Investment Policy

PaineWebber

What is the S&P 500?

An actively managed, top-heavy, large-cap growth stock wannabe fund

Highlights

■ There have been 256 changes to the S&P 500 since 1988. Driven by heavy M&A, turnover in the S&P 500 in recent years is at record levels. Restructurings and deletions for "lack of representation" have also heightened turnover, but there have been no bankruptcies for five years.

■ For the 35 stocks added to the S&P 500 in 1998, the average relative performance from the day an addition was announced to the day it was implemented—a period of six calendar days on average—was +9.7%. But the average stock underperformed on an annualized basis by 27.0% *after* being added to the index. For 120 newcomers since 1993, *median* relative performance since addition to the index is –17.1% annualized, and the mean is –13.9%.

■ We identify 12 candidates for addition to the S&P 500 that could benefit from any initial "index effect."

■ Sector market-cap weightings of the S&P have changed dramatically over the last decade. Technology and financials have gained share (up 10% and 7%, respectively) at the expense of cyclicals (down 7%), energy (down 6%) and commodities (down 5%).

■ Large-cap stocks are driving S&P 500 performance *not* because the index has become more top-heavy, but because the largest stocks are growing faster than in the past.

■ High turnover creates distortions in S&P earnings growth. The "AOL effect"—caused by replacing low-P/E companies with high-P/E companies—should depress Q1 1999 earnings growth by about 2.4%.

■ S&P is not GDP, making GDP a poor input for projecting S&P EPS:

- The S&P generates about 42% of earnings outside the U.S.;
- A quarter of the U.S. GDP is not in the S&P 500 (11% real estate plus 13% government);
- Nondurables are 28% of S&P versus only 7% of U.S. GDP;
- Services are underweighted in the S&P 500 versus U.S. GDP while financials, tech are overweighted.

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What *actively* managed portfolio has twice the total stock market capitalizations of Japan, Germany and the United Kingdom combined? It's the S&P 500. This statement might seem surprising, because the S&P 500 is the favorite of "passive investors" in index funds. But the fact is that the S&P 500 is the product of decisions made by the folks who sit on the Standard and Poor's Index Committee. In the past six years, the committee has picked 120 stocks for the S&P 500 and, less obviously, kicked out some very important stocks. When Daimler Benz acquired Chrysler, the committee decided not to include DaimlerChrysler in the S&P 500 because it had become a foreign company—even though it had a newly designed "world share." For the same reason, when British Petroleum bought Amoco, the new company was not included in the S&P 500. And General Re disappeared from the S&P 500 when it was acquired by Berkshire Hathaway, which is considered to be too illiquid to be part of the index.

An estimated $625 billion is "passively" invested in index funds tracking the S&P 500. Moreover, the vast majority of the "actively managed" portfolios in the U.S. are benchmarked against the S&P 500. Given its immense influence, it is important for investors to get inside the index and understand its idiosyncrasies.

Large-cap stocks are driving S&P 500 performance not because the index has become more top-heavy . . .

It is often said that the strong performance of the S&P 500 over the past four years has been driven by the strong performance of the largest stocks in the index. This view is correct, but it is important to understand *why* it is correct. It is *not* the case that the S&P 500 is more "top heavy" than it used to be. As Table 1 shows, the percentage of S&P 500 market capitalization claimed by large companies in 1998 was only modestly higher than in 1988 and, by some measures, is actually *lower* than in 1978.

- In 1978 the top three stocks in the index (AT&T, IBM and Exxon) accounted for fully 16.0% of the S&P 500, whereas in 1998 the top three (Microsoft, General Electric and Intel) accounted for only 8.9%.
- In 1978 the top ten stocks accounted for 27.0%, versus 20.7% in 1998.
- The percentage claimed by the largest 50 stocks was quite similar for the two years—53.5% in 1978 versus 54.9% in 1998.

Table 1

Share of S&P 500 market cap claimed by largest firms

Companies	1978	1988	1998
10 largest	27.0%	18.4%	20.7%
25 largest	40.6	31.4	38.1
50 largest	53.5	46.0	54.9

Source: Standard and Poor's and PaineWebber.

. . . but because the top stocks are growing faster than in the past

Although the S&P is not notably more "top-heavy" than normal, it *is* true that large-cap stocks have performed better than the index as a whole. Table 2 shows that in each of the past four years the top decile of stocks in terms of market cap has generated more than its share of the appreciation of the S&P 500. Moreover, this was particularly true in 1998, when the top decile accounted for about half of the S&P 500's market cap but contributed more than two-thirds of its appreciation.

Table 2

Top decile of S&P 500: share of market cap and of performance

	Share of market cap	Share of S&P 500 performance
1995	47.8%	53.7%
1996	47.9	59.3
1997	49.7	55.0
1998	54.9	68.7

Source: FactSet and PaineWebber.

Stock market skeptics have suggested that the exceptionally strong performance of large-capitalization stocks—that is, the "narrowness" of the market—is cause for concern for one or both of these two reasons:

1. Large-cap stocks are doing well because of indexing itself—stocks in the S&P 500 are outperforming because everyone is crowding into that particular index.
2. There is a mania for very large capitalization stocks, both because individual investors want to own well-known growth stocks like Intel, Microsoft and GE, and because performance-oriented portfolio managers want to own very large, very liquid stocks that they can get in and out of quickly.

Point Number 1 is simply not logical, because the large-cap stocks in the top decile of the S&P 500 are outperforming other stocks that are *also* in the S&P 500—obviously, all the stocks in the S&P 500, not just the biggest ones, would tend to benefit from "indexation."

As for Point Number 2, it is certainly possible that huge companies are outperforming because they are "household names" that small investors are comfortable with and are

also large liquid stocks that portfolio managers are comfortable owning. There is, however, an alternative explanation that we find more persuasive: The top of the S&P 500 is increasingly dominated by fast-growing "Gorilla" stocks that dominate their industries, are gaining market share, and are growing rapidly despite—or perhaps even because of—their large size. This view is supported by a comparison of the top ten companies in the S&P 500 in 1978, 1988 and 1998 (Table 3).

- In 1978, there were four oil companies in the top ten (Exxon, Royal Dutch, Standard Oil of California and Standard Oil of Indiana), one auto company (General Motors) and one regulated telephone utility (AT&T). AT&T had not yet been broken up and accounted for over 6% of the total market capitalization of the index. Today, the largest company, Microsoft, accounts for a little more than 3%.
- In 1988, there were two oil companies among the top ten (Exxon and Royal Dutch), two auto companies (General Motors and Ford) and a commodity producer with a large energy component (DuPont). The biggest company was IBM, which at the time was a befuddled tech company whose EPS had peaked in 1984 and would not reach new highs until 1996. Of the top ten companies in 1988, the only authentic growth companies were GE, Philip Morris, Merck and, arguably, AT&T.
- The situation in 1998 is very different; of the top ten companies, at least eight are unambiguously high-growth stocks: Microsoft, GE, Intel, Wal-Mart, Merck, Coca-Cola, Pfizer and Cisco. IBM also qualifies as a growth stock because EPS have climbed at a 28% annual rate over the last four years and an expected secular growth rate of 16%. Of the ten, only one is clearly a slow grower: Exxon.
- The expected earnings growth of the S&P 500 Index has fallen from 7.5% in 1988 to 6.5% in 1998, largely reflecting the steep drop in inflation. But, the average expected growth rate of the top ten stocks, which was only 9% in 1988, is 15.5% today. The expected inflation rate has declined from 4.5% to 2.0%. So, the average expected *real* earnings growth of the top ten is now 13.5%, versus 4.5% in 1988. Based on recent evidence, these growth expectations are not unrealistic; in the fourth quarter of 1998 these ten companies had average EPS growth of 16%.

In short, large-capitalization stocks are leading the market partly because they are, in fact, "Gorillas" that are growing rapidly. In addition, as we have discussed many times in the past, these and other high-growth stocks have been enjoying relative P/E expansion as the normal secular inflation rate has declined.

Table 3

Expected earnings growth of largest S&P 500 companies

1978		***1988***		***1998***	
Company	**Rate**	**Company**	**Rate**	**Company**	**Rate**
AT&T	6.5%	IBM	9.5%	Microsoft	24.0%
IBM	13.0	Exxon	6.5	Gen. Electric	14.0
Exxon	6.0	Gen. Electric	9.5	Intel	17.0
General Motors	5.0	AT&T	9.5	Wal-Mart	15.0
General Electric	9.0	Royal Dutch	7.5	Exxon	4.5
Kodak	12.0	Gen. Motors	6.0	Merck	12.0
Royal Dutch	5.5	Ford	6.5	IBM	15.0
Standard Oil Cal.	6.5	Philip Morris	11.0	Coca-Cola	13.0
Standard Oil Ind.	7.0	Merck	15.0	Pfizer	18.0
Schlumberger	17.5	DuPont	8.5	Cisco	22.0
Average	8.8%		9.0%		15.5%
S&P 500 Index	9.0%		7.5%		6.5%

Source: Standard and Poor's and PaineWebber.

The changing sector weightings in the S&P 500

As Table 4 shows, over the past two decades there have been dramatic changes in the sector weightings of the S&P 500, which are the result of three factors:

- Longer-term trends in the market capitalization of sectors, as a result of both earnings growth and changes in the P/Es assigned to stocks in each sector.
- Short-term cyclical changes—e.g., energy's share is much lower now than at the beginning of 1998 because of the plunge in oil and gas prices.
- New names added to the index may be biased in favor of certain industries and against others.

The most salient sector trends revealed in Table 4 are :

- Commodities have shrunk to just 3.2% of the index, showing that deflation definitely is not "benign" for makers of raw commodities.
- Consumer nondurables are essentially unchanged from 14.4% in 1988 to 14.9% in 1998. This is a fairly good performance when one considers that 1) makers of cereals, potato chips and cigarettes have far less pricing power than they had in 1988 and 2) the sector has been hurt recently by recessions in Asia, Russia and Brazil, as well as by the strong dollar. Presumably the offsetting good news is that many of these companies are well-managed generators of free cash flow and have participated in both "the consumer comeback" in the U.S. and the global expansion of capitalism over the past decade.
- Cyclicals such as autos, retailers, and housing-related stocks have lost share because their secular earnings growth is subpar.
- Energy has plunged to just 6.2% of the index, versus 18.0% in 1978 and 12.2% in 1988.

- Financials have soared to 15.4% of the S&P 500 because banks are far better managed and more profitable than in 1988, the sustained bull market has boosted Wall Street firms, and there has been a net addition of 14 financial stocks to the S&P 500 since 1993—see below.
- Health care has steadily gained share, from 5.1% in 1978 to 12.1% in 1998, reflecting the sector's strong unit growth driven by technology and demography, as well as by its relatively strong pricing power.
- Technology has soared to 18.7% of market capitalization, from just 8.4% in 1988. This reflects a happy combination of 1) the rise of the Internet, 2) "benign deflation," which forces firms to invest in technology to cut costs, and 3) a muted business cycle, which keeps the economy out of recessions that would hurt business investment.

Table 4

S&P 500 sector market cap weightings

Sector	1978	1988	1998	78 - '88 Change	88 - '98 Change
Cap. Goods	5.9%	9.0%	7.9%	+3.1%	-1.1%
Commodities	9.7	8.1	3.2	-1.6	-4.9
Cons. nondur	12.6	14.4	14.9	+1.8	+0.5
Cyclicals	15.4	16.1	9.2	+0.7	-6.9
Energy	18.0	12.2	6.2	-5.8	-6.0
Financials	6.1	8.0	15.4	+1.9	+7.4
Health Care	5.1	8.2	12.1	+3.1	+3.9
Tech.	12.3	8.4	18.7	-3.9	+10.3
Transports	2.1	2.3	0.9	+0.2	-1.4
Utilities	13.0	13.2	11.5	+0.2	-1.7

Source: Standard and Poor's and PaineWebber.

Newcomers to the S&P 500: What industries are they in?

The shift in sector weightings over the last several years towards financial and technology has not been achieved exclusively through the appreciation of stocks. Another factor is industry representation among the 120 stocks added to the S&P 500 over the past six years. (Note: although there were 48 *changes* in the index in 1998 there were only 35 *additions* because some changes came from merger and spin-off activity within the index; see appendix for details.) Table 5 shows that 42 of these 120 stocks were financials and 28 were in technology. The rise in the number of tech companies reflects the proliferation of new companies, some of them in entirely new categories such as networking (Cisco, 3Com) and the Internet (AOL). Although 42 financials were added, the number of financials in the index only rose by 14 (Table 6). This indicates that as the industry consolidated, financials were used to replace other financials. The *net* change in the number of financials largely reflects the addition of the consumer finance and investment banking/brokerage industries to the financial sector of the S&P 500.

Table 5

New companies added to the S&P 500

	1993	1994	1995	1996	1997	1998	6-year Total	% of Total
Cap. Goods	0	0	1	2	1	1	5	4.2%
Commodities	2	3	2	1	1	0	9	7.5
Cons. nondur	0	0	0	0	0	3	3	2.5
Cyclicals	0	0	4	2	3	6	15	12.5
Energy	1	0	0	1	2	0	4	3.3
Financials	2	5	6	5	11	13	42	35.0
Health Care	0	2	2	1	3	0	8	6.7
Tech.	2	3	5	6	2	10	28	23.3
Transports	0	0	0	0	0	0	0	0.0
Utilities	0	1	2	1	0	2	6	5.0
Total	7	14	22	19	23	35	120	100.0%

Source: Standard and Poor's and PaineWebber.

Table 6

Company change in the S&P 500

	1993	1998	Net Change
Capital goods	55	56	1
Commodities	59	53	-6
Cons. nondur	67	64	-3
Cyclicals	102	79	-23
Energy	27	24	-3
Financials	57	71	14
Health Care	29	30	1
Tech.	39	64	25
Transports	15	10	-5
Utilities	50	49	-1

Source: Standard and Poor's and PaineWebber.

Drivers of turnover in the S&P 500

Of course, companies are added to the S&P 500 because other companies drop off, usually for one of four reasons:

- ***M&A:*** the company is acquired, creating a vacancy that must be filled.
- ***Restructuring:*** most commonly, a company spins off a division as an independent firm that is added to the S&P 500, meaning that another company must be bumped off. Occasionally, the spin-off will actually replace the original parent.
- ***"Lack of representation":*** the company no longer meets the criteria for membership in the S&P 500, usually because the market cap is too low, presumably owing to the horrendous performance of the company. In such cases S&P is, in effect, behaving like a cus-

tomer who eventually "cuts his losses"—but only after they have run for quite a while.

- ***Bankruptcy***

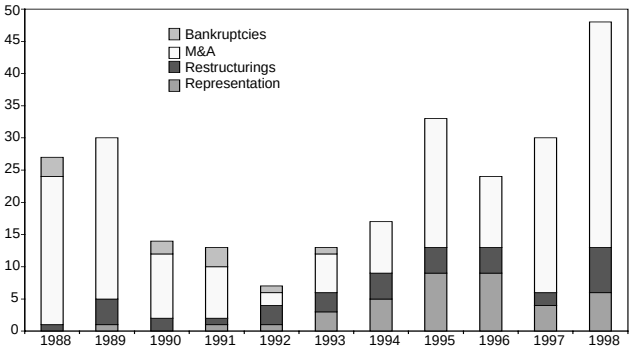
256 changes to S&P 500 since 1988

There have been 256 changes to the S&P 500 since 1988. As Chart 1 and Table 7 show, by far the most important driver of turnover is M&A. And because many more deals are done during periods of prosperity—when managements are confident, bankers are willing to finance deals and the stock prices of acquirers are high—there is also much more turnover in the S&P 500 at such times. A very slight counterbalance to this is that there are more bankruptcies during recessions. Overall, the number of changes declined from 30 in 1989 to just seven in 1992 (a post-recession year when the economy was still very depressed) and rose to 48 in 1998. Other trends of interest:

- There have been no bankruptcies among the S&P 500 during the past five years.
- In 1998, the number of restructurings was a relatively high seven. This may reflect the fact that some companies being left behind in the bull market are trying to uncover hidden value by spinning off attractive businesses.
- The number of companies kicked off for "lack of representation" has increased markedly; three were kicked off over the five years 1988-92 (less than one per year) versus 36 over the six years 1993-98 (six per year). These 36 firms are spread across many industries, though quite a few are old-line consumer cyclicals such as textiles and retailers.

Chart 1

Drivers of turnover in the S&P



Source: Standard and Poor's and PaineWebber.

Table 7

Drivers of change in the S&P 500, 1988 - 1998

	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	Total
M&A	23	25	10	8	2	6	8	20	11	24	35	172
Restructurings	1	4	2	1	3	3	4	4	4	2	7	35
Representation	0	1	0	1	1	3	5	9	9	4	6	39
Bankruptcies	3	0	2	3	1	1	0	0	0	0	0	10
Total	27	30	14	13	7	13	17	33	24	30	48	256

Source: Standard and Poor's and PaineWebber.

S&P is not GDP

While trends in the sector weightings of the S&P reflect changes in the U.S. economy, by no means does the S&P mimic the economy. For one thing, GDP is not *directly* comparable to either sales or earnings since it is a measure of value-added. This means that if Domino's sells a pizza for $10.00, its contribution to GDP is $10.00 less the cost of intermediate goods such as dough, sauce and cheese. Beyond this, S&P and GDP have widely different exposures to geographic regions and business sectors. About 42% of S&P earnings are outside the U.S. (Chart 2), and while GDP includes exports it neglects the far more important sales of foreign affiliates (Charts 3 and 4). Furthermore, as Charts 5 and 6 show, almost a full quarter of the U.S. economy is not represented in the S&P 500 (11% real estate plus 13% government). Nondurables are 28% of S&P earnings versus only 7% of U.S. GDP. Services are significantly underweighted in the S&P 500 while financials and tech are overweighted.

Chart 2

S&P 500 earnings by geographic region

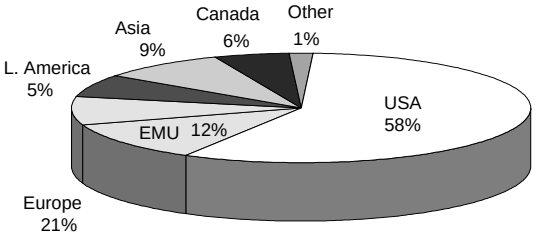


Chart 3

U.S. GDP

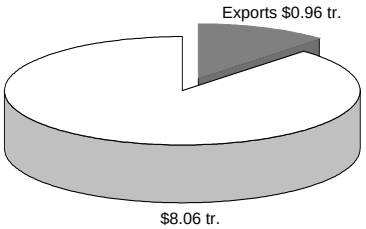


Chart 4

Sales of U.S. foreign affiliates

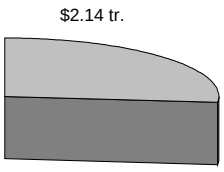


Chart 5
GDP by sector

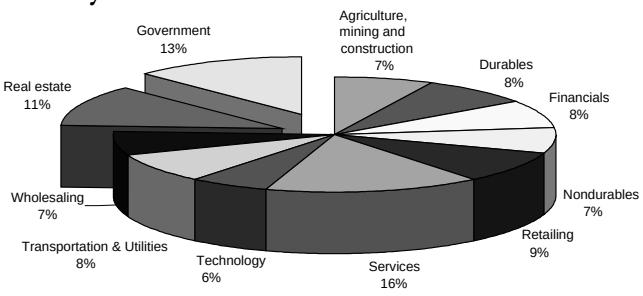
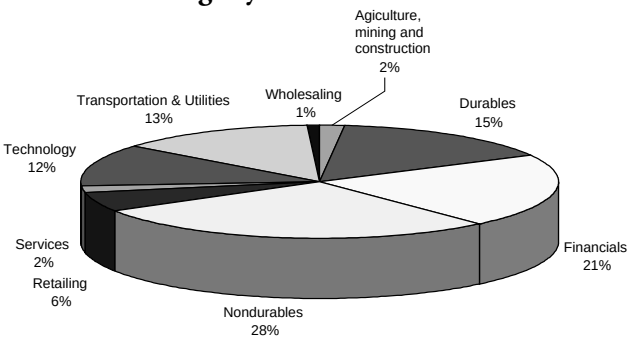


Chart 6
S&P 500 earnings by sector

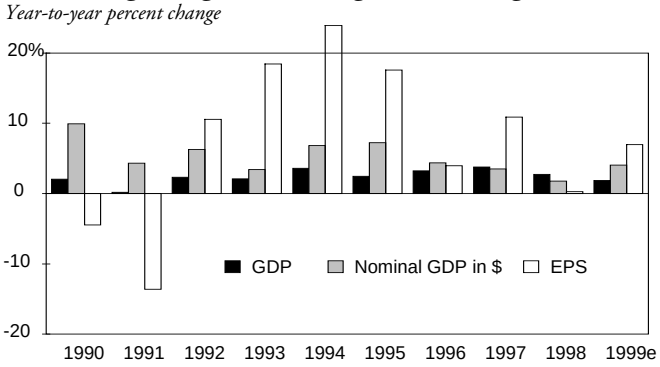


Source: Bureau of Economic Analysis, FactSet and PaineWebber.

Another key difference is the size of the companies represented. The S&P 500 is made up of only the largest of the large, with a median number of employees per company of 18,874 and a range from 487 to 728,000. By contrast, businesses with less than 500 employees account for about three quarters of total business employment.

Partly because the S&P 500 does not mimic the U.S. economy, GDP growth is not a good input for projecting S&P EPS growth. But "going global" does not help. While profit-weighted real global GDP growth has ranged from +0.2% to +3.8% over the past eight years, S&P EPS growth has ranged from -13.6% to +23.9% (Chart 7). And, profit-weighted GDP growth of +2.0% has produced EPS growth as low as -4.5%, while GDP growth of +2.1% has produced EPS growth as high as +18.5%.

Chart 7
Profit-weighted global GDP growth, EPS growth
Year-to-year percent change



Source: Bureau of Economic Analysis, Standard and Poor's and PaineWebber.

How the "AOL effect" distorts S&P EPS growth

How the price of the S&P 500 is calculated

The recent unusually heavy turnover of companies in the S&P 500 creates distortions in S&P earnings growth. To understand why, start by considering the price of the S&P 500 and how it is calculated. Currently, the price of the S&P 500 is 1287. This means that if we add up the market capitalization of the 500 companies in the S&P 500, and divide by the divisor, the resulting number is 1287.

But what is the purpose of the divisor—why not just add up the 500 market caps and use that number? This would work if the *same* 500 companies were always in the index, and each company's number of shares outstanding remained constant. A divisor is needed to adjust for turnover in the roster of companies and change in the number of shares outstanding. As noted, the price of the S&P 500 is 1287. But suppose that tonight Texaco, with a market cap of $29 billion, left the index as the result of its acquisition by a foreign firm and was replaced by Office Depot, with a market cap of just $9 billion. After this substitution, the aggregate market cap of the S&P 500 would go down, and—if the divisor were held stable—*so would the price of the S&P 500*. Market commentators would report, "The S&P 500 declined today because Texaco was replaced by Office Depot, which has a much smaller market value." Huh? To prevent that from occurring, the divisor is adjusted *downward* enough to keep the price of the S&P 500 *constant*.

The AOL effect

Just like the price of the index, S&P EPS are calculated by summing the net income of all 500 companies and dividing by the divisor. Distortions can occur because a low P/E company is replaced in the index by a high P/E company. When a higher P/E company is added to the index, it adds more to the *aggregate market cap* of the index than to the *aggregate earnings* of the index. The divisor is adjusted upward to reflect the increase in the market cap of the index, but because the total earnings did not increase as much as the total market cap, the effect is to *lower* S&P 500 EPS.

The addition of America Online to the S&P 500 is a good example of this phenomenon. AOL, with a sky-high P/E and a market cap of $71 billion on December 31, 1998, replaced Venator, with a much lower P/E and a market cap of less than $1 billion. The $70 billion difference in the market caps is 0.7% of the aggregate market cap of the S&P 500. This means that the divisor was raised 0.7% in order to keep the price of the index stable despite the rise in its aggregate market cap. Although their market caps differ dramatically, the difference in expected 1999 net

income of the two firms is less significant, with an expected net impact on aggregate earnings of 0.1%. As a result, we have an expected aggregate earnings number that is 0.1% higher divided by a divisor that is 0.7% higher, so the effect is to *lower expected S&P 500 EPS by about 0.6%.*

The recent high turnover of stocks in the S&P 500, combined with the large P/Es and market cap of some stocks entering the index, has made this distortion fairly significant. For instance, by analyzing the impact of all changes made since Q1 1998 on earnings and the divisor, we can estimate these changes to the index are likely to *lower Q1 1999 EPS by 2.4%.* That is a lot when we are projecting that Q1 S&P 500 EPS growth will be only 2.3%! In order for our estimate to be correct, the 500 companies *now* in the S&P 500 (29 of which were not in the index a year ago) would have to generate aggregate net income growth of 4.7%. This figure of 4.7%, which might be called "apples-to-apples" earnings growth, is a better measure of the ability of a fixed group of firms to expand their earnings. (In no sense is this a criticism of Standard and Poors' methodology; if, to avoid the AOL effect, one divisor were used for the price of the S&P 500 and a different divisor used from the EPS, then one could not divide the price by the EPS to calculate the P/E.)

Going up (and down): the index effect

The high turnover of the S&P also means that more companies are benefiting from the "index effect," or the boost most stocks get when Standard and Poor's announces that the stock is being added to the index, and index funds buy the stock.

In 1998, 35 *new* companies were added to the S&P 500. The average period of time that elapsed between when a change was announced and implemented was six *calendar* days (and fewer trading days). The average performance of these 35 stocks over their announcement periods was +9.2%—versus -0.5% for the S&P 500. A 9.2% gain in approximately one week is certainly an impressive return. But this was one gain you had to take quickly. These same 35 companies that performed so strongly just prior to being added to the index performed dismally after their addition, underperforming the S&P on average by 27.0% annually since their addition (Table 8). At least part of this weak performance can be explained by pressure in the short term from profit taking as non-indexers reap the rewards of the index effect.

Table 8

Relative performance of S&P stocks since addition

*CAGR thru 3/3/99**

Stocks Added	Number Of stocks	Average	Median
1993	7	+1.1%	-4.8%
1994	14	-5.6	-11.0
1995	22	-17.9	-20.9
1996	19	-0.8	-17.4
1997	23	-10.5	-16.8
1998	35	-27.0	-31.6
All Stocks	120	-13.9%	-17.1%

** except for the 10 subsequently acquired stocks, their performance measured thru their acquisition date.*

Source: Standard and Poor's, FactSet, Bloomberg and PaineWebber.

The typical newcomer tends to perform poorly

From 1993 through 1998, 120 new companies were added to the S&P 500. Most of these stocks have performed poorly, with median, annualized relative performance for the 120 stocks of -17.1%. The spectacular performance of a few companies caused mean performance to be modestly better at -13.9%. This is actually somewhat surprising because newcomers tend to be in sectors that have performed well in the 1990s, such as financials and technology. Perhaps the newcomers are underperforming because they are comparatively small-cap stocks in a world dominated by gorillas.

Support for this view comes from the exceptions to the rule. The 19 stocks added in 1996 almost matched the S&P 500 thanks to the spectacular post-addition compounded annual returns of Dell (+232%), EMC (+112%) and Guidant (+89%). At the time of their entrance into the index, all three firms were "little gorillas" that dominated niche markets; Dell owned over 50% of the direct PC vending market, EMC supplied one-third of the world's mainframe disk storage systems and Guidant controlled about half of the cardiac rhythm management market. Similarly, the companies added in 1993 modestly outperformed due to the post-addition performance of just one stock, Cisco Systems (+64%), the dominant player in the network router market.

Who is likely to be added to the S&P 500 next?

With only four announced changes to the S&P 500 so far in 1999, turnover in the index has been moderate. However, with several acquisitions already in the pipeline, we expect activity in the index to pick up. To understand which stocks have a high probability of being added to the S&P 500, it is important to consider the official criteria that guide the actions of the S&P Index Committee. These are shown in Table 9.

Table 9

Guidelines for adding stocks to the S&P indices

Market Value: Must be of the appropriate market value for the particular index in question; currently the median market cap is $7.6 billon for the S&P 500, $1.5 billion for the S&P Mid-cap 400, and $0.4 billion for S&P Small-cap 600.

Industry Group Classification: Selected companies represent a broad range of industry segments within the U.S. economy.

Ownership: Ownership of a company's outstanding common shares is carefully analyzed to screen out closely held companies.

Trading Activity: The trading volume of a company's stock is analyzed on a daily, monthly and annual basis to ensure ample liquidity and efficient share pricing.

Fundamental Analysis: Both the financial and operating condition of a company are rigorously analyzed in order to minimize turnover by adding stable, healthy firms.

Emerging Industries: Companies in emerging industries, and/or new industry groups or industry groups currently not represented in the indices are candidates, as long as they meet the guidelines listed above.

Source: Standard and Poor's and PaineWebber.

Look for candidates in S&P's Mid-cap Index

Of course, these criteria are somewhat subjective and difficult to apply to individual stocks. Fortunately, investors have a short-cut for figuring out which companies are most likely to be added to the S&P 500—simply focus on companies that are in the S&P Mid-cap 400, because such companies already meet, in the eyes of the S&P Index Committee, most of the criteria for inclusion in the S&P 500. Of the 35 companies added to the S&P 500 in 1998, 25 were in the S&P Mid-cap Index.

The Mid-cap 400 functions as a recruiting ground for the S&P 500; when one company disappears from the 500, frequently another is recruited from the Mid-cap 400.

Table 10 shows our top 12 picks based on market capitalization and industry representation.

Table 10

Possible new recruits for the S&P 500

Ticker	Name	PW rating	Price	Market Cap.
AFL	Aflac	Attractive	$48 1/4	$12.5 bn
BBY	Best Buy	N/A	98 1/8	10.0
BGEN	Biogen[1]	Attractive	109 1/8	8.0
HDI	Harley-Davidson	N/A	59 1/16	9.1
LXK	Lexmark International	Buy	95	6.4
LLTC	Linear Technology	N/A	48 7/16	6.8
MRIS	Marshall & Ilsley	N/A	57 3/8	6.1
MXIM	Maxim Int. Products	N/A	47 13/16	6.0
NETA	Network Associates[1]	N/A	45 13/16	6.5
ODP	Office Depot	Attractive	35 3/8	8.6
HOT*	Starwood	Attractive	33 1/4	5.8
ZION	Zions Bancorporation	N/A	66 15/16	5.2

**Only company in list that is not in the S&P Midcap Index. Until changing to a class C corp., HOT had been in the S&P REIT Index.*

Source: Standard and Poor's, FactSet, and PaineWebber.

Appendix

A change versus a "new" addition

Not all changes result in a new addition to the index. If company X went bankrupt and was replaced by company Y there would be one change and one addition to the index. However, if company X and company Y, which were both in the index, merged to create company XY, and a new company, Z, was added to replace the lost company, S&P would count this as two changes: the addition of Z *and* the appearance in the index of XY. Z was an "active" addition, decided by S&P. XY required no "active" decision-making on the part of S&P and does not affect the index's market value. Similarly, if one of the companies were outside the index prior to the combination, the combined entity would represent a change but not an addition since a substantial part of the entity was already in the index; nor was its inclusion an "active" S&P decision.

The final source of discrepancy between additions and changes derives from spin-offs. When a company in the index spins off part of the company and the new entity remains in the index along with the parent, there is no addition to the index although there is a change.

Additional information is available upon request.

Prices of companies mentioned as of 3/10/99:

3Com[1] COMS $24 9/16
America Online AOL $92 3/4
AT&T[2] T $83 15/16
Berkshire Hathaway BRKA $73,900
British Petroleum BP $93 1/16
Cisco Systems[1] CSCO $104 3/8
Coca-Cola KO $62 7/8
DaimlerChrysler DCX $88
Dell Computer[1] DELL $43 5/16
DuPont DD $57 9/16
EMC Corp EMC $112 7/19
Exxon XON $73 3/16
Ford[2] F $56 13/16
General Electric[2,3] GE $105 3/4
General Motors GM $87 7/8
Guidant GDT $66 1/8
Intel[1] INTC $116 7/8
Int'l Business Machines IBM $181 3/4
Kodak EK $65 3/4
Merck MRK $82 13/16
Microsoft[1] MSFT $161 5/16
Pfizer PFE $139 3/4
Philip Morris MO $40 5/16
Royal Dutch Petroleum RD $48 1/4
Schlumberger SLB $58 1/2
Texaco[2] TX $54 3/16
Venator Z $4 11/16
Wal-Mart WMT $93 9/16

[1] PaineWebber Inc. makes a market in this security.
[2] PaineWebber Inc. has acted in an investment banking capacity for this company.
[3] General Electric owns over 20% of the outstanding stock of PaineWebber Group and has a representative on the board. General Electric has agreed to certain voting limitations. PaineWebber group is the parent of PaineWebber Incorporated.

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