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# PERFORMANCE IN THE CONTEMPORARY CONGLOMERATE

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## ABSTRACT

*The performance of conglomerates or multi-industry firms, corporations composed of unrelated businesses, presents a paradox to researchers in strategic management. On one hand, the preponderance of the empirical research, beginning with Richard Rumelt's ground-breaking study, Strategy, Structure and Economic Performance, and including dozens of follow-up papers, has found a negative relationship between unrelated diversification and firm performance. On the other hand, a number of multi-industry firms, perhaps General Electric and 3M first among them, are frequently held out as examples of the best-managed companies in the world. We fill a gap in our knowledge of contemporary conglomerates by assessing their performance over a twelve-year period. The burdens of size, complexity and bureaucracy in long-lived multi-industry firms were anticipated to result in below-average performance. Instead, our findings clearly identified a group of firms that out-performed performance referents like Business Week's Global 1000 medians, means, top-quartile measures, and the mean of the market-to-book ratio. Most surprisingly, nearly all of the successful firms were based either in the United States or in Great Britain, strongly suggesting that select organizations are able to meet and exceed the undeniable managerial demands of the conglomerate firm, rather than rely on protected or lax markets.*

## THE CONGLOMERATE PARADOX

The conglomerate- a corporation composed of unrelated businesses- evokes memories of decades past, a way of managing large firms which is now largely discredited. Indeed, if the conglomerate receives any attention today, it is most often held up strictly as an example of how not to arrange the holdings of large firms. The reasons for derision are legion. They begin with the massive number of studies of the relationship between diversification and performance, beginning with Rumelt (1974) and reviewed in Ramanujam and Varadarajan (1989), Hoskisson and Hitt (1990) and Datta et. al. (1991), the preponderance of which found a negative relationship between unrelated diversification and performance. Reasons also include the limited ability of top management to generate value from the relationships among divisions; the difficulty of interested observers, such as analysts and shareholders, to understand the complex operations and performance of firms; and the often destructive empire-building that has motivated the CEO's of some conglomerates. This

last complaint about multi-industry firms links well with research finding that the size of the firm is the only highly influential and significant indicator of top-management pay. A recent meta-analysis, Tosi et. al. (2000), found that firm size accounted for more than 40% of the variance in total CEO pay, while only 5% of this variance was explained by firm performance. The quickest way to build up the base of the firm, of course, is through acquisitions, often unrelated to a firm's existing operations.

Despite the opinions and efforts of detractors, a number of conglomerates continue to exist, even in the most competitive markets in the world. Intriguingly, the firms are often household names, like General Electric, Honeywell, and 3M. These are companies that also happen to be connected by many of the same observers with superior management and top performance.

How do we reconcile the contradictions presented by the modern conglomerate, or multi-industry firm, as many are now given to calling themselves? The first issue is to get a better grasp on the number of conglomerates present on the global business landscape. The second issue is to size-up the performance of multi-industry firms, by using commonly used measures and by making comparisons with companies that employ related diversification or a single-business focus.

### **OUR SAMPLE AND MEASURES**

To complete our analysis, we used a common source of business press data and rankings, the *Business Week Global 1000*. The firms in the sample included the largest 1000 firms in the developed world, as measured by market capitalization. The data compiled in the *Business Week* list come from two widely respected sources, Morgan Stanley International and COMPUSTAT. The sample formed a parallel set from 1988 until 1999.

The years under review are notable for a number of reasons. First, they included a sizeable stock-market contraction, in 1987, and a long period of expansion. Second, international barriers to trade and investment fell throughout the period, diminishing the value of conglomerates as a source of capital and expertise. Third, the focus period contained large increases in international competition, and in some industries, rising consolidation. Connected to the trend, public policy underwent transformation, with a major facet being the liberalized oversight of mergers and acquisitions (M&A). As Shleifer and Vishney (1991) found, M&A's in the 1960's and 1970's were used to build many large multi-industry firms; the activities of the 1980's tore them down, returning assets to much more focused configurations. Finally, inflation fell throughout the examination period, in a general trend in the major industrialized economies.

In total, 99 multi-industry firms appeared on the Global 1000 list over the 12-year span of the study. But, not all of the companies were true conglomerates with a dedicated corporate strategy. For example, Corning was a member of the list in 1996, but was actually undergoing a period of strategic transition. As well, adjustment to the larger sample was necessary for another reason: the administrative burden of unrelated diversification suggests that the longer the period of its use, the

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more likely it will have a deleterious effect on performance. Therefore, the focus of the study was on firms sustaining the use of unrelated diversification for a minimum five continuous years of use, in the hope of isolating a group of higher-performing firms.

The working hypothesis was that no higher-performing firms would be identified. The reasons are linked to issues both internal and external to the firms. Internally, the lack of divisional synergies, and the cost of bureaucracy were expected to weigh heavily on multi-industry firms. Externally, the pressures already described reduced the size of the sample and may threaten to destroy it completely. Moreover, the internationalization of business has perhaps decreased the opportunities for conglomerates only to developing markets. (For a description of the value and strategies of conglomerates in developing economies, see Khanna and Palepu (1997, 1999).)

Fifty-eight of the firms in the full multi-industry sample did not appear for five continuous years, leaving 41 multi-industry firms in our sample. The group represents the largest firms in the world by market capitalization that have been using, or have used, unrelated diversification over the longest period. The average number of years by which the sample firms exceeded the five-year cut-off was 3.58. Only four companies occupied a place on the list for the minimum five years, while ten appeared as multi-industry firms for the entire 12 years being studied. In all, 23 organizations appeared on the list eight or more years. The sample is also broadly international in scope, with over 11 different countries represented as the firms' home bases. (Appendix 1 offers summary statistics of the sample companies.)

Performance was operationalized as a multiple measure. The first three measures are common accounting-based parameters- return-on-equity, return-on-assets and return-on-sales. All three measures, or their constituent parts, are included in the *Business Week Global 1000* list, following standardized methods of calculation. The second type of performance measure is a hybrid measure, the market-to-book ratio, which allows insight into market perceptions of the value added by management to the underlying assets of the firm.

Data were prepared for analysis in three simple steps. First, for each of the 12 years under study, return-on-assets and return-on-sales figures were calculated for the multi-industry firms. Return-on-equity and market-to-book ratios were provided as part of the database. Second, global averages and medians were calculated for all four measures. Third, the positive or negative difference between the two measures was tabulated, allowing an assessment of the performance of the field of conglomerates over a substantial period of time.

The analysis of performance was undertaken in three steps. The data of the multi-industry firms were compared to global means, medians and top-quartile points and their total proportion of above-average measures recorded. Next, sign tests were used to measure the significance of the performance returns of multi-industry firms against global medians and top-quartile measures. For each firm, and for each performance measure in all of the years of appearance on the *Business Week* list, results above the median (and top-quartile measure) were recorded as plus signs, while those below the referents were converted to minuses. The two categories of signs were then collected for

each firm and plugged into the sign test. Finally, the results were stratified by the significance level of p in order to differentiate the results from insignificant "random walks" about the median or top-quartile measures.

### HOW HAS THE FIELD OF CONGLOMERATES CHANGED?

The field of conglomerates, while not large in any of the 12 years being considered, decreased significantly. During the early portion of the years under review, multi-industry firms numbered in the high 30's to middle 40's. By 1998, the group had shrunk to fewer than 30. And by the end of the period, only 19 conglomerates remained on the list.

Multi-industry Firms on the Business Week Global 1000 List, 1988-1999											
1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
46	38	39	39	45	45	39	37	37	32	29	19

A number of reasons explain the decline. The merger and acquisition activities, especially the frequency of "bust-up" maneuvers, had a direct impact on the conglomerate. As well, the effects of analysts and stock markets' "conglomerate discounts" squelched many strategies whose growth was not guided by related diversification. Finally, trends in stock evaluations played a part in squeezing out the multi-industry firms. The latter part of the 1990's was marked, as we all undoubtedly remember, by a bubble market heavily dominated by high-technology firms. By comparison, manufacturing and service businesses, much less affected by the market exuberance, dominated multi-industry firms. Indeed, given the presence of powerful factors mitigating the market evaluation of the conglomerates, it is a wonder any appeared on the list during the latter part of the period.

### HOW DID THE CONGLOMERATES PERFORM AGAINST GLOBAL MEANS?

Given the challenges, appearing and, more importantly, remaining on the Global 1000 list should be a direct function of organizational performance, rather than of being situated in protected markets for corporate control. As stated, the *Business Week* list includes the largest firms by market capitalization in the world, during a protracted period of expansion, marked by especially high rates in some sectors. Furthermore, the membership was made up of companies from all of the most developed-and vigorously competitive- world markets.

Table 1 ranks multi-industry firms by the proportion of performance results above global means.

**Table 1: Proportion of Performance Measures of Multi-industry Firms - Above the Global 1000 Mean**

Company Name	Country	Measures above the Mean	Total Measures	Proportion of Measures above the Mean
BTR	Britain	42	44	0.95
3M	U.S.	44	48	0.92
TI Group	Britain	24	28	0.86
Dover	U.S.	16	20	0.80
Hanson Trust	Britain	27	36	0.75
BET	Britain	15	20	0.75
Grand Metropolitan	Britain	19	28	0.68
Pearson	Britain	16	24	0.67
General Electric	U.S.	32	48	0.67
Tomkins	Britain	15	24	0.63
B.A.T. Industries	Britain	15	28	0.54
Siebe	Britain	10	20	0.50
Hutchison Whampoa	Hong Kong	23	48	0.48
AlliedSignal	U.S.	23	48	0.48
Tyco International	U.S.	13	28	0.46
Citic Pacific	Hong Kong	9	20	0.45
Rockwell International	U.S.	15	36	0.42
Compagnie Financiere Richmond	Switzerland	9	24	0.38
TRW	U.S.	13	36	0.36
Swire Pacific	Hong Kong	17	48	0.35
Groupe Bruxelles Lambert	Belgium	11	33	0.33
Pacific Dunlop	Australia	9	28	0.32
CSR	Australia	11	36	0.31
BerkshireHathaway	U.S.	10	36	0.28
Sime Darby	Malaysia	7	28	0.25
Paramount Communications	U.S.	6	24	0.25
Loews	U.S.	12	48	0.25
Tenneco	U.S.	10	44	0.23
Jardine Matheson Holdings	HongKong	7	32	0.22
Imasco	Canada	6	32	0.19

Company Name	Country	Measures above the Mean	Total Measures	Proportion of Measures above the Mean
Compagnie de Navigation Mixte	France	3	18	0.17
Tractabel	Belgium	4	30	0.13
Preussag	Germany	4	36	0.11
ITT	U.S.	3	36	0.08
Canadian Pacific	Canada	3	48	0.06
Jardine Strategic Holdings	Hong Kong	1	18	0.06
Lyonnaise des Eaux-Dumez	France	1	20	0.05
Textron	U.S.	2	48	0.04
Montedison	Italy	1	28	0.04
Viag	Germany	1	36	0.03
General de Belgique	Belgium	0	33	0.00

In total, four firms posted 80% or more of their total performance measures above global means for the five or more years they were pursuing unrelated diversification. The firms, in order, are BTR (Britain), 3M (U.S.), TI Group (Britain) and Dover (U.S.). As can be readily seen, the four firms are either British or American. 3M and Dover are currently active in the multi-industry form.

In fact, all firms with at least half of their measures above global means are either British or American. The rest of the list includes, again in order, Hanson Trust (Britain), BET (Britain), Grand Metropolitan (Britain), Pearson (Britain), General Electric (U.S.), Tomkins (U.S.), B.A.T. (Britain), and Siebe (Britain). The results are quite surprising, given that the ability to post performance measures above the mean places a firm in the top 35% of the Global 1000 list, with some variation due to the individual measure and year.

At the bottom of the list, eight firms posted less than 10% of their performance measures above global means. Companies from seven countries make up the lower band of the list. In decreasing order of proportion, the firms are ITT (U.S.), Canadian Pacific (Canada), Jardine Strategic Holdings (Hong Kong), Lyonnaise des Eaux-Dumez (France), Textron (U.S.), Montedison (Italy), VIAG (Germany), and Generale de Belgique (Belgium).

### **HOW DID THE CONGLOMERATES PERFORM AGAINST GLOBAL MEDIANS?**

As mentioned, the intent was also to identify those firms able to out-perform global performance measures, above what would be expected by random chance, a set of "coin flips." Performance of the sample firms was also examined by using a simple non-parametric method, the

sign test, in both its simple form and as a coverage ratio. The sign test was utilized in this study because of its simplicity and its wide applicability for testing hypotheses.

The most striking aspect about the performance figures contained in Table 2 is the large number of multi-industry firms significantly above the median, albeit, a lower hurdle than the mean.

Company Name	Country	Proportion of Measures above the Median	P Level
3M	U.S.	1.000	0.000001***
BTR	Britain	0.977	0.000001***
Hanson Trust	Britain	1.000	0.000001***
TI Group	Britain	1.000	0.000001***
BET	Britain	1.000	0.00001***
Dover	U.S.	1.000	0.00001***
Pearson	Britain	0.957	0.00001***
Siebe	Britain	1.000	0.00001***
Allied Signal	U.S.	0.804	0.00001***
Grand Metropolitan	Britain	0.889	0.00001***
Hutchison Whampoa	Hong Kong	0.771	0.0001***
Pacific Dunlop	Australia	0.846	0.0002***
General Electric	U.S.	0.750	0.0003***
B.A.T.	Britain	0.821	0.0003***
Rockwell International	U.S.	0.778	0.0004***
Tomkins	Britain	0.833	0.0005***
Tyco International	U.S.	0.778	0.002***
CompagnieFinanciere Richmont	Switzerland	0.792	0.0021***
Sime Darby	Malaysia	0.692	0.025
Imasco	Canada	0.548	0.2981
CSR	Australia	0.528	0.3707
TRW	U.S.	0.528	0.3707
Citic Pacific	Hong Kong	0.500	0.5
Swire Pacific	Hong Kong	0.500	0.5
Jardine Matheson Holdings	Hong Kong	0.469	0.3632
Paramount Communications	U.S.	0.391	0.1492

Company Name	Country	Proportion of Measures above the Median	P Level
Groupe Bruxelles Lambert	Belgium	0.394	0.1131
Berkshire Hathaway	U.S.	0.389	0.0918
Tenneco	U.S.	0.386	0.0655
Preussag	Germany	0.324	0.0166
Loews	U.S.	0.340	0.0143
Lyonnais des Eaux	France	0.250	0.0125
Compagnie Navigation Mixte	France	0.222	0.0091
Jardine Strategic Holdings	Hong Kong	0.167	0.0023***
ITT	U.S.	0.250	0.0013***
Textron	U.S.	0.271	0.0007***
Canadian Pacific	Canada	0.222	0.001***
Viag	Germany	0.171	0.0001***
Tractabel	Belgium	0.133	0.00001***
Montedison	Italy	0.111	0.00001***
General de Belgique	Belgium	0.097	0.00001***

\*\*\* denotes significance at the 0.01 level

The results of no fewer than 18 firms of the 41 in the sample posted a significantly high proportion of performance measures above the median. The prominence of British and American firms among the high-performers is again strongly in evidence. Moreover, the proportion of significant high-performers to low-performers is more than two-to-one. This result is, perhaps, the least-expected of all, given the general findings about multi-industry firms found in the literature, the opinions held by analysts, and the penalties meted against them in financial markets.

### **HOW DID THE CONGLOMERATES PERFORM AGAINST THE TOP QUARTILE OF GLOBAL PERFORMERS?**

The third analysis re-structured the sign test into the form of a coverage ratio. This follow-up test introduced a reading of the dispersion of the measures for the firms, allowing a more complete accounting of performance. In all cases, with the exception of the market-to-book ratio, the top quartile of each of the performance measures was substantially higher than the level of the mean.

The sample analyzed was composed of the 18 firms that had significant results at the 0.01 level for the sign test. To perform the analysis, all measures below the quartile measure were

transformed into minus signs. Therefore, only measures above the quartile break were recorded as a plus. The expected probability of randomly selecting a top-quartile performer from the list is therefore 0.25 ( $p= 0.25$ ). Conversely, the expected probability of randomly selecting a firm performing within the lower three quartiles is 0.75 ( $q= 0.75$ ). Measures were again calculated and pooled across the minimum five years of continuous multi-industry status for the sample firms.

As in the previous test, results in Table 3 show a substantial number of firms that post performance levels above random expectations.

Company Name	Country	Proportion of Measures above the Top-quartile Position	P Level
3M	U.S.	0.745	>0.000001***
BTR	Britain	0.744	>0.000001***
TI Group	Britain	0.714	>0.000001***
Hanson Trust	Britain	0.618	>0.000001***
Dover	U.S.	0.632	0.0001***
BET	Britain	0.550	0.001***
Pearson	Britain	0.500	0.0023***
Tomkins	Britain	0.500	0.0023***
AlliedSignal	U.S.	0.362	0.0384**
Hutchison Whampoa	Hong Kong	0.354	0.0457**
General Electric	U.S.	0.340	0.0764*
Grand Metropolitan	Britain	0.357	0.0951*
B.A.T.	Britain	0.321	0.1922
Tyco International	U.S.	0.280	0.3632
Pacific Dunlop	Australia	0.250	0.50
Rockwell International	U.S.	0.250	0.50
Compagnie Financiere Richmont	Switzerland	0.125	<0.50
Siebe	Britain	0.100	<0.50

\* denotes significance at the 0.10 level  
 \*\* denotes significance at the 0.05 level  
 \*\*\* denotes significance at the 0.01 level

Eight firms posted performance results above the top-quartile measures, significant at the 0.01 level. The eight firms include, in descending order of significance, 3M (U.S.), BTR (Britain), TI Group (Britain), Hanson Trust (Britain), Dover (U.S.), BET (Britain), Pearson (Britain) and Tomkins (Britain). As in past cases, these most-successful firms were either of British or American origin. Two other American firms, AlliedSignal and General Electric, were significantly different from random expectations at the 0.05 and 0.10 levels, respectively. The British firm, Grand Metropolitan, was also significant at the 0.10 level. Finally, Hutchison Whampoa was significant at the 0.05 level. Interestingly, the firm, based in Hong Kong, also has strong British ties. The city was a colony of the United Kingdom throughout all but a few months of the period being analyzed.

### **HOW DID THE CONGLOMERATES PERFORM USING THE MARKET-TO-BOOK RATIO?**

The final analysis focused exclusively on the value-adding properties of corporate management, using a single measure, the market-to-book ratio. This measure provided the most challenging performance hurdle for the sample firms for a number of reasons. The market-to-book ratio is systematically biased in favor of service-based firms, because of their lower asset configurations. As well, these service firms have led the way in terms of performance for the period being surveyed, forming the prime mover in the continuing shift from a manufacturing- to a service-based economy in the developed nations. Manufacturing firms, by contrast, have often languished, subject to contracting markets and increased competition. The conglomerates on the Global 1000 list are mainly manufacturing firms, with high stores of fixed assets in their portfolios. Thus, the challenges to the conglomerate, with regard to mean market-to-book ratios, are considerable.

The proportion of the mean market-to-book ratio- that is, the place in the list where the mean market-to-book ratio appears in the Global 1000 for the years under study- was just under 0.30 (0.287). In other words, roughly 30% of Global 1000 firms posted market-to-book ratios above the mean in any given year. A binomial distribution was employed in the final test, with the number of trials (n) equal to the number of years the firm was listed as a conglomerate on the *Business Week Global 1000* list. The number of successes (x) was equal to the number of times the firm's market-to-book ratio was higher than the appropriate year's mean. The expected probability of success (p) was rounded to 0.30, the average proportion of the market-to-book mean over the years under study. Only the firms at, or near, significance are shown in Table 4.

**Table 4: Comparison of Market-to-book Ratios of Selected Conglomerates with Random Expectations**

Company Name	Country	# of years above Global 1000 list	# of years appearing on Global 1000 list	P Level
TI Group	Britain	7	7	0.0002***
BTR	Britain	9	11	0.0006***
General Electric	U.S.	8	12	0.0078***
3M	U.S.	8	12	0.0078***
Dover	U.S.	4	5	0.0284**
AlliedSignal	U.S.	7	12	0.0291**
Tyco Int'l	U.S.	4	7	0.0972*
Hanson Trust	Britain	4	9	0.1715
B.A.T.	Britain	3	7	0.2269

\* denotes significance at the 0.10 level  
\*\* denotes significance at the 0.05 level  
\*\*\* denotes significance at the 0.01 level

The findings again point to a selected group of companies that were able to clear the most rigorous hurdle for the widely diversified manufacturing firm. TI Group (Britain), BTR (Britain), General Electric (U.S.), 3M (U.S.), Dover (U.S.), AlliedSignal (U.S.), and Tyco International (U.S.) all posted market-to-book ratios significantly higher than means more often than was expected by random expectations.

### PERFORMANCE IN CONTEMPORARY CONGLOMERATES

Together, the results of the four tests strongly suggest the existence of a group of top-performing conglomerates. First, a small group of firms have been able to sustain above-average performance when the referent is the means of the four-measure group of performance indicators, measures that place firms in approximately the top 35% of large global firms. Second, a sizeable subset of multi-industry firms has been able to sustain performance above the median of a four-measure indicator of performance. Third, similar results were found when the referent is the top quartile. Finally, in the most rigorous test, seven firms were significantly above random expectations for out-performing the mean of the global market-to-book ratio. Clearly, a large group of people, many of whom are following their analyses with substantial investment dollars, are convinced that a subgroup of conglomerates are adding value to their sizeable asset bases.

Many questions await answers. No single type of corporate strategy dominates the top performers. Highly acquisitive firms like BTR, General Electric and AlliedSignal are present. The

list also includes companies like TI Group and 3M, whose corporate strategy emphasized innovation and organic growth. Something unexpected has been going on- and continues- with the contemporary conglomerates. A more systematic examination of their strategies offers potentially valuable insights into an under-researched area of corporate strategy. Just as clearly, then, a research agenda has also been set out.

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APPENDIX I			
Conglomerates Appearing on Business Week Global 1000 List (1988-1999) (Firms marked with an asterisk remained conglomerates for five or more years)			
Company Name and Country	Absent from Global 1000 list	Present on Global 1000 list in other Industries	Appearing as Conglomerate
CSR (Australia)*	1998-1999		1988-1997
Pacific Dunlop Olympic (Australia)*	1995-1999		1988-1994
General de Belgique (Belgium)*	1999		1988-1998
Companie Benelux Paribas (COBEPA) (Belgium)	1988-1987, 1999		1998
Tractabel (Belgium)*	1998-1999		1988-1997
Groupe Bruxelles Lambert (Belgium)*		1996 (Banking)	1988-1995, 1997-1999
Hanson Trust (Britain)*	1997-1998	1999 (Building Materials & Components)	1988-1996
B.A.T. Industries (Britain)*	1988-1991	1999 (Beverages & Tobacco)	1992-1998
BTR (Britain)*	1999		1988-1998
Grand Metropolitan (Britain)*	1998-1999	1995-1997 (Food & Household Products)	1988-1994
Racale Electronics (Britain)	1992-1999	1988-1990 (Aerospace & Military Technology)	1991
BET (Britain)*	1993-1999		1988-1992
Siebe (Britain)*	1988-1991, 1999	1997-1998 (Electronic Components & Instruments)	1992-1996
Tomkins (Britain)*	1988-1991, 1999	1992 (Industrial Components)	1992-1998
TI Group (Britain)*	1988-1991, 1999		1992-1998
Pearson (Britain)*		1994-1999 (Broadcasting & Publishing)	1988-1993
Granada Group (Britain)	1989-1991, 1993	1988, 1992, 1994-1996, 1998-1999 (Leisure & Tourism)	1997
Trafalgar House (Britain)	1992-1999		1988-1991
Lonrho (Britain)	1992-1999		1988-1991
British & Commonwealth (Britain)	1989-1999		1988
Canadian Pacific (Canada)*			1988-1999
Imasco (Canada)*		1988-1991 (Beverages & Tobacco)	1992-1999
International Thomson (Canada)	1991-1999	1990, 1999 (Broadcasting & Publishing)	1988-1989
Brascan (Canada)	1990-1999		1988-1989
Sophusberendsen (Denmark)	1988-1995, 1998-1999		1996-1997
Nokia (Finland)	1990-1993	1996-1999 (Electrical & Components)	1988-1989, 1994-1995
Lagardere (France)	1988-1997		1998-1999
AXA (France)	1988-1990	1994-1999 (Insurance)	1991-1993

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Company Name and Country	Absent from Global 1000 list	Present on Global 1000 list in other Industries	Appearing as Conglomerate
Lyonnais des Eaux-Dumez [Suez] (France)*	1988-1989	1990, 1996-1999 (Business & Public Services)	1991-1995, 1998
Compagnie du Midi (France)	1991-1999	1988 (Real Estate)	1989-1990
Compagnie de Navigation Mixte (France)*	1988-1989, 1996-1999		1990-1995
Banque Worms (France)	1988-1991, 1993-1999		1992
Pechelbronn (France)	1989, 1992-1999		1988-1991
Swire Pacific (Hong Kong)*			1988-1999
Jardine Strategic Holdings (Hong Kong /Singapore)*	1988-1991, 1998-1999		1992-1997
Jardine Matheson Holdings (Hong Kong/Singapore)*	1988-1989, 1998-1999		1990-1997
World International Holdings (Hong Kong)	1988-1991, 1994-1999		1992-1993
Cavendish International (Hong Kong)	1988-1991, 1993-1999		1992
Citic Pacific (Hong Kong)*	1988-1993	1994 (Real Estate)	1995-1999
Wheelock (Hong Kong)	1988-1993, 1998-1999		1994-1997
Hutchison Whampoa (Hong Kong)*			1988-1999
Montedison (Italy)*	1993	1988-1990 (Chemicals)	1991-1992, 1994-1999
Ferruzzi Finanziaria (Italy)	1988, 1993-1999		1989-1992
CIR (Italy)	1988-1989, 1991-1999		1990
Gemina (Italy)	1988-1989, 1991-1999		1990
IFIL (Italy)	1988-1989, 1991-1999		1990
IFI (Italy)	1989, 1991-1999		1988, 1990
Meta(iniziativa) (Italy)	1989-1999		1988
Hitachi Metals (Japan)	1988, 1997-1999	1989-1994 (Metals-steel)	1996
Technology Resources Industries (Malaysia)	1988-1993, 1995-1999		1994
Carter Holt Harvey (New Zealand)	1988-1991, 1998-1999	1994-1997 (Forest Products & Paper)	1992-1993
Brierley Investments (New Zealand)	1989-1999		1988
Orkla (Norway)	1988-1996, 1999		1997-1998
Keppel (Singapore)	1988-1991, 1997-1999	1992-1995 (Machinery & Engineering)	1996
Sime Darby (Malaysia)*	1995-1999		1988-1994
Torras Hostench (Spain)	1989-1999		1988
Procordia (Sweden)	1988, 1994-1999		1989-1993
Incentive (Sweden)	1988-1991, 1993-1995, 1999	1996-1998 (Recreation, other consumer goods)	1992

APPENDIX I			
Conglomerates Appearing on Business Week Global 1000 List (1988-1999) (Firms marked with an asterisk remained conglomerates for five or more years)			
Company Name and Country	Absent from Global 1000 list	Present on Global 1000 list in other Industries	Appearing as Conglomerate
Investor (Sweden)	1988, 1993	1997 (Financial Services)	1989-1992, 1994-1996, 1998-1999
Alusuisse-Lonza Holding (Switzerland)	1988-1993	1994-1995 (Metals-nonferrous)	1996-1999
Compagnie Financiere Richemont (Switzerland)*	1988-1993		1994-1999
General Electric (U.S.)*			1988-1999
3M (U.S.)*			1988-1999
USX[-Marathon Group] (U.S.)	1991-1999 (Energy Sources)		1988-1990
Tenneco (U.S.)*	1999		1988-1998
Corning (U.S.)		1988-1995 (Appliances & Household Durables), 1997-1999 Electronic Components & Instruments)	1996
ITT (U.S.)*	1999	1996 (listed as 3 separate entities in Industrial Components, Leisure & Tourism, and Insurance), 1997 (Leisure & Tourism) and 1998 (Industrial Components)	1988-1995
Rockwell International (U.S.)*		1997-1999 (Electronic Components & Instruments)	1988-1996
Gulf + Western (U.S.)	1989-1999		1988
AlliedSignal (U.S.)*			1988-1999
Paramount Communications (U.S.)*	1988, 1995-1999		1989-1994
Cooper Industries		1988-1995, 1997-1999 (Electrical & Electronics)	1996
Loews (U.S.)*			1988-1999
Berkshire Hathaway (U.S.)*	1988-1989	1999 (Financial Services)	1990-1998
Whitman (U.S.)	1988, 1991-1999		1989-1990
Teledyne (U.S.)	1990-1999		1988-1989
Allegheny Teledyne (U.S.)	1999		1997-1998
IC Industries (U.S.)	1989-1999		1988
TRW (U.S.)*		1997-1999 (Industrial Components)	1988-1996

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Conglomerates Appearing on Business Week Global 1000 List (1988-1999) (Firms marked with an asterisk remained conglomerates for five or more years)			
Company Name and Country	Absent from Global 1000 list	Present on Global 1000 list in other Industries	Appearing as Conglomerate
Pacificorp (U.S.)	1995	1992-1994, 1996-1999 (Utilities- Electrical & Gas)	1988-1991
Transamerica (U.S.)		1990-1999 (Financial Services)	1988-1989
Litton Industries (U.S.)	1990-1992, 1994-1999		1988-1989, 1993
Tyco Laboratories/Int'l (U.S.)*	1988-1989, 1992-1994		1990-1991, 1995-1999
Wheelabrator Laboratories (U.S.)	1988-1990, 1996-1999	1995 (Business & Public Services)	1991-1994
Harcourt General (U.S.)	1988-1992, 1997-1999		1993-1996
Textron (U.S.)*			1988-1999
Alco Standard (U.S.)	1988-1993, 1997-1999		1994-1996
Household International (U.S.)	1990-1992	1994-1999 (Financial Services)	1993
Morton Thiokol (U.S.)	1990-1999		1988-1989
Dover (U.S.)*		1988-1994 (Building Materials & Components)	1995-1999
Pall (U.S.)	1988-1991, 1993-1999		1992
Premark International (U.S.)	1988-1994, 1996-1999		1995
Penn Central (U.S.)	1990-1999		1988-1989
Valhi (U.S.)	1988, 1990-1999		1989
Emhart (U.S.)	1990-1999		1988-1989
Viag ([West] Germany)*		1997-1999 (Utilities- Electrical and Gas)	1988-1996
Preussag ([West] Germany)*	1988-1989		1990-1999
Metallgesellschaft ([West] Germany)	1988-1989, 1993-1999		1990-1992

### ENDNOTES

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