

Perspectives on Capital Markets in 2007 and Beyond

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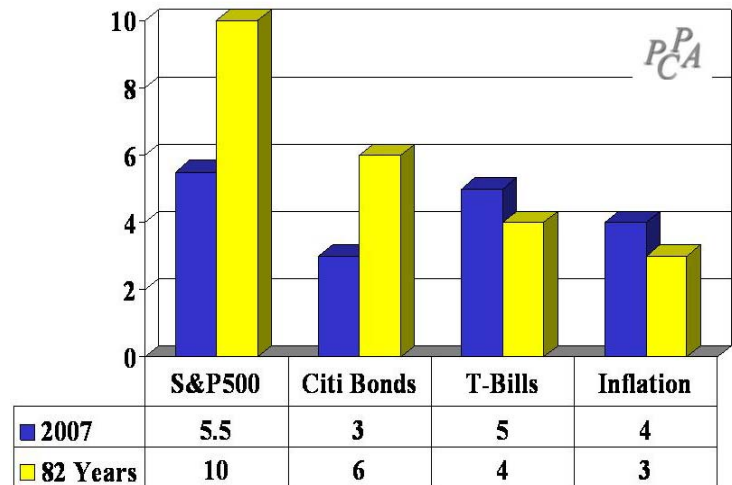
Introduction



The U.S. stock market, as measured by the S&P 500, earned 5.5% in 2007, which as shown in Exhibit 1 is substantially below its long-run (82-year) history of 10% returns per year.

Similarly, a 3% return on bonds, as measured by the Citigroup High Grade Corporate Bond Index, is below historical norms. Completing the annual picture, inflation at 4% and T-bill returns at 5% are both above historical averages, but the real (above inflation) return on T-bills of 1% matches history. It was not a good year for stock and bond investors.

Exhibit 1: Stocks, Bonds & Bills in 2007



This is the fifth consecutive year of positive stock market returns, following three years of negative returns that began the century. This commentary provides perspectives on market behavior in the following time frames, looking back further and further into history just like the Hubble:

- 4th quarter of 2007
- The year 2007
- Most recent 3 years, 2005-2007
- 21st century to date, the 8 years 2000-2007
- Past 82 Years, 1926-2007

Along the way we offer our thoughts and advice on policy decisions and investment manager selection, motivated by two primary objectives:

- First, we hope that these perspectives prove helpful to decisions going forward. Namely, you can decide if trends will continue or reverse, but first you need to know what the trends are. On the style front, 2007 broke the winning streak of value investing, especially small cap value, with growth stocks taking the lead. While some segments of the market have suffered, others have thrived.



Technology stocks are still clawing their way back from the burst of the growth bubble, while energy stocks have pumped up the markets. Yes, it has been possible to make money in these markets, and a lot of it. But the real surprise is that the markets have been able to limp along in the face of so much adversity: Iraq war, the credit crisis, high oil prices, and significant deficit spending. Outside the U.S., returns have been much better, especially in Asia and Emerging Markets. Will foreign countries continue to outperform? Will energy and growth stocks continue their run? You can decide whether we'll have more of the same in 2008.

- Second, the search for investment manager talent puts a lot of emphasis on recent past performance. Regrettably peer groups are awful backdrops for evaluating manager success or failure, but there is a better alternative. The other mistake evaluators make is confusing style with skill. After general market effects, the most important determinant of performance is style, followed by a distant third residual that we use to find manager skill. Detecting skill is complicated for this reason. Although it's easy to confuse style with skill, it's hard to make good decisions once this mistake has been made. As usual, peer groups don't work in 2007 and beyond, and style effects are characteristically very strong. Also, some relatively new vehicles are being embraced by the defined contribution (DC) industry. Target date lifecycle funds are poised to become the darlings of DC land, despite the fact that no one really knows which funds are good and which are bad. We offer some guidance on separating the target date wheat from the chaff.

It's been said that the biggest challenge of forecasting the future is understanding the past, so here's where we've been so far.

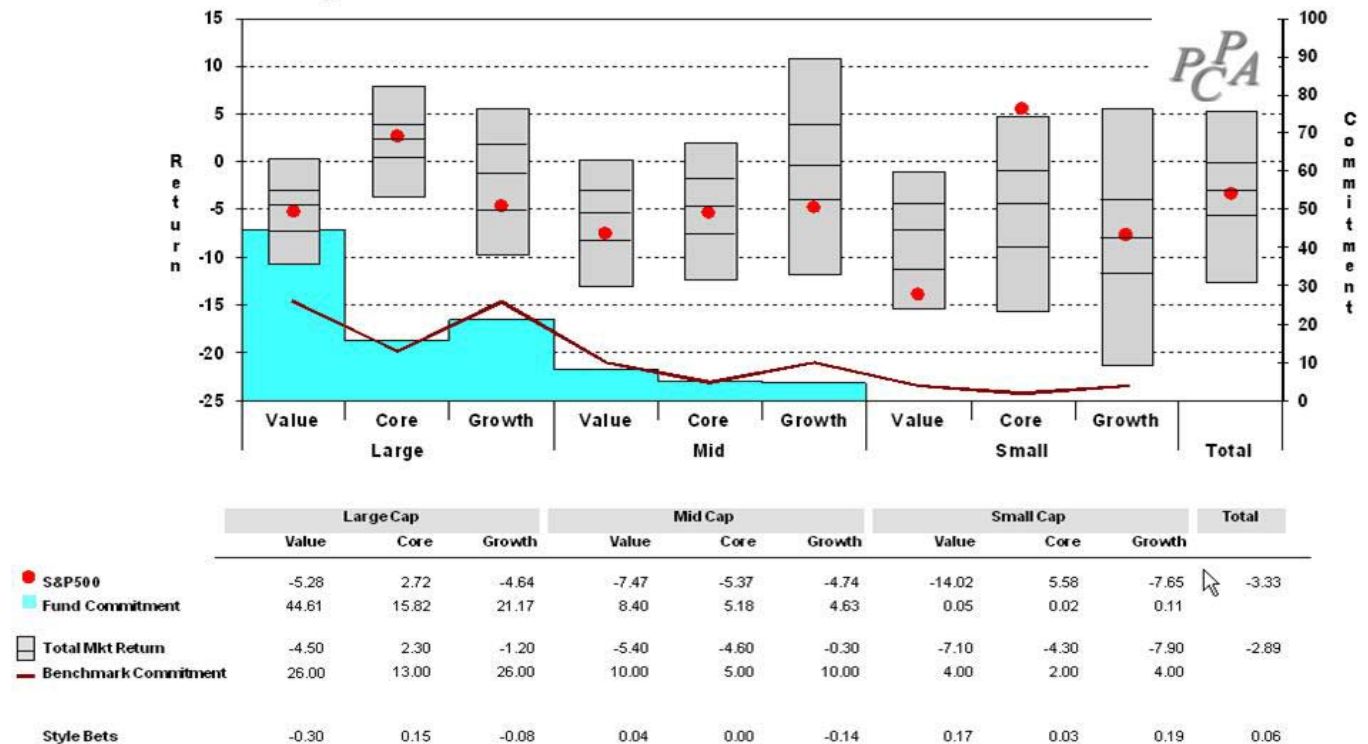
Fourth Quarter of 2007: Reversal of Fortune

It was looking like 2007 was going to be a good year as we entered the fourth quarter, with U.S. stock market returns above 10% through the first 9 months. But that all changed in the fourth quarter as the U.S. market lost 3% but foreign markets earned 1%. The following three graphs provide a quick overview of the fourth quarter domestic and foreign markets. We use the S&P500 and EAFE indexes as examples of how performance attribution analyses should be conducted for the quarter. See [StokTrib](#) for a description of the approach we employ for holdings-based style and attribution analyses. Smaller companies fared best in the quarter, as did the consumer discretionary and materials sectors.

Here's how to read Exhibit 2, which analyzes S&P500 performance by style. See Appendix 1 below for our style definitions. The floating bars in the graph are Portfolio

Opportunity Distributions (PODs) for each of 9 styles and the total market. PODs are all of the possible portfolios that investors could have held in the indicated style (see [PODS](#) for more information). Note the middles of the bars, which are the medians. The median return for large value is -4.5%, for large core it's 2.7%, and so on. The best performing median is large core with a 2.7% return, and the worst is small growth. This is one of those periods where core has surprised by not performing in between value and growth, in this case by outperforming both. We define "core" as the stuff in the middle in between value and growth. Interestingly, core surprises about a third of the time on a quarterly basis, either outperforming or underperforming both value and growth. Also note the ranges of returns, representing the risk and opportunity in each style. As you would expect, the more volatile styles, like small growth, have a wider range.

Exhibit 2: Style Performance of S&P500 in 4th Quarter of 2007



Now turn your attention to the shaded area at the bottom of the graph, which shows the style profile of the S&P500. Here we classify each stock in the S&P500 into the 9 style groups and show the aggregate dollar allocation. The S&P is currently 44.61 large value, 15.82% large core, 21.17% large growth, and so on. The S&P is roughly 80% large/ 20% mid/ 0% small, representing a large company tilt relative to a broad market that is 65/25/10 (by our definition). The broad market style profile is shown as the red line in the bottom of the exhibit. This size tilt helped S&P performance in the quarter since smaller companies were out of favor. The performance effects of this tilt are



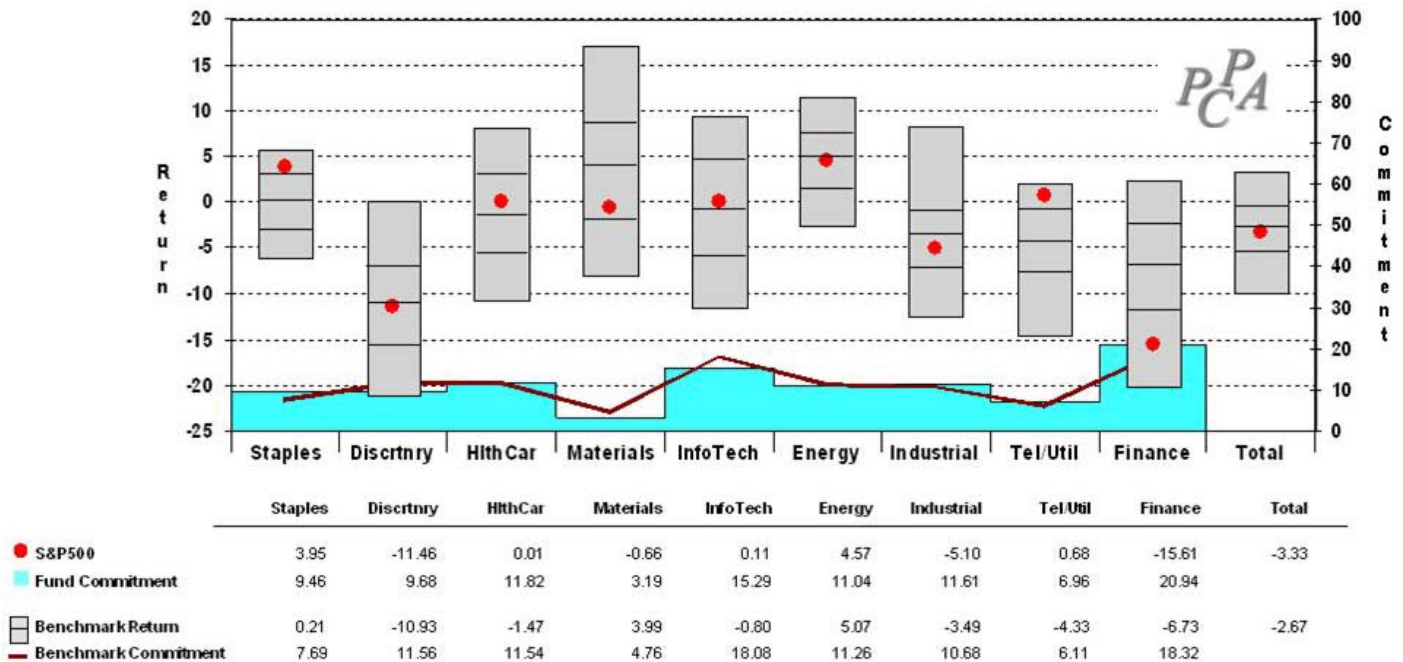
shown in the bottom row of the exhibit; the total effect is 6 basis points of enhanced performance, as indicated by the last number in the row.

Lastly, the red dots in the exhibit show how the style sub-portfolios within the S&P fared against their respective style PODs. Note for example that the large-cap growth stocks in the S&P, treated as a separate cap-weighted portfolio, performed below the median of their PODs: the stocks selected by the S&P committee in this style underperformed in the quarter.

In summary, the S&P's large company orientation helped performance in the quarter, but poor stock selection primarily in large-cap growth undermined performance by 50 basis points. Yes, the S&P is a managed portfolio; it's just managed by committee. The net result is shown in the far right bar, where the S&P return of -3.33% is below the broad market return of -2.89%. Sometimes the S&P outperforms the broad market and sometimes it underperforms; for purposes of evaluating investment performance it's extremely helpful to know when and why.

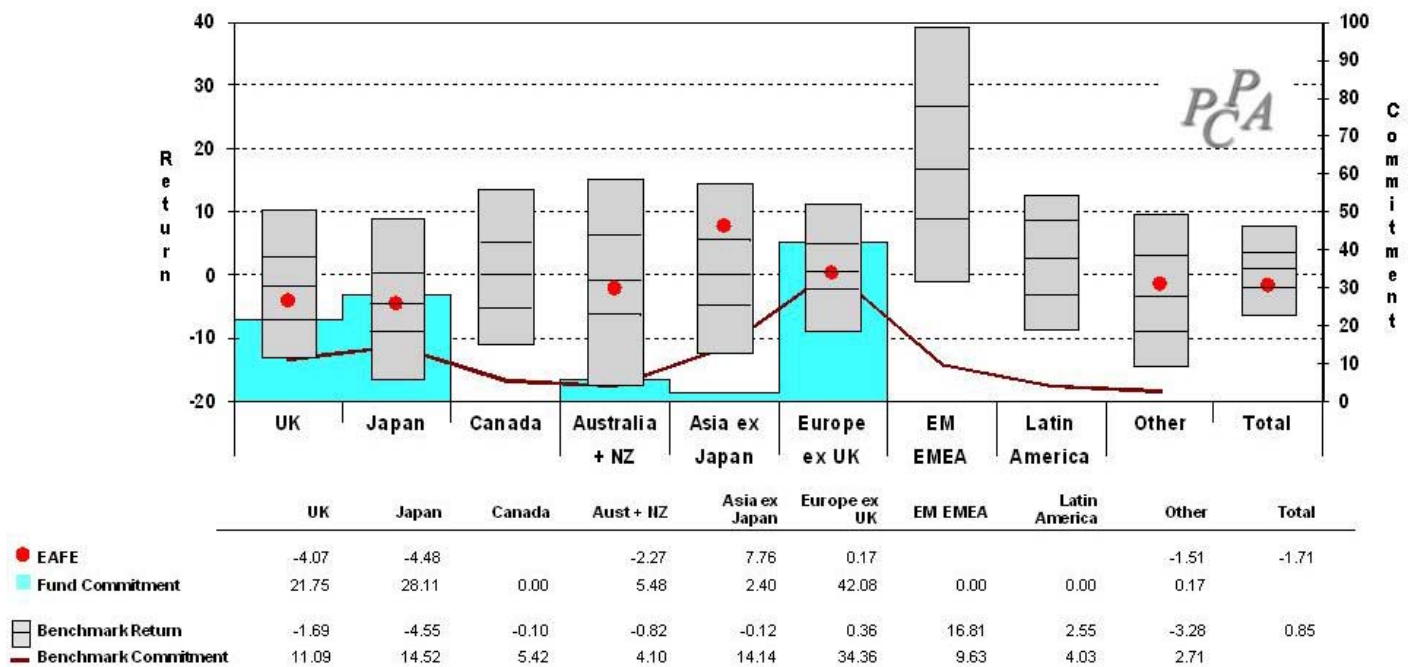
Now let's look at a similar analysis for sector results, as shown in Exhibit 3. As can be seen, consumer discretionary and finance lagged in the quarter, as investors grew concerned about credit markets. By contrast, materials and energy stocks fared well in the quarter. Of particular interest are the S&P results, performing reasonably well in most sectors except materials and finance, further evidencing that the S&P is a managed portfolio.

Exhibit 3: Sector Performance of S&P500 in 4th Quarter of 2007



The last picture for the quarter extends our view outside the U.S., where performance has been better, earning .85% in the quarter, due mostly to the weakening dollar's positive currency effect. As can be seen in Exhibit 4, the Europe Australia Far East (EAFE) index return of -1.71% lagged the broad foreign market because EAFE is overweighted in Japan and underweighted in the rest of Asia, as well as void of emerging market stocks. The EAFE index has generally underperformed during the recent past because it does not include the better performing regions of the world over this timeframe. Like the S&P500, EAFE is a managed portfolio, and one with a country allocation that has been out of favor.

Exhibit 4: Country Performance of EAFE in 4th Quarter of 2007



These are important insights, but not when they're limited to just the S&P and EAFE. The most important consideration is how your own portfolios stack up in this framework. We call this analysis a "wealth scan" because of its similarity to a "health scan". A health scan is an electronic comparison and evaluation of your internal organs relative to a norm. A wealth scan compares and evaluates your portfolio's sector and style composition relative to an appropriate benchmark.

Now let's look at 2007.

The Year 2007: Topsy-turvy Peer Group Rankings

As shown in Exhibit 5, growth stocks fared best in 2007, returning 12%, especially larger company growth stocks with a 14% return. It's been a long time since we last saw growth in the lead. By contrast, small companies, defined as those in the bottom 10% of capitalization, lost 3% of their value.

Value investing had been in favor prior to 2007, and the press picked up an interesting phenomenon when reporting on 2006 performance: more than 90% of the value managers in Morningstar's value peer groups underperformed their benchmarks in 2006. Had value managers gone brain dead? Fortunately value managers have redeemed themselves this year with the majority of the funds in the Morningstar value peer groups now outperforming their benchmarks. Brain transplants perhaps? We think not. The real problem that is being manifested here is **classification bias**, which unlike survivor bias is not well known or understood, but it is at least as insidious. Exhibit 6 shows how it works. The majority of funds in the Morningstar large cap value peer group are not large cap value at all – they're smaller company and more growth oriented, as shown by the red oval in Exhibit 6. As a consequence, the majority of these managers lagged their index in 2006 because their growth exposure disadvantaged them, but now that value is out of favor this growth orientation serves to their advantage, making them look good again. What goes around comes around.

Exhibit 5: 2007 U.S. Style Returns
Growth Wins; Small Loses

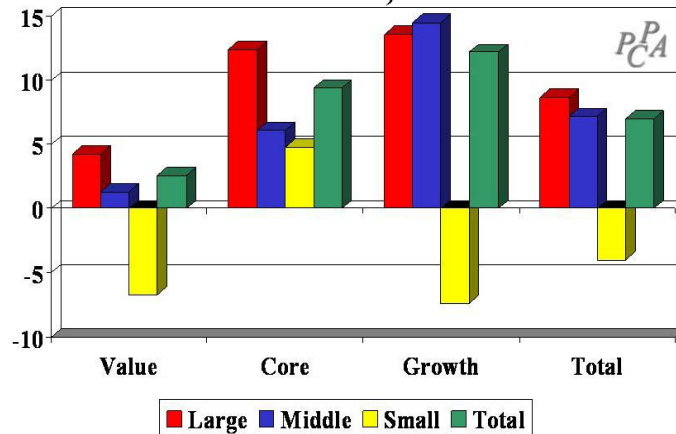
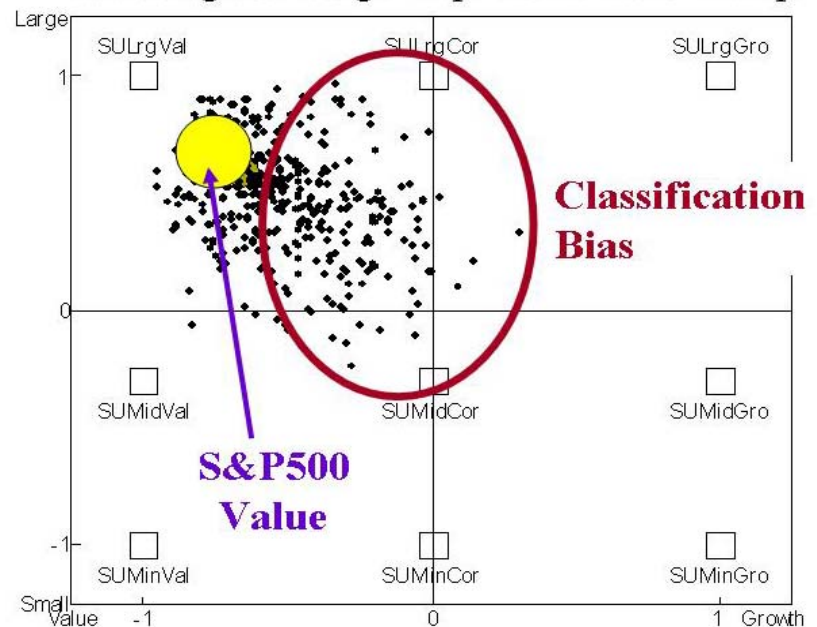


Exhibit 6: Classification Bias
Morningstar Large Cap Value Peer Group



Classification bias distorts studies of investment manager rankings. A 2007 study by Matthew Rice of Chicago-based DiMeo Schneider Associates declares that “about 90% of managers with top-quartile results for the 10 years through December 31, 2006 suffered through a below-median stretch of three years or more along the way.” So we have another study in a growing list that purports to show instability in manager skill, apparently proving that skill is fleeting. But could it be that manager skill isn’t actually changing much at all? The reality is that peer group universes are revolving around the managers as opposed to the managers moving within their universes. Styles go in and out of favor but skill persists, although classification bias makes things appear otherwise. Classification bias is causing much of the change in rankings, rather than changes in skill, because this bias has different affects as styles go in and out of favor, as summarized in the following contingency table:

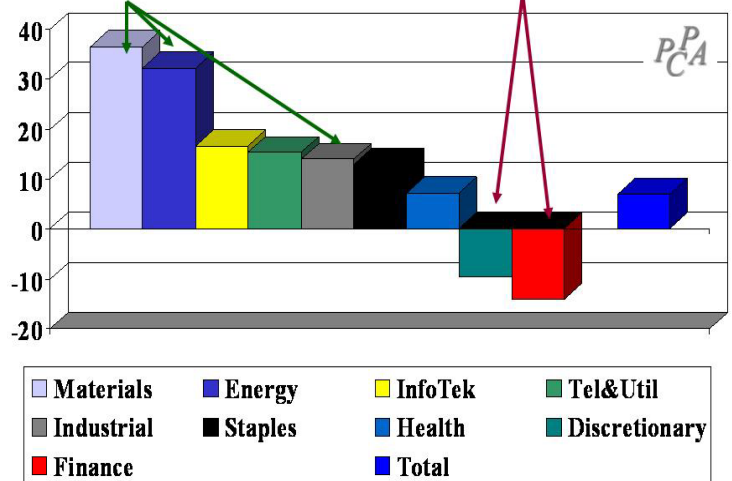
Who wins and loses because of classification bias when styles are in or out of favor

When style is...	Pure Managers	Impure Managers
In Favor	Win	Lose
Out of Favor	Lose	Win

The solution to the myriad problems with peer groups can be found at [PODS](#) . You’ll be surprised by how simple and easy it is to get accurate and meaningful performance rankings, and there’s no waiting.

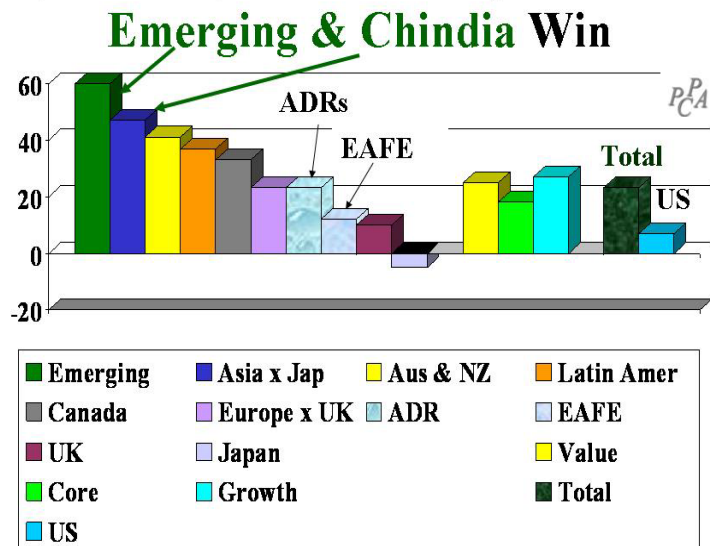
Sector analyses for 2007, shown in Exhibit 7, reveal that the Chindia effect, driven by the growth in China and India, continues to advantage U.S. industrial-related sectors – materials, energy and industrial. At the same time, domestic credit concerns have led to losses in both the financial and consumer discretionary sectors. Note the huge 5000 basis point spread between the best-performing materials sector, with a 36% return, and the worst-performing finance sector, with a 14% loss.

Exhibit 7: 2007 U.S. Sector Returns
Chindia Wins & Credit Woes Lose



Extending our geographical perspective, Exhibit 8 shows that foreign markets have been thrice as good as U.S. in 2007. Foreign markets have earned 23%, more than tripling U.S. returns. The Chindia effect had propelled Asia ex Japan into the lead through the third quarter, but Emerging Markets have since outpaced Asia ex Japan to take the lead. Including some non-EAFE countries and companies in your portfolio has made a big difference this year. EAFE excludes some of the best performing countries in the world, and has generally underperformed where it has country exposure because smaller companies have fared best. As you can see, EAFE lags the total non-US market by 1200 basis points. The ADR (American Depository Receipt) market has fared better than EAFE, matching the broad market return. Like the U.S., note the huge 6500 basis point spread between the best-performing Emerging Markets region, with a 60% return, and the worst-performing country Japan, with a 5% loss.

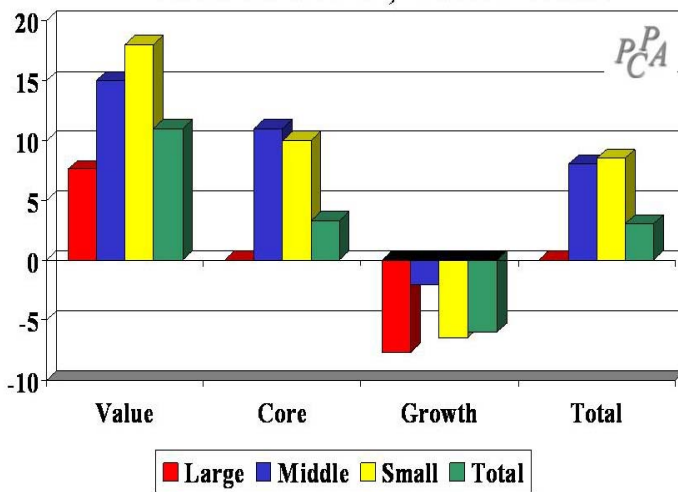
Exhibit 8: 2007 Country Returns



The Past 8 Years: 2000-2007

Exhibits 10 and 11 provide style and sector results, respectively, for the century to date. Growth stocks have still not recovered from the freefall they suffered when the growth bubble of the 1990's burst. By contrast value stocks, especially smaller value companies, have thrived, as have energy and material stocks, due largely to the Chindia effect. Dragged down by the bursting bubble, the total U.S. stock market has averaged a meager 3% annualized return over this 8 years.

Exhibit 10: U.S. Style Returns for 8 Years
Growth Loses; Value Wins

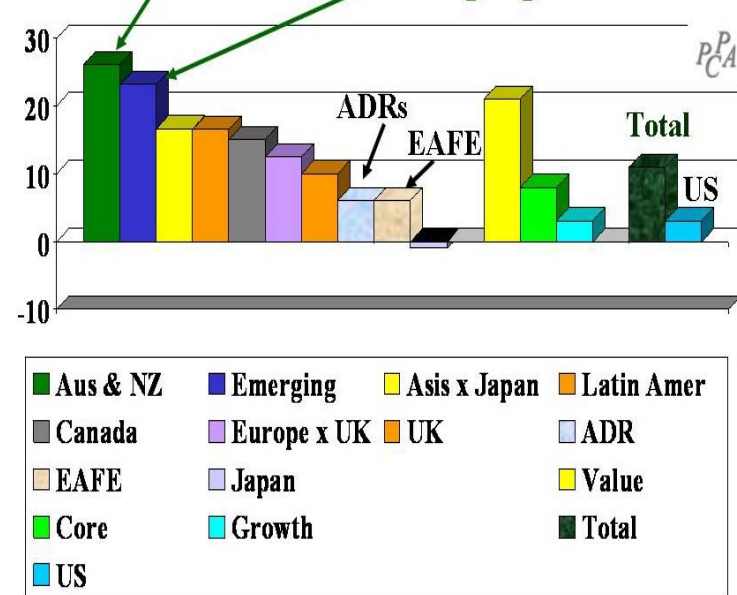


On the international front, returns have been much better, with the broad market returning 11% per year although both EAFE and ADRs have lagged with a 6% annualized return. Emerging Markets and Australia have been particularly good investments in this century, earning more than 20% per year. Every region except Japan has performed better than the U.S. during the past 8 years, so domestic investors could have benefited from almost any foreign exposure. Like the U.S., value-oriented stocks have performed best, outperforming growth stocks by 18% per year on average, although unlike the U.S. growth stocks are not underwater.

82-Year History

Exhibit 13 is a histogram of real (in excess of inflation) returns on the S&P500 Index over the past 82 years. The 1990s are shown in green, and the 2000s are shown in red. As can be seen, stock returns are not distributed in the bell-shaped curve known as a normal distribution. For example the mean return of 7.1% is to the left of the mode (most frequent return), which is between 10-20%, and the left side is fatter than the right. Readers using mean-variance optimizers should take note. Also observe that 4 of the past 8 years, including 2007, have been below average, 2 have been average, and 2 have been above average. The markets of the 2000s have not been kind to investors. Some have argued that this is because the 1990s were too good. As you can see the 1990s never had a losing year below -10%, whereas 3 of the last 8 years have been to the left -10%.

Exhibit 12: Country Returns for 8 Years
Australia & Emerging Win

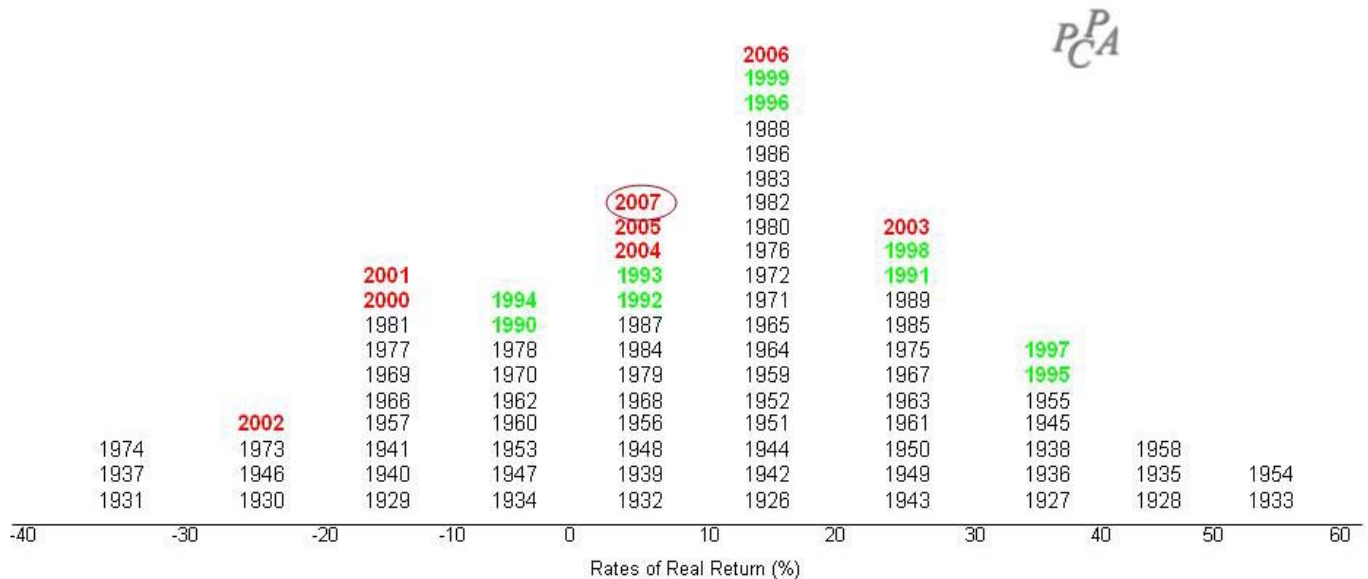




**Exhibit 13: 82-Year Return History for Common Stocks
(Adjusted for Inflation)**

1926-2007

Average Annually Compounded Real Return = 7.1 %

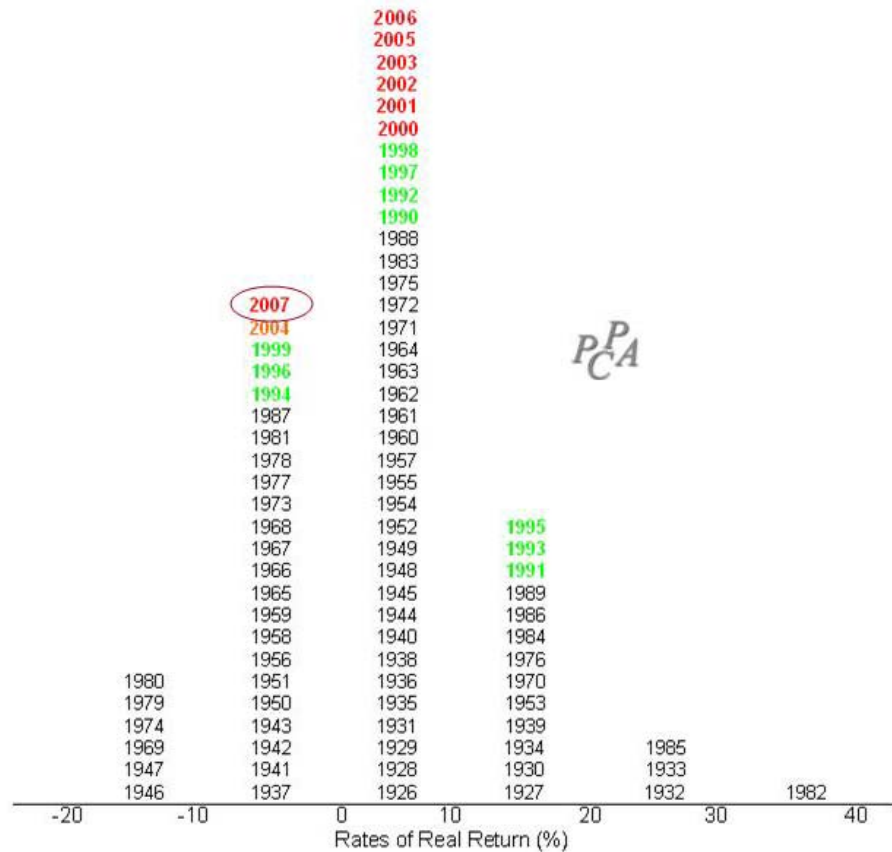


By contrast, Exhibit 14 shows that most of the annual returns in this century on the Citigroup High Grade Corporate Bond Index have been near the historical average of 2.9% above inflation per year, with the exceptions of 2004 and 2007. Note also that bond returns are more tightly distributed than stocks, reflecting their lower risk. But bonds aren't always less risky than stocks, as shown in Appendix 2 to this commentary.

Exhibit 14: 82-Year Return History of Long-Term Corporate Bonds

1926-2007

Average Annually Compounded Real Return = 2.9 %



The final historical perspective we'd like to share with you is the history of risk and return in the capital markets, provided in Appendix 2 which shows risk-reward relationships over various time periods. You'll find this helpful for setting asset allocation assumptions, and for establishing client expectations. For example, it's interesting to note that stocks have delivered more return in the most recent 41 years than they did in the previous 41 years, and with less risk. On its face, this would suggest that stocks have become

more efficient – more return for less risk -- but not so. Inflation in the past 41 years, and therefore Treasury bill returns, has been significantly higher on average than in the prior 41 years. As a result, the Sharpe ratio, which is return above Treasuries divided by standard deviation of returns, is about the same in the two 41-year periods, implying that stock investing has been about as efficient in both periods. Bond investing, by contrast, has become much less efficient in the more recent past.

Consultants work with their clients to determine investment policies that pull future needs together with appreciated investments and savings. Typically a required rate of return is backed out of these cash flow projections, but is this rate realistic? Exhibits 15 and 16 show the probabilities of earning various real (above inflation) returns over various time horizons. You'll find these useful in establishing client goals. Where do your Monte Carlo simulations lead you?

Exhibit 15: Probabilities of Real (Above Inflation) Stock Returns

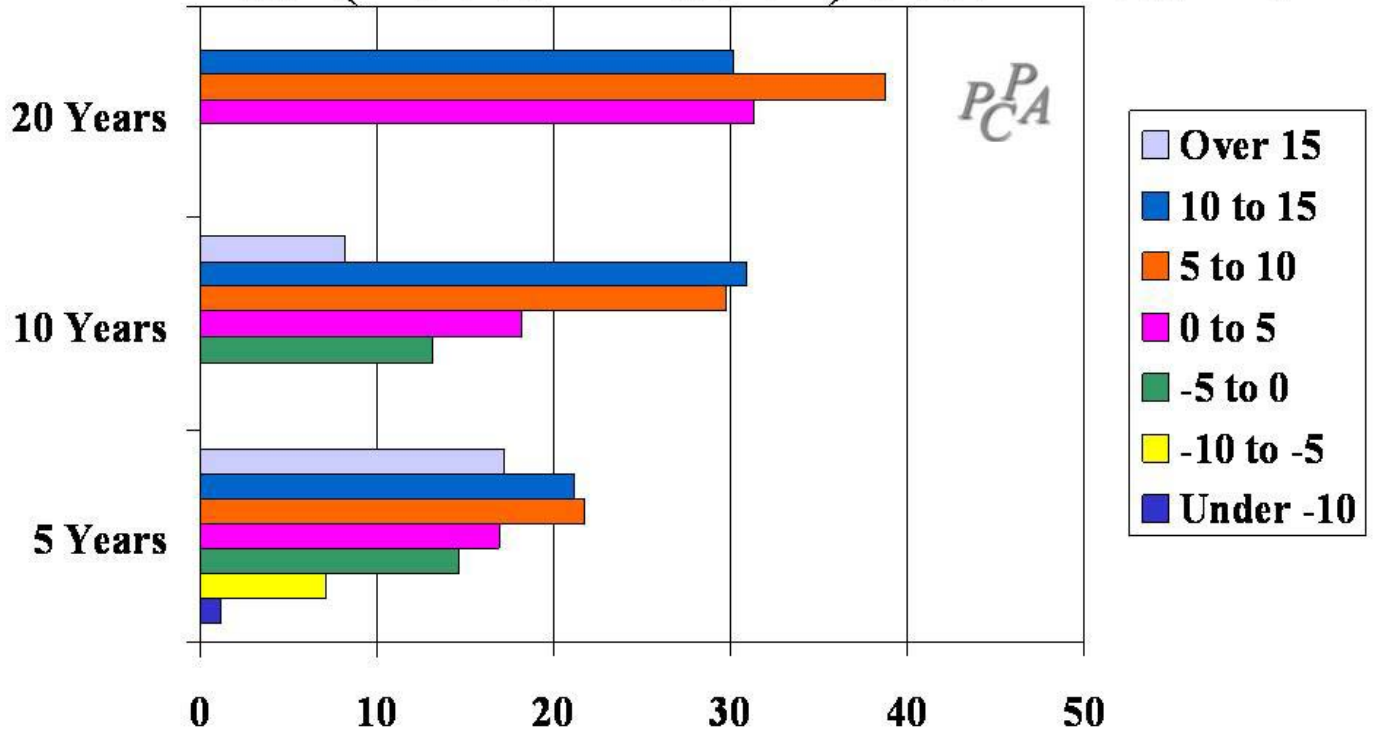
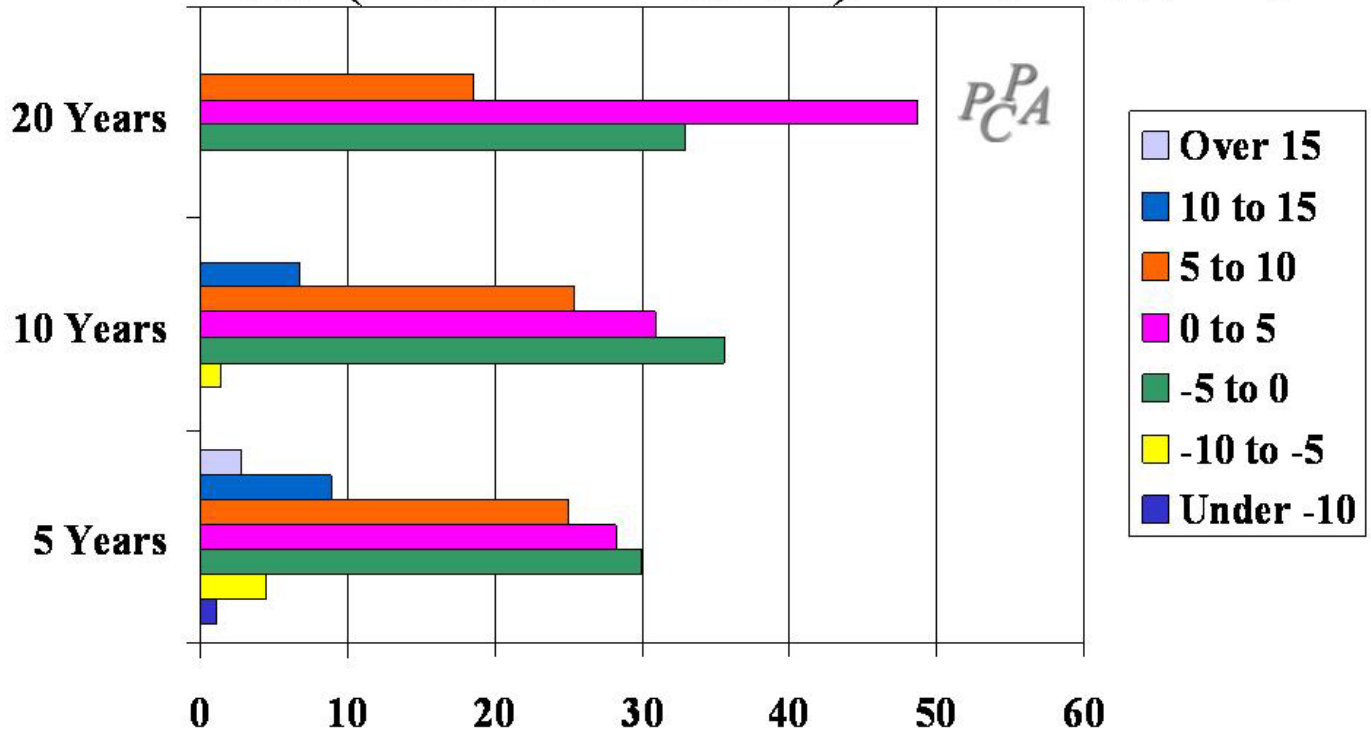


Exhibit 16: Probabilities of Real (Above Inflation) Bond Returns



To read Exhibits 15 and 16:

The Y-axis refers to time horizon going forward.

5 years = 2008 to 2012

10 years = 2008 to 2017

20 years = 2008 to 2027

The X-axis is the probability (or likelihood in percentage terms) of occurrence for various levels of real bond returns (gross return minus inflation).

So, for example, in Exhibit 16, over the next 5 years:

There is a 30% probability (green bar) that bonds will provide a real return (gross return minus inflation) in the range of -5% to 0%.

There is a 25% probability (orange bar) that bonds will produce a real return in the range of 5% to 10%.



Conclusion

How does this help going forward? If momentum is a fact of nature, watch for continuations in the patterns described in this commentary. Large growth stocks and energy companies may be on a roll, while small cap value may have had its run. Note that this momentum approach is—as its name implies—just the opposite of the contrarian strategy, or “regression toward the mean.” Behavioral scientists tell us that neither approach is optimal, but we all do it. You be the judge as to what to expect in 2008.

This commentary also clarifies the investment game so we can identify investment management talent. Current practices are akin to evaluating Tiger Woods as a bowler. Let’s face it; we really don’t know who is winning and who is losing, even though we pretend to know. Did most of the value managers actually lose in 2006? Are they really winners now? Performance should be evaluated against the opportunities available to the manager’s unique style – the manager’s game. Traditional peer groups can’t provide this assessment. Portfolio Opportunity Distributions (PODs) can.

The observations presented in this annual commentary should prove helpful throughout the year, so consider keeping this review.



Appendix 1: Style Definitions

Style groupings are based on data provided by Compustat. Two security databases are used. The U.S. database covers more than 8000 firms, with total capitalization exceeding \$20 trillion. The non-U.S. database coverage exceeds 10,000 firms, 20 countries, and \$25 trillion -- substantially broader than EAFE.

To construct style groupings, we first break the Compustat database for the region into size groups based on market capitalization, calculated by multiplying shares outstanding by price per share. There are 3 regions maintained in our system: U.S., Foreign and Global. Beginning with the largest capitalization company, we add companies until 65% of the entire capitalization of the region is covered. This group of stocks is then categorized as "large cap" (capitalization). There are generally about 200 companies in this group for U.S., 450 for Foreign, and 700 for Global. The second size group represents the next 25% of market capitalization and is called "mid cap". There are generally about 1000 companies in this group for U.S., 1600 for Foreign, and 2800 for Global. Finally, the bottom 10% is called "small cap". There are generally 5000 U.S. securities in this group, 6500 Foreign, and 11,000 Global.

Then, within each size group, a further breakout is made on the basis of orientation. Value, core, and growth stock groupings within each size category are defined by establishing an aggressiveness measure. Aggressiveness is a proprietary measure that combines dividend yield and price/earnings ratio. The top 40% (by count) of stocks in aggressiveness are designated as "growth," while the bottom 40% are called "value," with the 20% in the middle falling into "core."

For further details, please visit [Surz Styles](#) .



Appendix 2: MARKET HISTORY FOR YEARS ENDING DECEMBER, 2007

	Stocks			Bonds			T-bills		CPI	
	RETURN	STNDEV	SHARPE	RETURN	STNDEV	SHARPE	RETURN	STNDEV	RETURN	STNDEV
2007(1 Year)	5.55	9.66	.08	2.89	5.47	-.28	4.77	.17	3.76	1.03
1926-2007(82 YRS)	10.37	19.08	.33	6.11	6.91	.33	3.77	.88	3.09	1.84
1926-1966(41 YRS)	9.88	22.49	.36	4.43	3.98	.69	1.59	.42	1.54	2.27
1967-2007(41 YRS)	10.85	14.94	.31	7.82	8.90	.19	6.01	.78	4.67	1.11
1928-1937(10 YRS)	.02	36.23	-.04	7.59	4.65	1.29	1.34	.49	-1.77	2.54
1938-1947(10 YRS)	9.62	21.18	.44	3.77	2.18	1.62	.21	.06	4.98	2.95
1948-1957(10 YRS)	16.43	13.21	1.10	3.03	5.23	.27	1.61	.21	1.95	1.56
1958-1967(10 YRS)	12.85	11.35	.83	1.86	3.98	-.31	3.15	.30	1.78	.64
1968-1977(10 YRS)	3.60	15.61	-.13	6.07	8.07	.04	5.74	.39	6.24	.97
1978-1987(10 YRS)	15.25	16.96	.32	9.72	13.01	.03	9.22	.80	6.40	1.38
1988-1997(10 YRS)	18.04	12.05	.98	10.17	6.10	.71	5.63	.53	3.46	.62
1998-2007(10 YRS)	5.95	14.81	.15	6.75	6.89	.43	3.70	.49	2.79	1.00
1928-1932(5 YRS)	-12.47	40.71	-.36	4.44	4.46	.42	2.48	.52	-5.42	2.18
1933-1937(5 YRS)	14.29	31.10	.45	10.84	4.71	2.25	.22	.06	2.01	2.43
1938-1942(5 YRS)	4.62	26.75	.17	5.40	2.48	2.15	.05	.05	3.21	2.25
1943-1947(5 YRS)	14.85	13.70	1.05	2.17	1.74	1.02	.37	.03	6.77	3.47
1948-1952(5 YRS)	19.37	13.08	1.37	2.06	2.61	.31	1.25	.10	2.65	2.01
1953-1957(5 YRS)	13.57	13.40	.84	4.01	6.95	.29	1.97	.24	1.27	.91
1958-1962(5 YRS)	13.31	12.80	.83	3.45	3.77	.27	2.40	.24	1.33	.67
1963-1967(5 YRS)	12.38	9.78	.83	.30	4.17	-.83	3.90	.18	2.23	.59
1968-1972(5 YRS)	7.54	13.77	.15	5.85	8.00	.07	5.30	.35	4.61	.56
1973-1977(5 YRS)	-.20	17.30	-.35	6.29	8.21	.01	6.18	.39	7.89	1.09
1978-1982(5 YRS)	14.05	16.07	.18	5.83	15.34	-.30	10.79	.85	9.46	1.38
1983-1987(5 YRS)	16.47	17.94	.46	13.74	10.21	.56	7.67	.48	3.43	.75
1988-1992(5 YRS)	15.88	13.36	.65	12.13	6.33	.82	6.61	.58	4.17	.72
1993-1997(5 YRS)	20.25	10.67	1.41	8.25	5.87	.59	4.66	.29	2.76	.43
1998-2002(5 YRS)	-.55	19.05	-.25	8.29	4.70	.81	4.34	.43	2.51	.69
2003-2007(5 YRS)	12.87	8.61	1.10	5.22	8.56	.24	3.06	.49	3.07	1.24



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