,500 entries globally each year including those from leading agencies and design groups, clients and in-house studios. Awards for the years 1993 to 2003 were analysed for this report.

**Interbrand Study: Brand Values (IB)**

An annual survey conducted by Interbrand, a well known international branding consultancy. Using publicly available information, it publishes a list of the most valuable brands on the market. The primary aim is to make clearer the extent to which intangibles, and hence brands, affect the valuation of companies. Data for the period 1999 to 2003 was used for this analysis, with only six qualifying companies (due to the international nature of Interbrand's study).

**Design Council: Millennium Products (MP)**

At the turn of the millennium, the Design Council launched a scheme to identify 1,000 UK-based companies that were significant and effective users of design. The awards were given to companies for new products and processes, though tended to lean towards innovation.

#### Design Council: Panel Nominations (PN)

In order to ensure completeness, a team of Design Council experts met as a panel to consider which companies from the FTSE 350 should be considered as effective users of design. They selected from five design categories (as shown in Table 4) and the exercise was done 'blind', in that no detailed stock market information was available to the participants when they made their choices. The companies were given points according to the number of categories they were listed under.

Each of the schemes noted above has many categories and this study therefore standardised them under five basic headings, summarised in Table 4 below. Awards or nominations attributed in different design categories carried the same score, and each of the five basic design headings were assumed to contribute equally to the success of the company.

**Table 4: The standardised design categories**

	Product	Innovation	Brand	Retail	Integrated
DEA	•	•	•	•	•
D&AD	•		•	•	•
IB			•		
MP		•			
PN	•	•	•	•	•

The scores for each award scheme were then added together as a measure of design effectiveness, with all schemes given equal value. There was a weighting given for each type of award class: best of class (4 points), gold (4 points) and silver awards (3 points) scoring more than nominations (2 points) or commendations (1 point). These scores were then aggregated over the period 1993 to 2003.

This analysis produced 166 eligible UK quoted companies that had received at least one award or one nomination since 1993. They could have received these via a subsidiary, for a brand, a product, or a service. Under each scheme's category therefore, a company could receive several awards because either:

- It had several subsidiaries or products that won awards or nominations;
- It received awards over several years in the same and/or different categories;
- A single product, service or process received multiple awards in a single year.

The scores of the qualifying UK quoted companies ranged from 1 point to 175 points.

In order to provide a more considered analysis of the use of design, the companies were then split into two groups – Design Portfolio and Emerging Portfolio - based on the number of points gained. A minimum score of seven was required for inclusion in the Design Portfolio; this score could be achieved either by a combination of a gold or silver award in a category, or by several mentions and/or nominations in one or more schemes; this demonstrated a more consistent or high level of effective design use. Any company scoring below seven points was included within the Emerging Portfolio, exhibiting a less significant use of design based on the awards and nominations inclusion criteria.

**Table 5: Number of companies included within the portfolios**

Portfolio	Number
Design Portfolio	63
Emerging Portfolio	103

The portfolio companies are listed in Appendix 2.

### 3.3 Other Selection Issues

For this study, only UK active stocks which were constituents of the FTSE All-Share at 1 December 2003 were considered eligible. Over time, as would be expected, there were considerable changes in the ownership of several companies, which was reflected in the final sampling base, and in financial events which affected the modelling of performance over time:

- Companies that were delisted from the London Stock Exchange before December 2003 were omitted – these included companies that were sold to overseas organisations, companies that were taken private, or which failed;
- The share price dataset consisted of adjusted close prices reflecting dividends, stock splits, mergers or acquisitions or other financial restructurings, as used by FTSE and other indices.

### 3.4 Index Calculation

This study is based on equally weighted portfolios. In this method, each constituent company makes up the same proportion of the portfolio, which has the effect of introducing disproportionate weighting towards the smaller companies but, at the same time, reduces the impact of share price changes among the larger constituents.

- Portfolio value was calculated weekly;
- New candidates to the portfolios – either by virtue of being newly quoted, or because of their winning a design award – were only eligible for entry every six months on 1 July and 1 December;
- The equal weightings were re-adjusted at the same time as changes were made to the portfolios, but were allowed to vary freely between reflecting the changes in their share prices;
- The portfolios were thus managed under a 'buy-and-hold' strategy, only adjusting weights when constituents were added or removed.

The share price performance of the Design Portfolio companies was compared with the FTSE 100 and FTSE All-Share indices over the period from 29 December 1993 to 29 December 2003.



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## Appendix 1: Earlier Studies of the Influence of Design on Share Price Performance

There have been a number of studies conducted to establish whether design is associated with superior stock market returns.

- In 1998 Fitch, the UK-based design consultancy, devised a means of assessing companies' success based on their share market performance and design use. Drawing on the services of investment fund managers, Fitch compiled a hypothetical design-led portfolio of its publicly-listed clients in both the US and the UK.

In both the US and the UK studies, the design portfolio achieved a healthy outperformance. In the period 1990 to 1995, prior to the late 1990s bull market, the Fitch 'Design Fund' experienced 350% growth, compared with less than 90% growth in the US based Standard & Poor 500 index. Figures for the UK over the period 1992 to 1996 were more modest; the value increased by 77% compared with 51% for the FTSE 100.

- In 1999 the Design Council seed funded research by Hugh Aldersey-Williams. The Fitch approach was adopted and applied to a set of six hypothetical funds. Companies in each fund were selected on the basis of being clients of six leading British design agencies, but again with no criteria as to scale of design activity. As a result of this approach there was a disproportionate emphasis on corporate identity and branding work (the focus of most client activity). The results were again strongly indicative of design-led success. The six funds performed between 5% and 28% better than the market index (in this case, the FTSE All-Share index) over the period January 1995 to August 1999. In aggregate, a fund of all 95 companies involved in the study performed 10% better than the FTSE index.
- In 2000, Hugh Aldersey-Williams worked with the Design Council to develop this research further by constructing a portfolio from the publicly listed companies that were recognised within the Millennium Products scheme, and their performance was measured retrospectively from the end of 1995 to April 2000. The awards were based on a small sample of successful manufactured products or implemented services within larger parent companies, giving a much wider spread of sectors and design use. By 2001 the results showed that the portfolio outperformed the FTSE All-Share by 94% (buy and hold) and by 137% when actively managed.

- This work was subsequently reviewed by John Carson, an index analyst with Lehman Brothers, looking at performance between 1999 and December 2000. For that period, the portfolio had continued to outperform the FTSE 100 but this was significantly influenced by the dramatic price movements of Cambridge Antibody Technology noted earlier in this report, and might not therefore have been truly indicative of long-term performance.
- In 2001, the Design Council commissioned Dr Andrew Black, a former consultant with PricewaterhouseCoopers and author of *In Search of Shareholder Value*, and now Managing Director of Building Value Associates Ltd, to undertake a new study examining the link between the use of design and financial performance. Dr Black developed the methodology used in this study, and produced an analysis of stock market performance of UK quoted companies over a seven-year period between 1996 and 2002, as well as examining the sales and growth performance of these companies.

In this study the group of companies outperformed the FTSE 100 by 65% through the full seven-year period, with an outperformance of 23% during the bear market phase. In addition, when analysing the value drivers of the companies included (specifically sales growth, capex expenditure and profitability), it was found that those same companies had also experienced above average sales growth. This was suggestive that companies were using design to support growth in their 'top' or revenue line.

## Appendix 2: Portfolio Companies

DESIGN PORTFOLIO	
3i Group plc	Imperial Chemical Industries plc
AEA Technology plc	Invensys plc
Allied Domecq plc	J Sainsbury plc
Amersham plc	Manchester United plc
[Arcadia plc (delisted December 2002)]	Marks & Spencer Group plc
AstraZeneca plc	Matalan plc
BAA plc	MFI Furniture Group plc
BAE Systems plc	Oxford Instruments plc
Barclays plc	Pearson plc
Barr (AG) plc	Psion plc
The Body Shop International plc	Reckitt Benckiser plc
Boots Group plc	Rentokil Initial plc
BP plc	Reuters Group plc
British Airways plc	RM plc
British Sky Broadcasting Group plc	Rolls-Royce Group plc
BT Group plc	The Royal Bank Of Scotland Group plc
Cadbury Schweppes plc	Safeway plc
Cambridge Antibody Technology Group plc	Scottish & Newcastle plc
Centrica plc	Scottish & Southern Energy plc
[Debenhams plc (delisted December 2003)]	[Selfridges plc (delisted July 2003)]
Diageo plc	Shell Transport and Trading Co plc
Easyjet plc	WH Smith plc
Egg plc	Smith & Nephew plc
Eidos plc	SSL International plc
EMAP plc	Tesco plc
EMI Group plc	Tomkins plc
Gallaher Group plc	Ultra Electronics Holdings plc
GKN plc	Unilever plc
GlaxoSmithKline plc	Vodafone Group plc
GUS plc	Wetherspoon J D plc
Hilton Group plc	Whitbread plc
HSBC Holdings plc	Woolworths Group plc
	WPP Group plc

**Note:** Square brackets indicate companies that were eligible but excluded from the final analysis because they delisted before December 2003.

## EMERGING PORTFOLIO

Abacus Group plc	Imperial Tobacco Group plc
Aegis Group plc	Intec Telecom Systems plc
Aggregate Industries plc	InterContinental Hotels Group plc
Alfred McAlpine plc	International Power plc
Alliance & Leicester plc	Johnson Matthey plc
Amec plc	Kelda Group plc
Arena Leisure plc	Kingfisher plc
Arriva plc	Laing (John) plc
Associated British Ports Holdings plc	Lastminute.com plc
Autonomy Corporation Plc	Liberty International plc
Avis Europe plc	Lloyds TSB Group plc
Aviva plc	Logica CMG plc
Babcock International Group plc	London Stock Exchange plc
Barratt Developments plc	Marconi Corporation plc
The Berkeley Group plc	MICE Group plc
BC Group plc	Misys plc
The Big Food Group plc	mmO2 plc
Biocompatibles International plc	William Morrison Supermarkets plc
Bloomsbury Publishing plc	Mothercare plc
The BOC Group plc	National Grid Transco plc
Bookham Technology plc	Next plc
Bovis Homes Group plc	Pace Micro Technology plc
BPB plc	The Paragon Group Of Companies plc
Bradford & Bingley plc	Patientline plc
British Land Co plc	Pilkington plc
British Vita plc	Porvair plc
BTG plc	Prudential plc
Cable and Wireless plc	RAC plc
Capital Radio plc	Renishaw plc
Carlton Communications plc	Rexam plc
The Carphone Warehouse Group plc	Royal & Sun Alliance Insurance Group plc
Chemring Group plc	The Sage Group plc
Chrysalis Group plc	Severn Trent plc
City Centre Restaurants plc (renamed Restaurant Group plc - January 2004)	Shanks Group plc
Corus Group plc	Signet Group plc
Dairy Crest Group plc	Smiths Group plc
De La Rue plc	Somerfield plc
Diploma plc	Stagecoach Group plc
Domnick Hunter Group plc	Tate & Lyle plc
Elementis plc	Taylor Woodrow plc
First Choice Holidays plc	Telewest Communications plc
FKI plc	Trafficmaster plc
Galen Holdings plc	Trifast plc
Geest plc	Trinity Mirror plc
Granada plc	TTP Communications plc
Greene King plc	United Utilities plc
GWR Group plc	Viridian Group plc
Halma plc	Warner Estate Holdings plc
HBOS plc	Wilmington Group plc
Hornby plc	Wilson Bowden plc
Imagination Technologies Group plc	Wolverhampton & Dudley Breweries plc
	Xansa plc



### Appendix 3: Portfolio Performance, Large Format Charts

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Chart 1: Full Period Performance 1994-2003

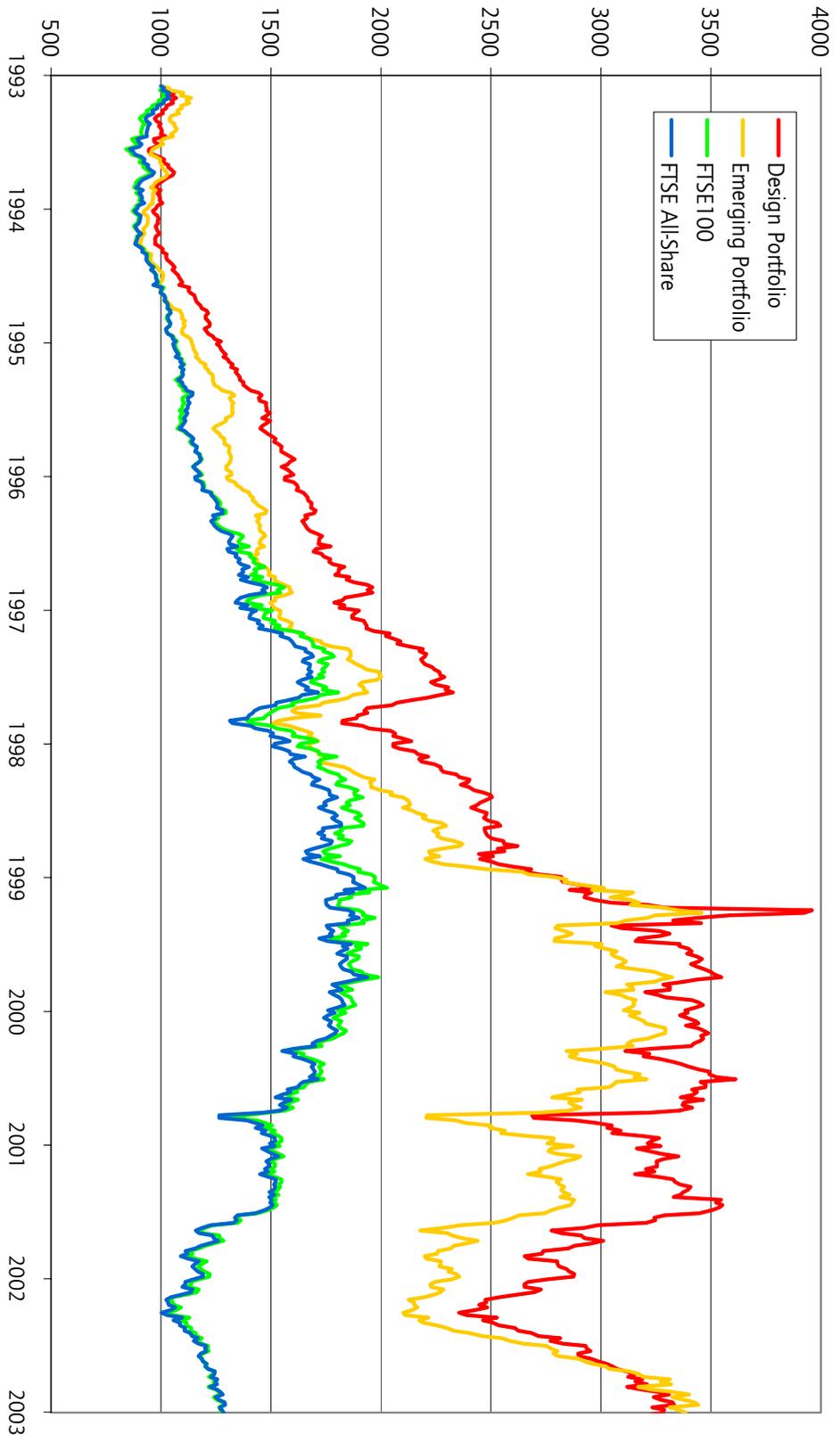


Chart 2: Bull Market Performance - 27 March 1995 to 27 March 2000

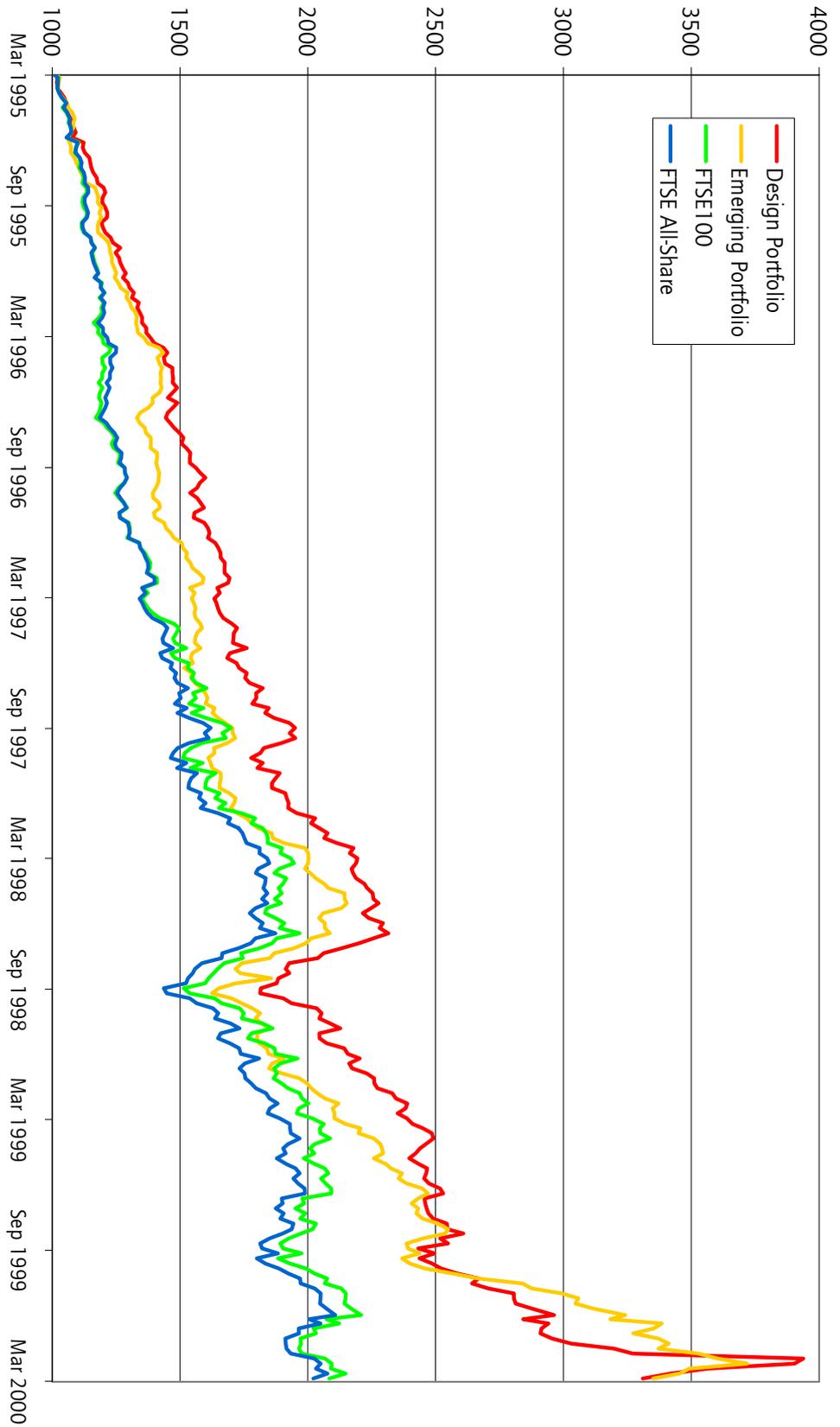


Chart 3: Bear Market Performance - 27 March 2000 to 31 March 2003

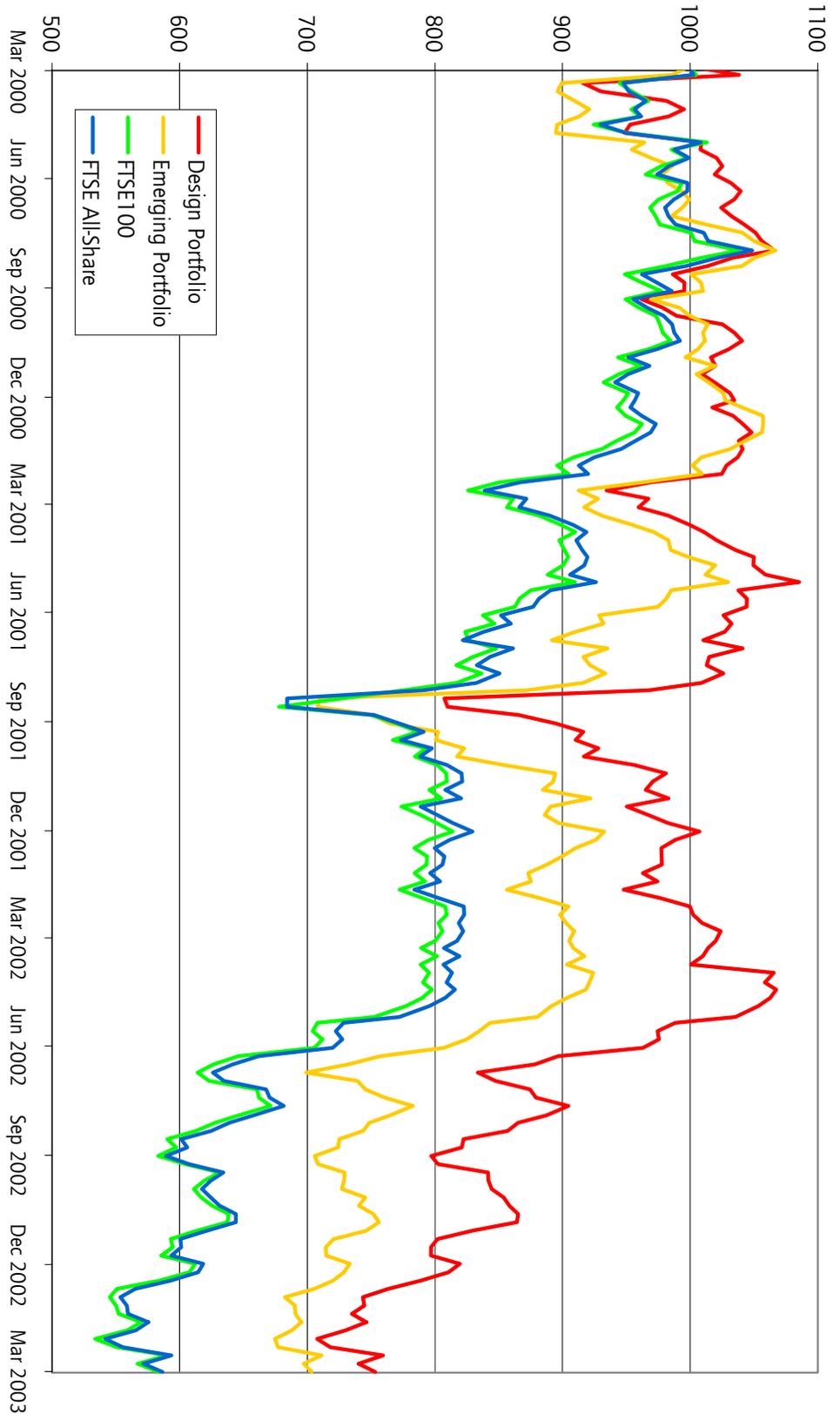
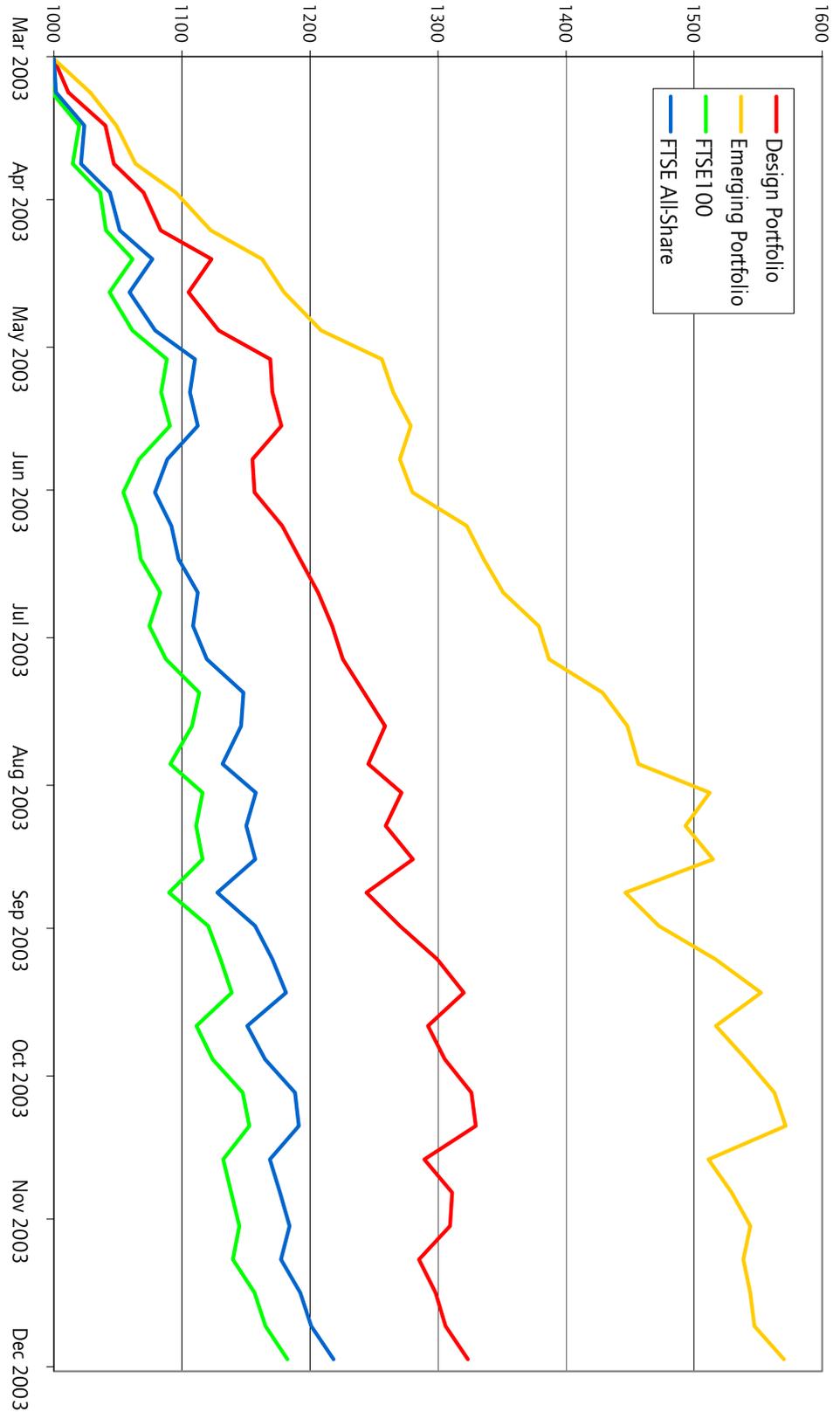


Chart 4: Recovery Performance - 31 March to 29 December 2003





The Design Council website features articles, advice and in-depth information on design, plus examples of design in action in both business and the public sector.

Visit [www.designcouncil.org.uk](http://www.designcouncil.org.uk)

We would welcome any comments on the information enclosed within this report, as well as any suggestions for further initiatives that will help to promote greater understanding of the value that designs adds to both business and financial performance. Our contact details are as follows:

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