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# THE THREAT OF DEFLATION: "THERE BE DRAGONS HERE"

***by***
***Frank A. Fernandez***

# HEDGE FUND UPDATE

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***Judith Chase***

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***by***
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***by***
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### Summary

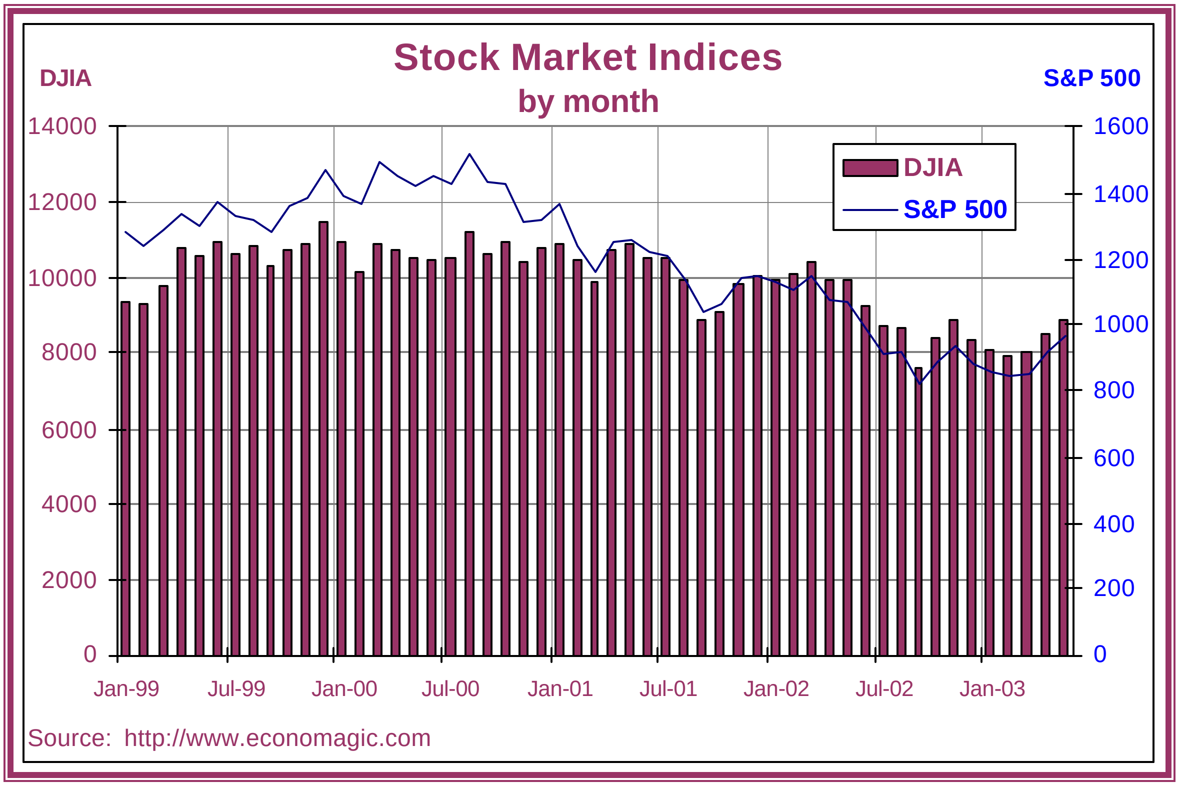
The threat of deflation is real and, should it arrive, could prove dangerous, harming both investors and consumers alike. Unfortunately, we know relatively little about this phenomenon in the U.S. since the last bout of deflation ended with the start of World War II. While we are currently not yet experiencing deflation, it may not be far off. Signs of its approach are evident and increasing. The time to deal with deflation is before it arrives, since it has a momentum of its own, dragging an economy into a damaging spiral that is difficult to emerge from, since deflation reduces the effectiveness of the very policy tools that are used to fight it. This article is an attempt to define the problem in terms that are more easily accessible to the average reader and place it into a context that will assist in increasingly difficult investment decisions.

### Introduction

As May came to a close, U.S. equity prices moved higher, extending a rally from recent lows set on March 11th, and reached the top of the trading range that has contained stock price movements since last summer. In the first week of June, the major stock indexes set 10-month highs and moved, albeit tentatively, above that trading range as investors continue to shrug off a number of concerns that dampened sentiment in the month just ended. Whether or not that "break out," should it occur, is sustainable, and still further whether it would confirm the beginning of a new bull market, will depend in large part whether or not these concerns have substance and whether the fear they engender is realized.

Three issues in particular have received a good deal of attention and anxiety: ***fears of deflation; doubt when economic growth will be strong enough to create jobs; and concerns over the decline in the value of the U.S. dollar,*** particularly vis-à-vis the euro. Generally, these complicated issues are of concern to only a few: policymakers, economists, market analysts and institutional investors. Recently, however, the attention of individual investors has been directed to these topics, complicating their investment decisions. U.S. investors, although accustomed to dealing with inflation, have no experience and little knowledge of deflation or the threat it may or may not pose. In this regard, investors and policymakers are sailing into uncharted territory, and like the maps of ancient mariners who faced unknown perils, this area, where danger may lurk, is marked: "There Be Dragons Here." Of these three concerns, the most serious and the one that is the focus of what follows is deflation. The strength of the recovery and the fate of the dollar, while important issues, are linked to the deflationary threat, and are effectively subordinated to it.

It is always difficult to recognize a major turning point in financial markets. This is particularly true when the duration and amplitude of the market cycle is as pronounced as the current one has been, which deeply embeds expectations of a continuation of past trends. This was true when many investors remained in denial long after the longest bull market in U.S. history ended with the collapse of a speculative bubble. It may be true again, as individual investors are struggling with the decision of whether or not to increase their allocations to stocks after a three-year bear market has shredded their confidence. Further complicating this task is the paradox that while there has been a great deal written and said recently on these topics, much



Stock Market Indices
by month
DJIA
S&P 500
14000
12000
10000
8000
6000
4000
2000
0
1600
1400
1200
1000
800
600
400
200
0
Jan-99
Jul-99
Jan-00
Jul-00
Jan-01
Jul-01
Jan-02
Jul-02
Jan-03
Source: http://www.economagic.com


S&P 500 Interesting Levels
RESISTANCE LEVELS
1600
1400
1200
1000
800
600
400
Jan-95
Jan-96
Jan-97
Jan-98
Jan-99
Jan-00
Jan-01
Jan-02
Jan-03
Source: Datastream, Bloomberg, CSFB Estimates

of it appears to be "subtly but significantly off the point,"[1] some of it ill-informed, and most of it incomprehensible to the average investor.[2] In the article that follows we try to shed some light on these seemingly arcane concepts and help investors climb the wall of worry by answering some of the interrelated questions which are arising with increasing frequency.

## The Threat of Deflation

### *What is Deflation?*

Deflation is "a sustained decline in the general level of prices of current goods and services,"[3] or, similarly, "a persistent decline in the average of a set of prices."[4] The distinctions in the wording of definitions are important. First, deflation does *not* refer to asset price deflation – "a sustained fall in the prices of existing stores of value, either real or financial," which "may at times precede, be associated with or even cause downward movements in the general level of goods and services."[5] Second, deflation *does* refer to an *average* of a set of prices, such as the deflator for personal consumption expenditures (PCE), the Consumer Price Index (CPI), or even more specifically, the "core" CPI or a "core" PCE deflator (apparently the Fed's favorite), which excludes food and energy prices.[6] This allows for deflation in one sector (such as communications and information technology goods and services and durable goods) and inflation in another (health care and many personal services) that may only signal changes in relative prices.

### *Is Deflation Present Now?*

No, deflation is not present, at least not in the U.S., although some worrisome signs have appeared. However, *disinflation* – a decline in the rate of inflation – continues and has pushed inflation to very low levels. Inflation, as measured by the CPI, peaked at over 14% in 1980, but by last year had fallen to 2.3%. Although a surge in energy prices in the first four months of this year pushed up the overall index, most of those effects are dissipating. Consumer prices fell 0.3%[7] in April after a 0.3% increase in March, and were 2.2% higher than in April 2002. This largely reflects a 4.6% decline in energy costs last month, reversing a 4.6% increase in March. Excluding food and fuel prices, consumer price inflation is stable, unchanged in the past two months after increases of only 0.1% in January and February and up only 1.5% over the past 12 months. Within roughly equally weighted subsets of the overall index, goods prices are up only 0.8% in the past 12 months (with durable goods prices falling 2.2%), and services are up 3.2%. Although the sectoral dispersion of price changes has increased, price declines in April spread both geographically and into more categories of goods and services.[8]

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[1] Paul Krugman, "Fear of a Quagmire? Why We Should Worry About Deflation." *New York Times*, May 15, 2003, p. A15.

[2] Some critics go further, citing the failure to follow standard procedures in providing analysis, for example: "Technical analysis is so rife with subjective interpretations that it must be regarded as more of a religion, with priests who bewilder the unwashed at high-priced seminars." Victor Niederhoffer and Laurel Kenner, *Practical Speculation*, John Wiley & Sons. For a summary of this and other criticisms of technical analysis, see Philip Coggan, "Technically Flawed: The Long View", *The Financial Times*, June 7/8, 2003, p. W3.

[3] Willem H. Buiter, "Deflation: Prevention and Cure," *NBER Working Paper No. 9623*, National Bureau of Economic Research, April 2003, http://www.nber.org/papers/w9623.

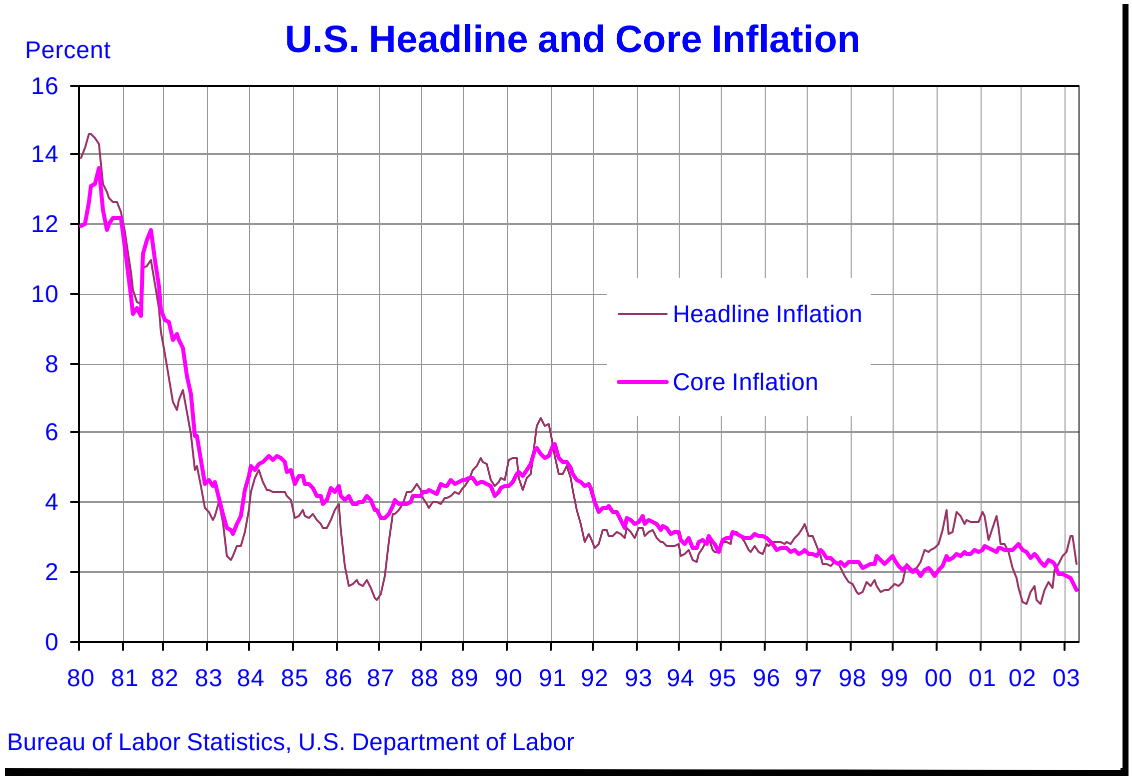
[4] Federal Reserve Bank of Cleveland, *Annual Report 2002*, April 2003, pp.6-13. A brief summary is also available: see June Gates, "Deflation – in Moderation – Is Compatible with a Healthy Economy," Federal Reserve Bank of Cleveland Press Release, May 9, 2002 http://www.clevelandfed.org/CCCA/press/annual02.cfm.

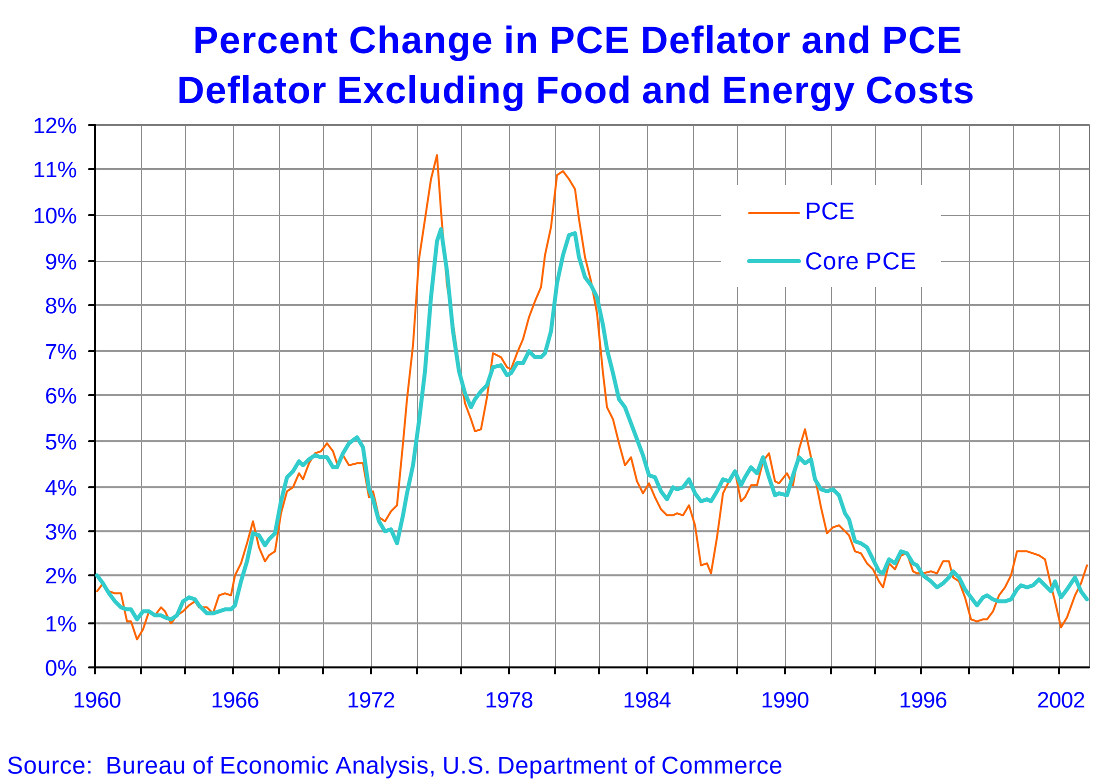
[5] Op.cit. 2, p.2.

[6] Other popular gauges include GDP deflators, in particular, the deflator of personal consumption expenditures (PCE).

[7] CPI-U on a seasonally adjusted basis.

[8] See for example, "Testing the Deflation Zone," Personal Business, *The New York Times*, p. BU9, Sunday June 8, 2003.


U.S. Headline and Core Inflation
Percent
16
14
12
10
8
6
4
2
0
80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03
Headline Inflation
Core Inflation
Bureau of Labor Statistics, U.S. Department of Labor


Percent Change in PCE Deflator and PCE Deflator Excluding Food and Energy Costs
12%
11%
10%
9%
8%
7%
6%
5%
4%
3%
2%
1%
0%
1960 1966 1972 1978 1984 1990 1996 2002
PCE
Core PCE
Source: Bureau of Economic Analysis, U.S. Department of Commerce

### *Why Should I Be Concerned About Deflation?*

This is a good question and one that is not easily answered. The U.S. has not experienced deflation in the past half-century, and it appears unlikely even now. There appears to be adequate fiscal and monetary stimulus to offset weakness in the economy and additional weapons (both conventional and unconventional)[9] remain in policymakers' arsenals, along with a willingness to use them . In addition, import price increases, reflecting the dollar's decline, will to some degree offset some domestic deflationary impulses, granting U.S. producers some badly needed "pricing power." Why then be worried?

On April 30, Federal Reserve Chairman Alan Greenspan raised the threat of deflation. In his appearance before the Joint Economic Committee of Congress on May 21, Mr. Greenspan reiterated his concern, saying that the threat of deflation "though minor, is sufficiently large (and the harm it could do so serious), that it does require very close scrutiny and maybe – maybe – action on the part of the central bank."[10] Just two weeks earlier, the Federal Open Market Committee judged "the probability of an unwelcome substantial fall in inflation over the next few quarters, though minor, exceeds that of a pickup in inflation."[11] On June 4, in a broadcast to the International Monetary Conference in Berlin, he expanded at length on the subject in a question and answer session. The fact that deflationary concerns now weigh more heavily in the Fed's decision-making, and hence in the determination of the level and direction of interest rates and asset prices, is enough of a reason to draw and hold investors' attention. That the Fed is repeating this message with increased frequency and detail is still greater reason to focus on this issue.

### *Why Is Deflation So Dangerous?*

Well it isn't always dangerous, just in its more pernicious forms. The worst episode of deflation is, of course, the Great Depression. Between 1929 and 1933, prices fell 23.5% (and nominal wages by a comparable amount) and real GDP dropped 39.1%,[12] accompanied by pervasive unemployment. Output and prices remained below 1929 levels for the remainder of the decade. Deflation is not only costly but difficult to reverse once it becomes embedded in expectations. It also limits the effectiveness of the very policy tools used to combat it.

There are, however, examples of countries experiencing growth during productivity booms, despite mild deflation. For example, "...from 1880 to 1896, the wholesale price level in the United States fell 30%. Far from this being a time of gloom and doom, this deflationary episode was a period of relative prosperity: Real income increased 85%, an average of nearly 5% each year."[13] A productivity boom – a rapid pace of invention and innovation and dissemination of these advances contributing to sustained productivity growth - and real income gains are only some of

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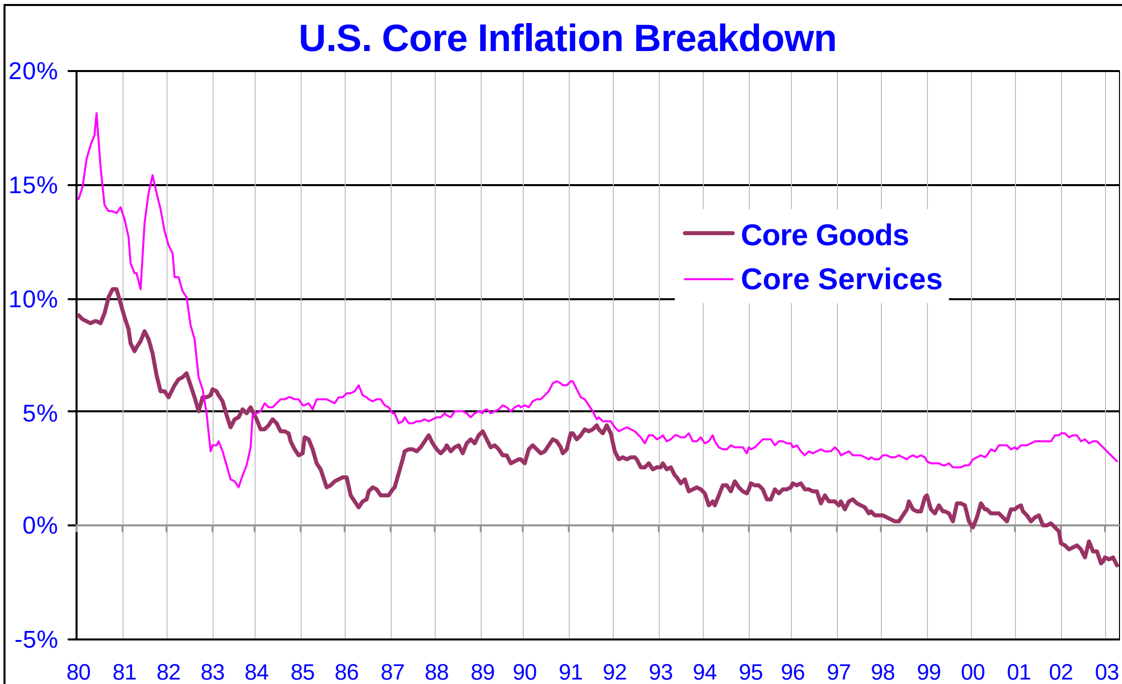
[9] "Conventional instruments include open market purchases of government securities and monetary financing of government deficits caused by expansionary fiscal measures. Unconventional monetary and fiscal measures include open market purchases of private and foreign securities, negative nominal interest rates (through a "carry tax" on currency) and temporary tax measures aimed at shifting private consumption from the future to the present by tilting the intertemporal terms of trade (such as a cut in VAT today coupled to the credible commitment of a VAT increase in the future)." Buiter, W.H., *NBER Working Paper No.9623*, April 2003.

[10] Greg Ip, "Greenspan Says Deflation Risk is Low," *Wall Street Journal*, May 22, 2003, p. A2.

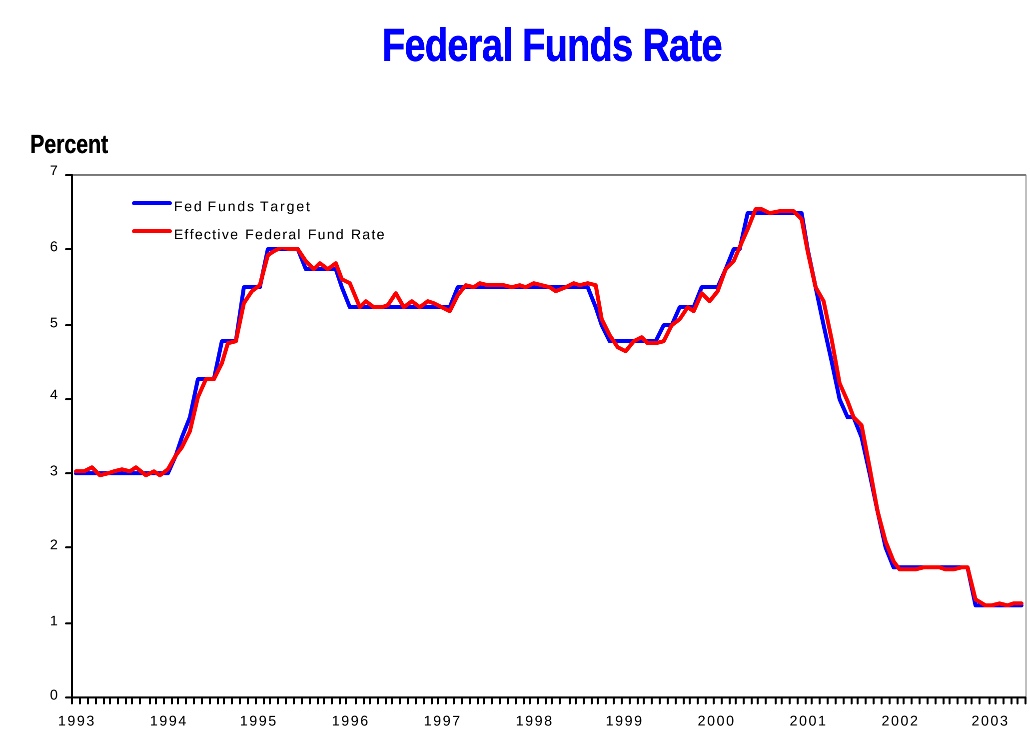
[11] The Federal Reserve Board, Testimony of Chairman Alan Greenspan Before the Joint Economic Committee, U.S. Congress, The Economic Outlook, May 21, 2003, Http://www.federalreserve.gov/board/testimony/2003.

[12] Milton Friedman and Anna Jacobson Schwartz, *A Monetary History of the United States 1867-1960*, Princeton University Press, 1963.

[13] Federal Reserve Bank of Cleveland, Economic Trends, May 2003, "The Economy in Perspective: Too Much of a Little Thing," p. 1. http://www.clevelandfed.org.




Core Goods (commodities excluding food and energy commodities)
Core Services (services excluding energy services)
Source: http://www.economagic.com




***Source: Federal Reserve***

the characteristics that the period at the end of the 19th Century shares with our current period, and which sets both periods apart from the era of the Great Depression.[14]

Recently the Federal Reserve Bank of Cleveland wrote that, "…deflation in itself is not the culprit it is often made out to be. Deflation often is associated with economic problems that are not, in fact, intrinsic to deflation. Small periodic deflations are not necessarily problematic, and deflation can be compatible with a healthy economy. Rather, monetary economies seem capable of breaking down when interest rates approach zero, rendering money almost indistinguishable from interest-bearing assets."[15] This condition is referred to as the "liquidity trap." Today, Japan, which has been mired in an economic slump for a decade, and where prices have been falling for the past five years, appears to be stuck in a liquidity trap, while China has seen real growth of 6%-8% for several years despite deflation.[16] However, these comparisons, while illuminating, don't tell us nearly enough that is applicable to what the U.S. economy faces today. Both economies are structurally very different than that of the U.S., particularly with respect to the financial sector, while the more positive experience of China may prove illusory as there is evidence the economy faces overheating in the face of large imbalances.

Deflation can have a number of causes, and many times more than one. Deflation that is due to "improvements in productivity, advances in technology, changes in the policy environment (e.g. deregulation) or a drop in the price of major inputs (e.g., oil)" is normally benign.[17] Clearly some of the benign causes of deflation are at work in the U.S. today. Deflation can also be caused by excess capacity or weak demand, which generally do not have benign consequences. Deflation is dangerous when it is "corrosive", which can be taken to mean when its negative impact on output and incomes becomes self-sustaining, or worse yet, self-reinforcing. One can see the potentially corrosive nature of deflation in the ways it affects economic performance. Deflation raises the ***real*** costs of servicing debt and leads to higher bankruptcy rates and debt defaults that further the downward spiral.[18] This is another reason why all individuals, not just

[14] In our July 2002 SIA *Research Reports*, "Near Term Market Outlook," we noted that, "In 1875, Anthony Trollope published *The Way We Live Now*, which chronicled the rise and fall of the fictional railway speculator Augustus Melmotte. The story was set in the historical period surrounding the Panic of 1873, one of the early speculative boom-and-bust cycles that modern financial markets endured. The striking similarities between Trollope's fictional tale, as well as the actual inflation and deflation of that speculative bubble a century and a quarter ago, and the present period was also noted by Amity Shales, 'The Good Things About The Way We Lived Then,' *Financial Times*, July 16, 2002, p.11." Shared characteristics of rapid structural economic change of both an evolution and revolutionary nature, and moral and corporate governance failures appear to exist between these two periods a century apart. Both the Bank for International Settlements (1999) and Sylla (1991) "...suggest that nineteenth century U.S. evidence offers further examples of widespread speculative excesses apparently triggering a cycle of boom and bust that produced not only financial disturbances (or "panics") but full blown economic depression."

[15] Op. cit. 3, p. 7.

[16] "We are now in a new phase. There will have to be adjustments and the renminbi may have to be revalued," James Kynge, *Financial Times*, Comment and Analysis, June 5, 2003, p.13. The quote attributed to a senior state banker underscores China's dilemma: "China has more money than its banks and companies can profitably invest," but fears a rise in unemployment. Real growth in China was 9.9% in 1Q 2003, but loan growth was double that pace, which in turn was exceeded by growth in bank deposits and money. At end-2002, investment stood at 42% of GDP ("reminiscent of several southeast Asian countries before the 1997 crisis") before investment in fixed assets surged 27.8% in the first quarter of this year. Unchecked, an investment bubble could form and contemplated measures to deflate it include cutting export tax rebates (currently 15%-17%) or currency revaluation. Other current examples of deflation include Argentina, Hong Kong, Singapore and Taiwan, and there are signs of deflation spreading in other dollar-linked areas, such as in parts of Latin America. Cross-county experience with deflation from an historical and modern perspective is available from a number of sources; see for example Richard C.K Burdekin and Pierre L. Siklos, *Fears of Deflation and Policy Responses Then and Now*, web posting February 2003. http://www.wlu.ca/~wwwsbe/faculty/psiklos/deflation.htm .

[17] Douglas H. Brooks and Pilipinas F. Quising, "Dangers of Deflation", Asian Development Bank, Economic and Research Department Policy Brief Series, No. 12, December 2002, p.1.

[18] For more on this "debt deflation mechanism" see Irving Fisher, "The Debt Deflation Theory of Great Depressions," *Econometrica* 1, pp.337-355, October 1933. Fisher described a process or "cumulative mechanism" by which over-

investors, need to understand deflation. Inflation often involves a real transfer of wealth from creditor to debtor, while deflation does the opposite, transferring wealth from debtor to creditor. Household debt as a percentage of personal income is at record levels currently, but the debt service burden (interest, fees and amortization payments on personal debt as a percent of income) is low, but would increase in real terms if prices decline and / or real interest rates.

Another way is through expectations: if declining prices are expected to continue in the future, consumers will delay purchases or forgo them altogether, saving more. This would reduce demand placing further downward pressure on prices. Severe declines in asset prices can also produce this effect, through the loss of wealth retarding spending or through a loss of collateral value impairing the ability of firms to borrow and expand production.[19] Deflationary effects can be also be intensified by policy failures.

### *What Is A Liquidity Trap?*

A liquidity trap refers to times when nominal interest rates are near zero, inflation is possibly negative and monetary policy is incapable of stimulating aggregate demand, in other words, of *reflating* the economy. Nominal interest rates have two parts: a real rate of return and an adjustment for the expected rate of change in prices (a negative component in the case of deflation). When economic activity is moribund or declining, the real interest rate – or the real rate of return to capital – can fall to very low levels due to a number of reasons (for example, substantial unutilized capacity and stagnant demand). If the expected rate of deflation is equal to or greater than the real rate of return, nominal interest rates will fall to zero, but there a lower bound exists.[20] If nominal interest rates were negative, there would be little, if any, reason to hold interest-bearing assets, because a better return (zero) would be obtained by holding cash. Once the lower bound is reached, interest rates cease to be an effective tool of monetary policy. They can only move in one direction – up - which would repress activity (and prices) further. Increasing the money supply might also prove to be ineffective in a deflationary environment, since it would be difficult to get banks to inject these funds into the economy where they might do some good. Banks would simply hold the money as reserves, earning the same (or better) risk adjusted rate as they would on a commercial loan.

### *What Does This Mean For Interest Rates?*

Short-term interest rates, already at or near long term lows, are poised to go lower and will likely stay low for some time to come. The Fed has cut rates 12 consecutive times, by a cumula-

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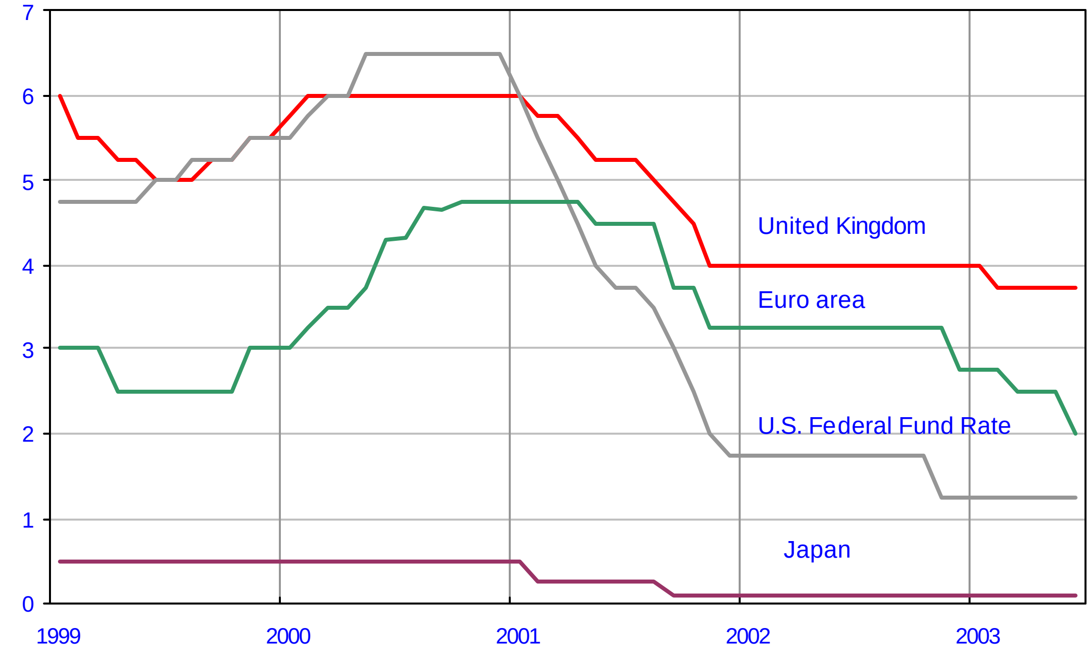
indebtedness and deflation could generate a depression. "When overconfidence leads to overindebtedness private agents (firms and/or households) decide to liquidate debts: (Step 1) Debt liquidation leads to distress selling and to (Step 2) contraction of deposit currency, as bank loans are paid off, and to a slowing down of velocity of circulation, precipitated by distress selling (which causes) (Step 3) a fall in the level of prices...Assuming ...that this fall of prices is not interfered with by reflation or otherwise, there must be (Step 4) a still greater fall in the net worths of business..and (Step 5) a like fall in profits, which..leads the concerns which are running at a loss to make (Step 6) a reduction in output, in trade and in employment of labor. These losses, bankruptcies, and unemployment, lead to (Step 7) pessimism and loss of confidence, which in turn lead to (Step 8) hoarding and slowing down still more the velocity of circulation." See also Martin Feldstein, "Deflation," *Speech before the BIS Central Bankers' Dinner in Mexico City*, November 11, 2002, and Department de Etudes Economiques et Bancaires, "Deflation: an ounce of prevention," *Perspectives*, Credit Agricole.

[19] This has been termed a "collateral trap" by Bordo and Olivier, who demonstrated it in the case of Japan. "Following an asset market crash the economy may fall into a collateral trap where firms cannot increase labor and output because they are collateral constrained." See Michael Bordo and Jeanne Olivier, "Asset Price, Reversals, Economic Instability, and Monetary Policy," Paper presented at the Annual Meeting of the American Financial and Monetary Policy Assn., New Orleans, Louisiana, January 2001. See also Alexandros Kontonikas and Alberto Montagnoli, "Optimal Monetary Policy with Wealth Effects," Brunel University, Uxbridge, Middlesex, 2002.

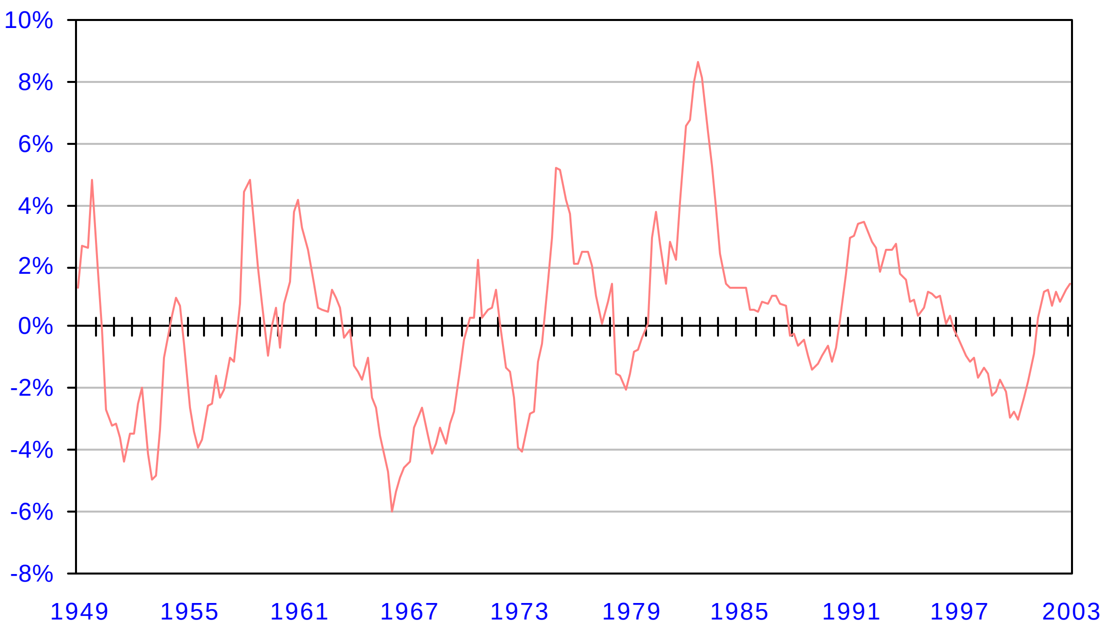
[20] As was noted earlier, negative interest rates of a sort can exist in an instance where a "carry tax" is applied to cash balances held beyond some minimum length of time.

## Official Intervention Interest Rates




Source: Banco De Espana/Economic Bulletin

## Output Gap as % of Real GDP




Source: Bureau of Economic Analysis, U.S. Department of Commerce
Output Gap = potential output minus actual output

tive amount of 525 basis points, and brought rates to the lowest level in more than 40 years. The Fed funds futures rate, which reflects market expectations, was assigning a 60% probability that the Fed will cut this key rate 25 basis points (a quarter of a percentage point) when it next meets on June 24-25. After Mr. Greenspan's statement on May 21 that probability rose to 80%, before being fully priced into the market in the following week. Short term rates could move as much as 50 basis points lower, to 0.75%, (the market is currently assigning a 30% probability to such a move at end-June) and are likely to before the Fed is done, but moving any lower might be counterproductive or even dangerous.[21]

It has been seven decades since Keynes suggested that the zero bound to interest rates might prevent monetary policy from being sufficiently effective to restore normal output and employment, and a prodigious amount of literature has been spawned since then on the subject. This state is stable, difficult to emerge from, and one could enter into it as an unexpected consequence of seemingly correct, active monetary policy, truly a "trap."[22] Taylor's seminal work ten years ago established that responding to inflation with more than one-to-one increase in interest rates is stabilizing and proposed rules to guide setting interest rates based on the differences between current and targeted inflation and an "output gap" (essentially potential output of the economy minus current output).[23] Currently, the output gap is still negative in each of the G-7 countries (which include the U.S.), indicating excess capacity given weak demand, which is exerting downward pressure on prices. These interest rate rules, Taylor rules,[24] are a useful guide for setting policy and a "large literature" has emerged on the subject, some that suggest that it might be perilous to pursue interest rate cuts too far at very low inflation rates. "There is little evidence that pushing inflation below, say 3% will raise growth. Indeed, there is plenty of academic support for the view that a little bit of inflation is better for growth than none at all…A study by the IMF (earlier this year) concludes that…the risk of interest rates hitting zero and deflation setting in rises markedly once an inflation target is set below 2%. This suggests that the mid-point of any target should be above 2%. The ECB regards 2% as its ceiling."[25] In the case of both the ECB and the U.S., the core inflation rate[26] is below that level and expected to go lower.

The Fed is also weighing the "desirability of inflation targeting and the setting of explicit, transparent goals for monetary policy,"[27] while putting "very significant resources in trying to un-

[21] See for example Paul McCulley, *Fed Focus*, "My Best Shot," Pacific Investment Management Co., June 2003. http://www.pimco.com/ca/bonds_commentary_fed_focus. Or "Could an Active Monetary Policy Create a Liquidity Trap?" Centre for Economic Policy Research, http://www.cepr.org/pubs/Bulletin/o75/Monetary_policy.htm.

[22] Jess Benhabeb, Stephanie Schmitt-Grohe and Martin Uribe "The Perils of Taylor Rules," *Journal of Economic Theory* 96, pp. 40-69, 2001. http://www.econ.upenn.edu/~uribe/perils.pdf.

[23] John B. Taylor, "Discretion Versus Policy Rules in Practice," *Carnegie-Rochester Conference Series on Public Policy, No. 39*, pp. 195-214, 1993. See also John B. Taylor, *Monetary Policy Rules*, University of Chicago Press for NBER, Chicago, 1999.

[24] A simple Taylor Rule could be stated as: $r = r^* + p^* + a(p-p^*) + b(x)$, where r is the nominal interest rate that the rule defines; $r^*$ is the equilibrium real interest rate; $p^*$ is the target inflation rate; p is the current inflation rate; and x is the output gap, defined as current output minus potential output. The weights assigned to the inflation gap and the output gap are "a" and "b", respectively and monetary policy is defined as active if a>1 or passive if a < 1.

[25] "The joy of inflation: Central banks have beaten inflation – but it may be too low, not too high," *The Economist*, p. 11, May 17th, 2003.

[26] The PCE deflator excluding energy and food costs.

[27] Ibid. See for example, Federal Reserve Governor Ben Bernanke's speech, "A Perspective on Inflation Targeting", presented at the Annual Washington Policy Conference of the National Association of Business Economist, Washington, D.C., March 25, 2003. http://www.federalreserve.gov/boarddocs/speeches/20003/20030325/default.htm. On June 1, in Tokyo, Mr. Bernancke said, "There is no immediate threat of deflation in the U.S. economy. The concern is that inflation may become uncomfortably low." He added "It's an issue of making sure that the inflation rate stays within an appropriate range." See "Fed governor sees no deflation threat: says he sees need to watch for slowing inflation," *CNNmoney*. http://money.cnn.com/2003/06.

derstand, without actually seeing it happen, what this phenomenon (deflation) is all about."[28] While the Fed might not begin setting explicit targets for actual inflation, clearly they have some implicit range in mind for inflation expectations.[29] If the target range is set at or above current levels for inflation it would spell the end of the current "easing" cycle is near and increased reliance on means other than interest rates to stimulate the economy.

There is also the argument to save that "last bullet". As long as the Fed still appears to be able cut rates further, it has not yet signaled the end to the current bull market in bonds, with an attendant potentially disruptive portfolio reallocation. For example, there is a risk that additional cuts could push money market mutual fund (MMMF) returns into negative territory, as "the yield on Treasury bills and commercial paper they hold wouldn't be high enough to cover the fund's fees."[30] Federal Reserve officials appear, from their statements, to be sufficiently concerned about the threat of deflation and the danger of falling into a liquidity trap that it is unlikely that any further interest rate cuts beyond that level would be forthcoming only begrudgingly and in dire circumstances.

Fortunately cutting rates beyond that point probably won't be necessary, given the amount of recent and expected stimulus already available and the authorities' apparent success in "jawboning," or ease in altering expectations. The impact of Mr. Greenspan's recent statements, which produced a noticeable flattening of the yield curve in the past week, also lifted stock prices,[31] no mean feat. The Fed, which apparently plans to cut rates and leave them low for some time, sees signs of a "quickening" of economic activity and fosters expectations that inflation will neither accelerate nor decelerate in the near term. In saying so, it lifted stock and bond prices at the same time, a rare event, and in doing so, improved its chances of preventing deflation as a result of the increased transparency. William Safire correctly observed that, "If we should move from unwelcome *disinflation* to pernicious *deflation*, the hopeful term to keep an eye out for is invigorating *reflation*.[32]

### *If The Risk of Deflation In The U.S. Is a "low probability event" as Mr. Greenspan Says, Why All The Attention To It Now?*

There are a number of reasons why this comes up now. As we mentioned earlier, although the probability of deflation occurring is low, the damage it could do should it occur is enough to warrant our attention. Given that Germany might soon be experiencing deflation, joining Japan in that unwelcome state, and that the U.S. might soon be following suit, the issue is not just academic. The Fed is trying to encourage a "dialogue" on the issue since we know very little about it. It has been so long since we have had experience with anything but inflation and so many structural changes have occurred since the last bout of deflation more than five decades ago, that the historical record is of little help and we face largely unknown perils.[33] The study of deflation, as well as its prevention and cure, will remain high on the agenda for central bankers for the immediate future, as it has since last year.

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[28] Op. cit. 6, p. A10.

[29] The Fed's apparent favorite measure of core inflation eased in April to just a 1.3 percent annual rate – its slowest clip since the mid-1960's, excluding a few errant months.

[30] Ibid.

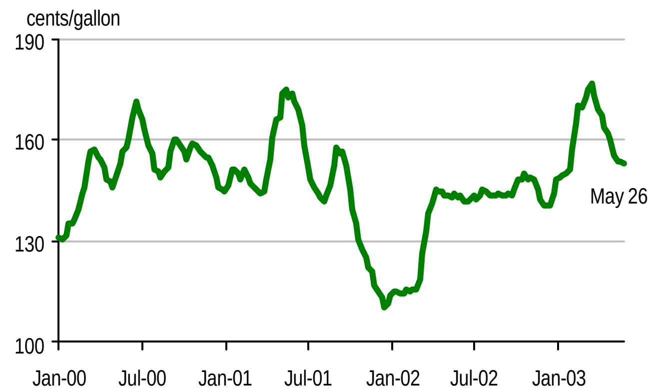
[31] See David A. Rosenberg, "View From the Desk: Bonds & Stocks…It's All About the Fed," *The Market Economist*, May 30, 2003, Merrill Lynch Global Securities Research & Economics Group, Economics Dept.

[32] William Safire, On Language, "Money talks: Are we deflating the color of moolah?" *New York Times Magazine*, June 8, 2003, p. 25.

[33] Alan Ruskin, "Deflation holds unknown perils for the Fed," *Financial Times*, June 9, 2003, p. 15.

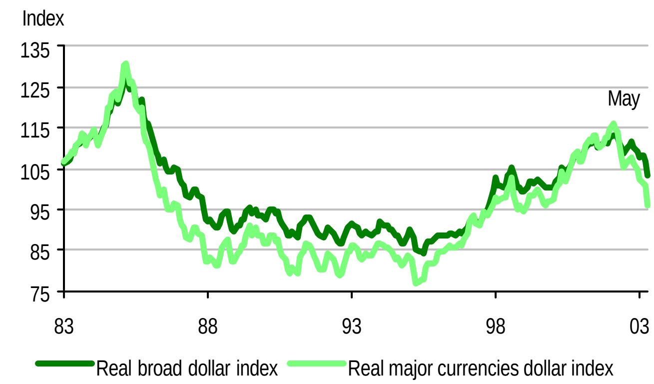
# Six Drivers of Moderate Economic Expansion

**Lower gasoline prices lessen "energy" squeeze on budgets.**



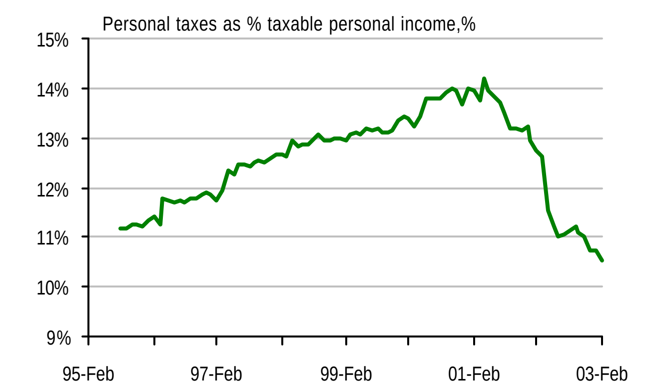

Source: Department of Energy

**A lower dollar boosts subsequent U.S. foreign market shares.**



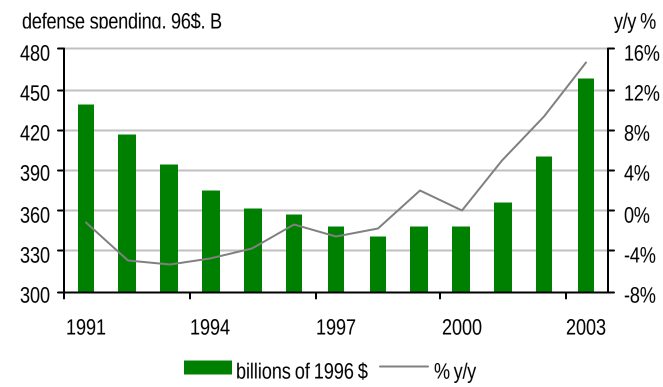

Source: Federal Reserve Board

**Federal income tax rates will fall somewhat more.**



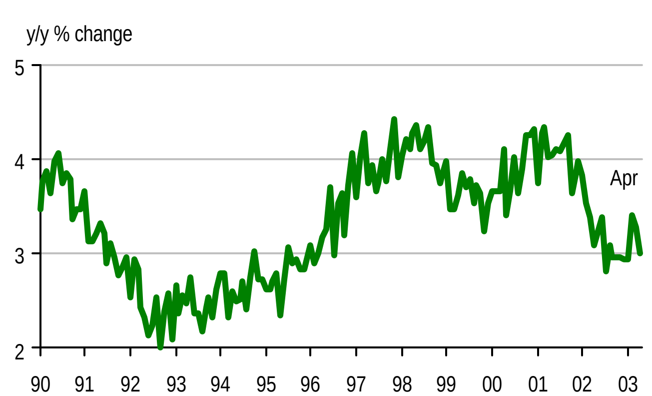

Note: Taxable income excludes transfer payments other than jobless benefits.
Source: U.S. Treasury, Commerce Department and UBS Warburg LLC

**Defense spending will be booming.**



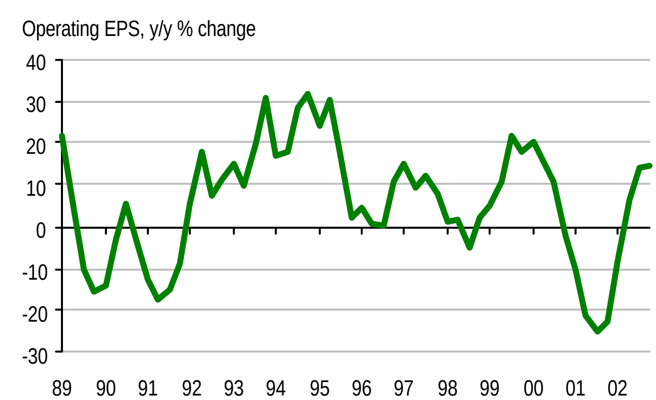

Source: Bureau of Economic Analysis and UBS Warburg LLC

**Rising average hourly earnings boost household incomes.**




Source: Bureau of Labor Statistics

**Rising profits enhance business purchasing power.**




Source: Standard and Poors and UBS Warburg LLC

Page reprinted courtesy of UBS Warburg (*Global Economic & Strategy Research: US Economic Perspectives*, June 6, 2003, p. 6.

## Prospects for Growth

### *When Will The U.S. Economy Turn Around?*

It may be happening right now, although some of the signs are conflicting. If a reliable monthly indicator of real GDP growth were readily available for the U.S., it would likely show that growth was effectively zero in April, but there are indications that the economy has stabilized and a "fairly marked turnaround"[34] occurred in May and appears to be "quickening" in the near term, although that "acceleration has not yet occurred." Growth for the current quarter as a whole, April through June, is expected to be moderate, meaning 2% or slightly less, before accelerating to a range of 2.5% to 3.5% in the last half of this year. There is a fair degree of confidence in that forecast given the amount of monetary and fiscal stimulus that still has to work its way through the economy. It is important within the context of deflation, to obtain a growth rate of 3.5% or higher, since many economists estimate that this is what is required to close the negative output gap, which would engage excess capacity, spur job growth and remove this source of deflationary pressures.

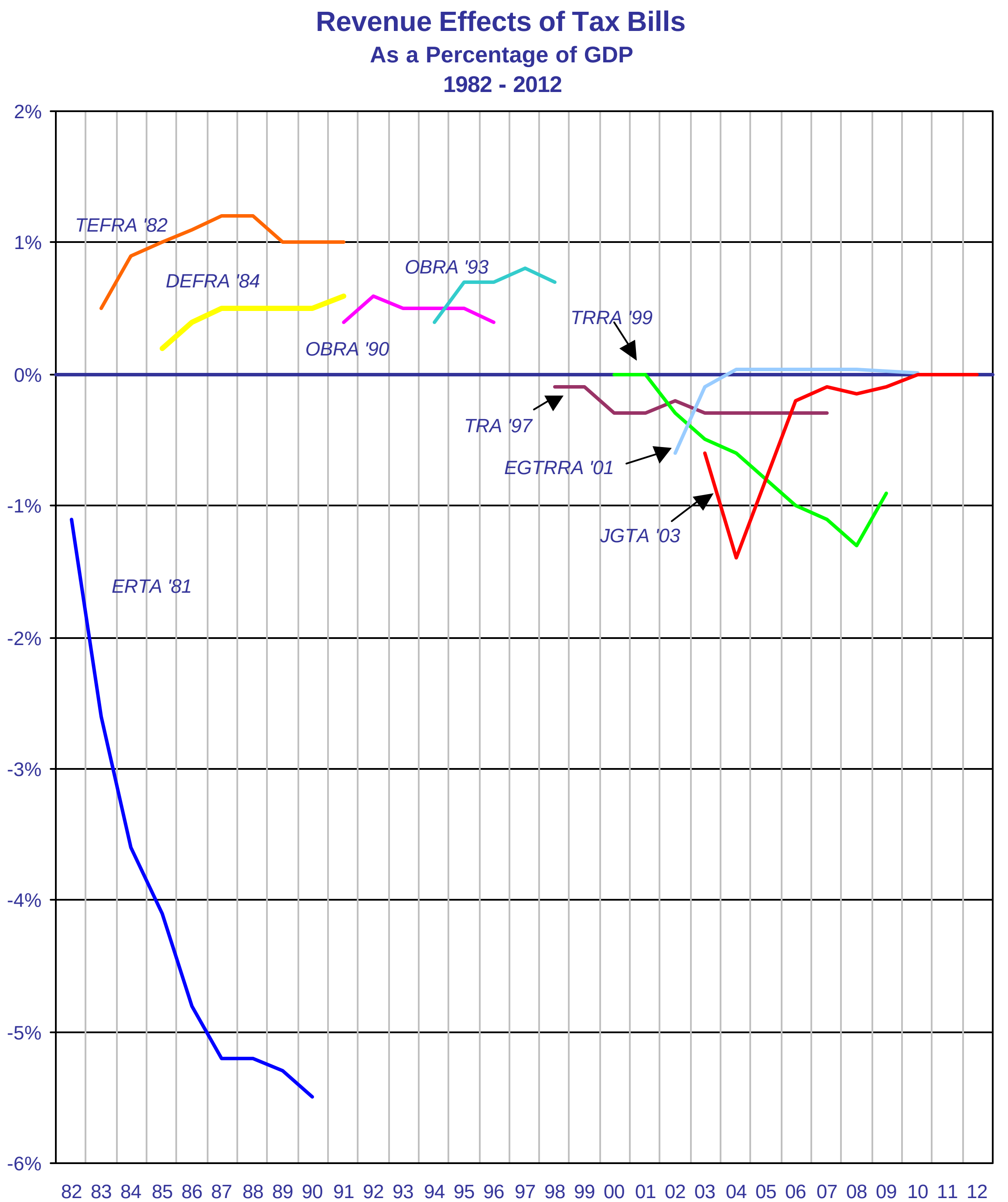
### *If The Economy Is Recovering, Why Are Jobs Still Being Lost?*

The unemployment rate rose to 6.1% in May from 6.0% in April. The economy has lost over 2.4 million jobs, 1.9% of the total, since February 2001. This is the longest period without job growth since the period before World War II, although periods of similar length, 1956-58 and 1980-83, produced larger job losses relative to the size of the work force. Recently revised data shows that job losses thus far in 2003, at 114,000, were less severe than originally reported. The overall pace of layoffs has slowed, with government cuts continuing, and a small number of net hires by private companies have been appearing in the past two months, led by construction and accompanied by an increase in temporary workers, indicating unemployment may be stabilizing.

Although growth has been positive in each of the last four quarters, it has been relatively slow: too slow to generate the need to add workers. Employers, facing slack demand, unused capacity, increasingly productive workers and declining prices for their products, are still under pressure to maintain or expand profits. They appear to be doing so, but largely through cuts in costs, including labor costs, in the absence of stronger "top line" (total revenue) growth. While real wage growth shows a slight decline, benefit costs are still rising at about a 4% rate. In addition, the average workweek was unchanged in May at 33.7 hours, matching the lowest level since records began in 1964, and employers would be expected to increase this number before looking for new hires. As a result, labor markets remain very weak and unemployment, a "lagging indicator," might well move higher before the economy, in net terms, starts adding jobs.

The lag might be longer this time than in the recent past since there is both a structural as well as a cyclical component to unemployment and because continued gains in productivity in selected industries will allow firms to meet the modest increase in demand that is expected while still reducing total employment and employment costs. Some analysts believe we would need to see growth of 3.5% or higher before unemployment would stabilize and decline, an event that may well be delayed until the end of this year or early next year. Although coincident indicators are not yet signaling a convincing upturn in activity, leading indicators paint a more hopeful picture.

[34] Greenspan's statement, June 3, 2003



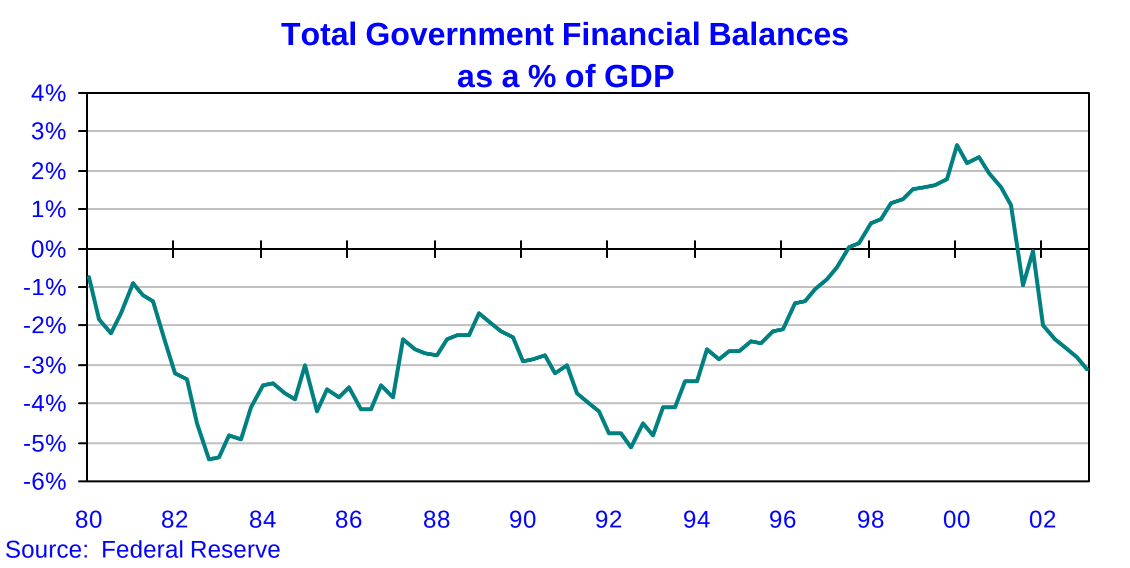

Note: Minus sign indicates a tax cut, positive sign a tax increase.

| | | |
|---|---|---|
| **ERTA '81** | = | Economic Recovery Tax Act of 1981 |
| **TEFRA '82** | = | Tax Equity and Fiscal Responsibility Act of 1982 |
| **DEFRA '84** | = | Deficit Reduction Act of 1984 |
| **OBRA '90** | = | Omnibus Budget Reconciliation Act of 1990 |
| **OBRA '93** | = | Omnibus Budget Reconciliation Act of 1993 |
| **TRA '97** | = | Taxpayer Relief Act of 1997 |
| **TRRA '99** | = | Taxpayer Refund and Relief Act of 1999 |
| **EGTRRA '01** | = | Economic Growth and Tax Relief Reconciliation Act of 2001 |
| **JGTA '03** | = | Jobs and Growth Tax Act of 2003 |

### *What Is "Quickening" The Pace of Economic Activity?*

In part, the upturn in May represented the lifting of uncertainty, which depressed activity in April.[35] Relief that the period of major engagements in Iraq proved to be both briefer and more benign than most expectations and a reversal of the sharp jump in energy costs, boosted growth and equity prices in May. Investment plans deferred by the war resumed and consumers' attention moved away from the media coverage of the war and towards proposed tax cuts. Sentiment of both groups improved sharply after recent dips and was reflected in the increased activity. Aggressive monetary easing, as discussed above, continues to drive a strong housing sector and the most recent decline in mortgage rates, should prompt another wave of refinancing, home sales and attendant extraction of equity from homes, although not as strong as earlier waves.[36] Household debt rose 10% s.a.a.r. during 1Q 2003, driven by an 11.6% increase in mortgage debt. Mortgage debt, now at $6.2 trillion is up 25% in two years, and real estate values ($13.9 trillion) although still rising; it is at a lesser, and slowing pace. "As a result, owners' equity, although rising in dollar terms, has fallen to 55.2% of the share of the underlying value of the real estate, an all-time low and down almost two percentage points in the last year."[37]

There is also reason to believe that the recent tax cuts have already begun to affect spending and investing decisions. The most conventional instruments available to reflate the economy are open market purchases of government securities and monetary financing of government deficits caused by expansionary fiscal measures. Both appear to be at work. The fiscal package is expected to add only about 0.3 to 0.4 of a percentage point to the real rate of growth this year, largely driven by the individual provisions of the package[38] which will drive consumer spending, but substantially more in 2004 as the stimulus inherent in the dividend and capital gains tax cuts arrives.




[35] "Assessing Prospects for Economic Growth in the United States," *Remarks by Governor Mark W. Olson Before the Chambers of Commerce of Bloomington, Eden Prairie, and Edina Bloomington, Minnesota*, May 22, 2003, The Federal Reserve Board. Http://www.federalreserve.gov/board/speeches/2003/20030522/defalut.htm.

[36] Maury Harris, Susan Harris and their associates at UBS explore these and other "drivers" of a moderate economic expansion, see *US Economic Perspectives*, May 30, 2003, UBS Warburg LLC.

[37] Greg Ip, "Mortgage Debt Continues to Pile Up: Cash-Driven Borrowing Drives Owner Home Equity to Record-Low Percentages," *Wall Street Journal*, June 6, 2003. P.B2.

[38] These would include the child credit, marriage penalty relief, expansion of the 10% bracket, acceleration of previous planned cuts and the increase in the AMT exception.

The recent decline of the dollar also appears to be providing some stimulus with a number of exporters reporting growth in new orders, some of which appear to be placed in anticipation of further dollar declines and hence higher prices paid by buyers abroad when translated into local currency terms. Which brings us to our last set of questions.

## The Decline of the Dollar

For the last 15 months, since last April, the U.S. dollar has been falling in value against most other currencies. Over this period it is down about 25% against the euro, 15% versus the pound sterling and the Canadian dollar, and about 10% against a trade-weighted basket of the currencies of our major trading partners. Recently, that slide has accelerated and some analysts are suggesting that it still has further to go.

### *Why Has the Dollar Been Declining?*

The short answer is that there are "more sellers than buyers," but that isn't very helpful. Unfortunately, foreign exchange rates, like stock prices, are largely, but not wholly, a "random walk."[39] A somewhat longer answer, but only slightly more helpful, is that the U.S. has been running very large and growing trade deficits in recent years, and it is becoming increasingly problematic to attract the ever increasing amounts (roughly $1.5 billion daily) to pay for these net imports. These dollars return to the U.S. in the form of net inflows of foreign direct investment and foreign portfolio investment (in financial instruments, such as a portfolio of stocks and bonds). Lately, a steadily shrinking proportion of the total capital inflows have gone into direct investment (non-financial assets), which places greater reliance on the continuing attraction to foreigners of our financial markets relative to prospects for financial markets elsewhere.

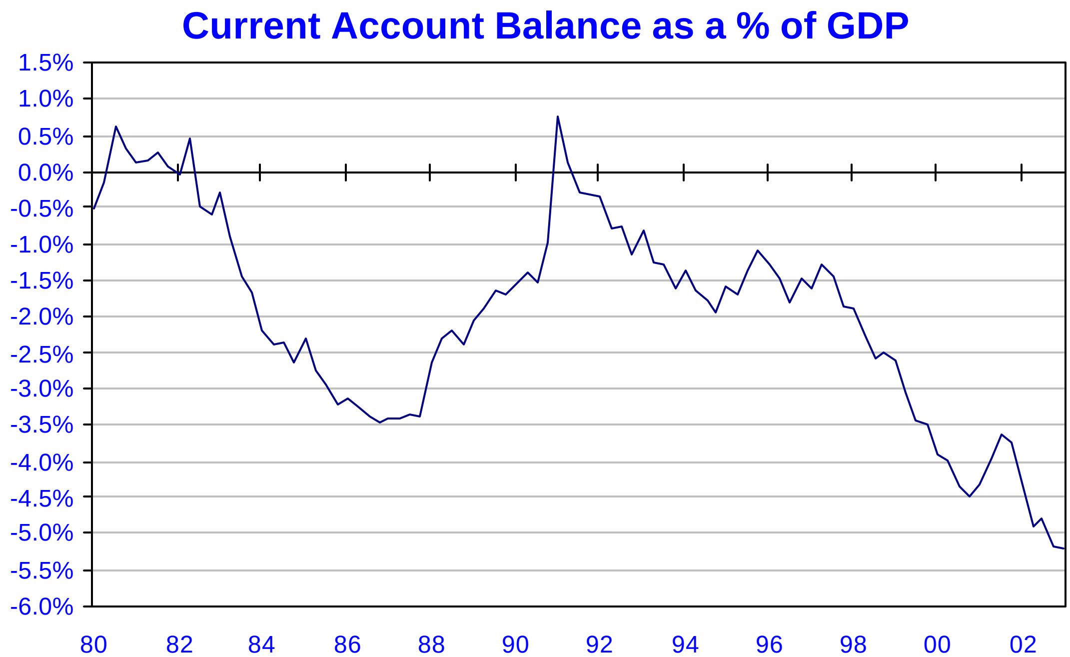
Another reason for the dollar's decline occurring now stems from the view that exchange rates are determined in part by interest rate differentials between the U.S. and other major countries. "A country cannot be open to international capital flows and control both its exchange rate and its interest rate. This is one of the few immutable laws of economics – one that has been validated repeatedly in financial crises…Open financial markets require investors to be indifferent between the purchase of bonds in different countries, so interest rate differentials must equal expected exchange rate changes. If a country's interest rate is relatively high its exchange rate is likely to appreciate."[40] Conversely, if as is the case with the U.S., interest rates are relatively low, the dollar will decline. The recent cut in rates by the ECB provided some easing of pressure on the dollar/euro exchange rate, but that will prove short lived, if, as expected, the Fed matches that 50 basis point cut across the course of this summer. It would appear that in the prioritization of assigning policy instruments to targets, the interest rate tool is being set in a balancing act to ward off deflation and the exchange rate is being allowed to fluctuate.

### *But The U.S Has Been Running A Sizable Trade Deficit For A Number of Years. Why Is It Only Now That the Exchange Rate Adjustment Is Taking Place?*

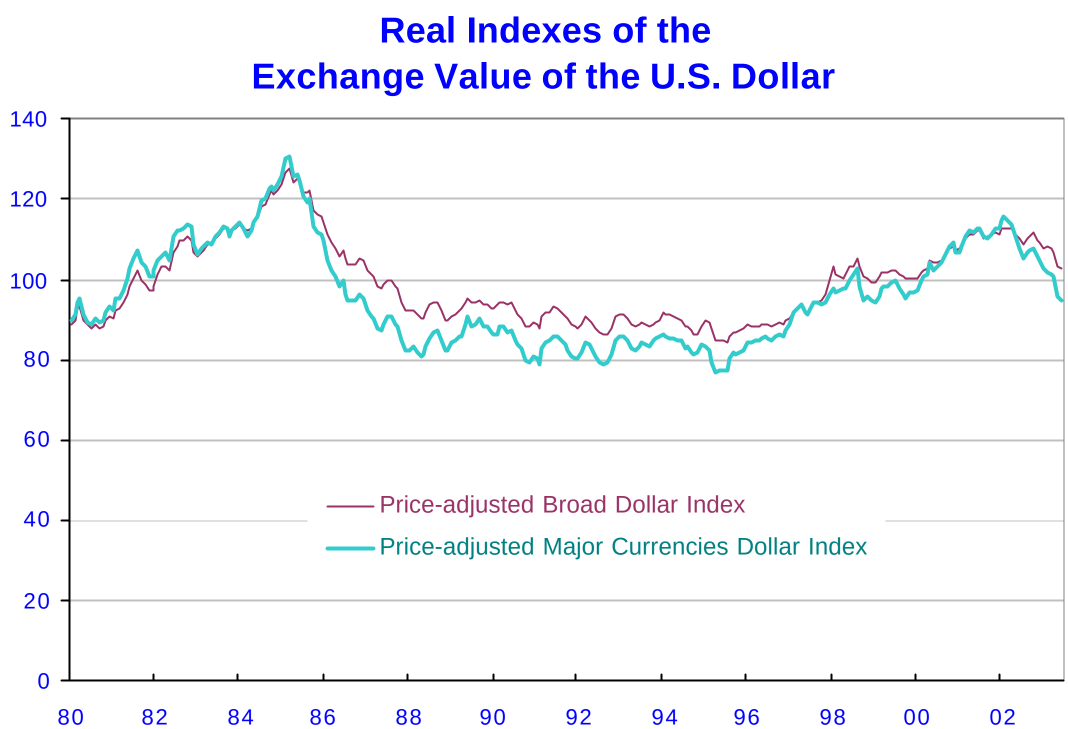
There are a number of reasons. First, the size of the deficit, now approaching 5% of GDP, has only recently moved into territory that evokes concerns, and prior to 2001, the U.S economy was enjoying one of its longest expansions and its longest bull market. U.S. financial (and real) assets looked very good on both an absolute and a relative basis, and so the dollar appreciated.

[39] A "random walk" refers to a theory that share prices move, for whatever reason, without any memory of past movements and that the movements therefore follow no pattern.

[40] Stephen G. Cecchetti, "Exchange Rate Policy: What the Treasury Secretary Should Say About the Dollar," *Occasional Essays on Current Policy Issues*, No. 26, NBER and Ohio State University, May 25, 2003.




Source: Bureau of Economic Analysis, U.S. Department of Commerce




Source: Bureau of Economic Analysis, U.S. Department of Commerce

Second, the recent decline of the dollar came at a time when U.S. equities were in broad retreat, U.S. bond yields moved to historic lows and corporate bankruptcies were rising, and it was apparent that no rapid return to the boom times was at hand, all of which reduced the appeal of investing in U.S. assets. In the recent past, most of foreign portfolio inflows went into U.S. stocks, but since the market begin its long slide 3 years ago, that has changed. In 2002, the net foreign demand for U.S. equities dropped almost 60% and their net purchases of corporate bonds fell 20%. Fortunately, last year net foreign purchases of government and agency bonds and notes increased more than 50% from the year before, but this was still less than the 85% increase noted in 2001 over 2000 levels.

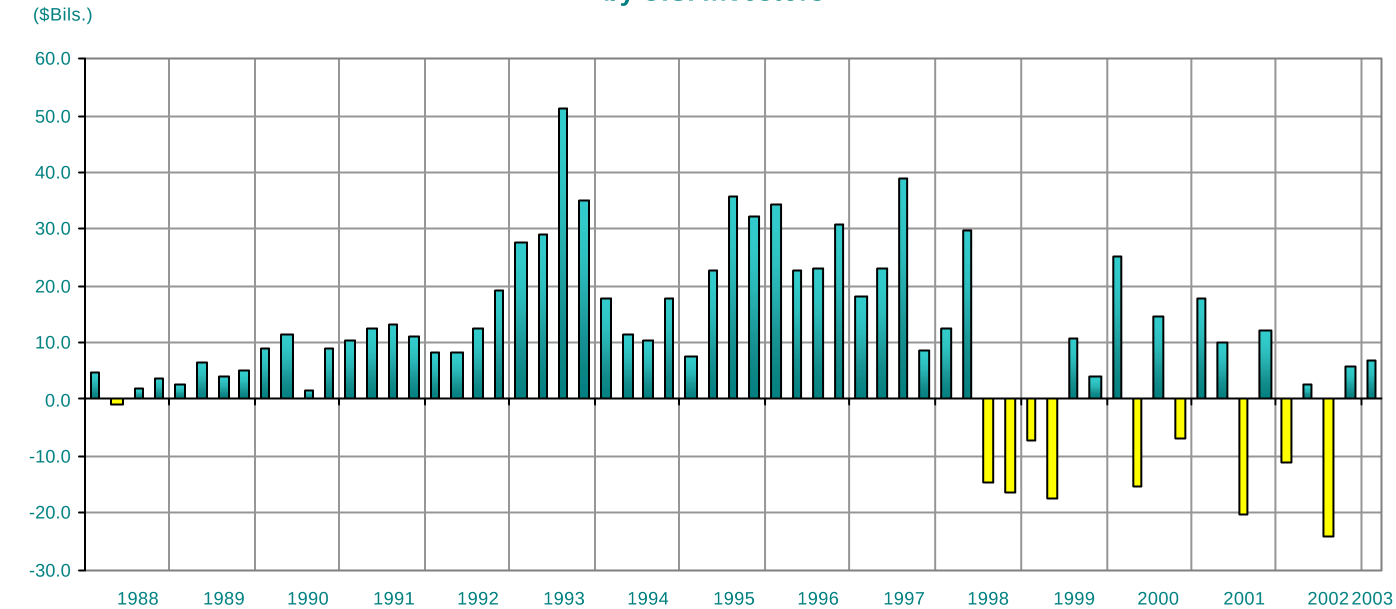
A third reason cited by the OECD[41] which may explain some of the euro's more rapid appreciation, is what is called a "comeback" of cash demand for euros, in particular in Eastern European countries. "In those countries…holders had liquidated their stocks of euro predecessor currencies (in particular, the deutschmark) for dollars and other major non-euro currencies some time ahead of the changeover to the euro currency and had thus contributed to the euro's decline (following its launch). Now this process seems to be reversed and those holders are replenishing their holdings of euros. Another reason is that a number of foreign central banks have followed a similar course with respect to the diversification of official reserve holdings. Recently, reports out of Singapore suggest that the Saudis may have sold as much as $30 billion of dollar holdings, moving into euros. In fact, the recent fall in the value of the dollar vis-à-vis the euro (between March 2002 and the present) roughly mirrors the fall in the value of the euro vis-à-vis the dollar following its launch (the period from the beginning of 1999 until the final quarter of 2000).

There are other reasons as well. Some foreign exchange market analysts point to an erosion of confidence in U.S. government policies. They cite a large and expanding fiscal deficit, a more aggressive foreign policy that may adversely affect both its fiscal position and its trade relationships in the future. Another reason cited was the perception that the U.S. had abandoned its "strong dollar" policy and the feeling that the U.S. administration might be secretly pleased with the decline of the dollar in that it will improve the competitiveness of U.S. exporters, helping eventually to trim the U.S. trade deficit and stimulate domestic output, and that it will boost import prices, adding a slight spur to inflation to partially offset the many deflationary forces at work. We believe this criticism is unjustified. The value of the dollar is set in financial markets, with private sector capital flows dwarfing the resources the official sector can bring to bear in the form of direct intervention. Rhetoric too has little impact. In the meantime, the fall of the dollar supports goals of both combating deflation and "quickening" economic growth, albeit only modestly. Sometimes a little of a bad thing (inflation) is good.

***Frank A. Fernandez***
*Senior Vice President, Chief Economist*
*and Director, Research*

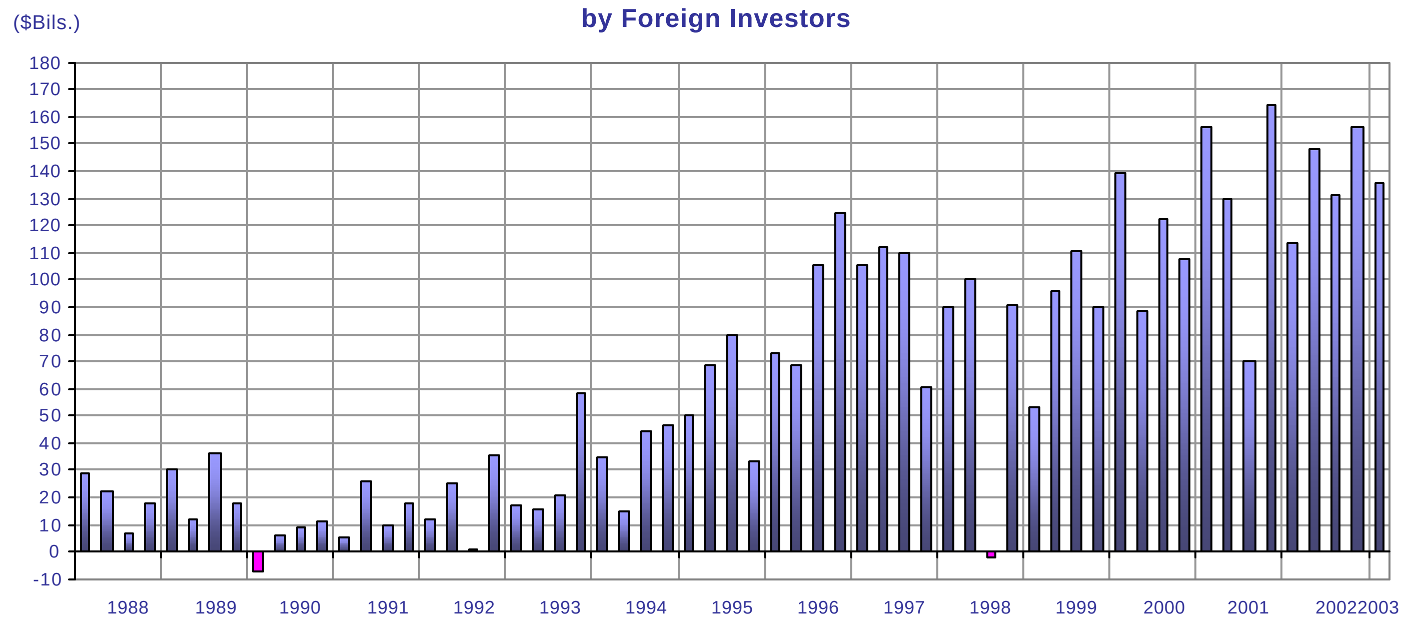
[41] Organization for Economic Cooperation and Development, *Financial Market Trends*, No. 84, March 2003, p. 23.

## Quarterly Net Acquisitions of Foreign Securities by U.S. Investors




Source: U.S. Treasury

## Quarterly Net Acquisitions of U.S. Securities by Foreign Investors




Source: U.S. Treasury

## HEDGE FUND UPDATE

### Recent Activities

Attention and interest surrounding the hedge fund industry culminated in a recent two-day SEC Roundtable on the topic.[1] One week later, SEC Chairman Donaldson testified in front of the House Subcommittee on Capital Markets, Insurance and Government-Sponsored Enterprises about the results of the Roundtable and of the SEC's "fact-finding mission" that was just recently concluded.[2] This "fact-finding mission" involved gathering documents from 67 hedge fund managers that represent $162 billion in assets under management.

The SEC is preparing a report based on their findings, and are planning to release it shortly after the public comment period on general issues relating to hedge funds ends on July 7th. This report is likely to focus on general areas of interest to the SEC, which we can surmise are reflected in their choice of panels for the Roundtable. The topics of these panels included: an overview of fund structures and roles; the marketing of hedge funds and the extent to which disclosure levels and valuation issues lead to adequate transparency; and fund participation in the market, including an assessment of the current regulatory framework in an enforcement context as well as in other contexts.

Chairman Donaldson asked his staff to include in the forthcoming report any recommendations that his staff may have for change in the current regulatory framework. What kinds of issues might be addressed by staff recommendations? In his recent testimony, Donaldson suggests that the staff might choose to explore costs and benefits of adjusting the current accredited investor definition.[3] Donaldson also suggests that the staff will be gauging the amount of information about hedge funds and their managers that is available both to the SEC and to investors in those funds. He also noted, however, that many managers were already voluntarily registering with the SEC in order to position themselves to compete for institutional investors.

One of the circumstances that may affect any recommendations made by SEC staff is the fact that many foreign regulators, in particular regulators from France, Hong Kong, Germany, and Ireland, are currently in the process of easing restrictions on the sale of hedge funds to retail investors.[4] Avoiding disadvantaging either U.S.-based hedge funds or U.S. investors vis-à-vis their respective foreign counterparts is likely to be a top consideration for all decision-makers. In this article, we overview some of the more salient points made on each of the panels held at the SEC Roundtable, and supplement some of those points with other recently-released material on hedge funds.

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[1] For a list of panelists and the transcript of the May 14th and 15th, 2003 SEC Roundtable, please see: http://www.sec.gov/spotlight/hedgefunds.htm.

[2] For prepared testimony on hedge funds submitted to the House Subcommittee on Capital Markets, Insurance and Government-Sponsored Enterprises on May 22nd, 2003, please see: http://financialservices.house.gov/hearings.asp?formmode=detail&hearing=218.

[3] For background information on this and other topics that pertain to hedge funds, please see Judith Chase, "The State of Hedge Funds," *SIA Research Reports,* Vol. IV, No. 2, March 10, 2003.

[4] David Reilly, "On the Buyside: Regulators Warm Up to Hedge Funds," *Wall Street Journal Europe*, in *Dow Jones Newswires*, April 11, 2003.

## Role and Structure of Hedge Funds

During the Roundtable discussion, one of the questions that interested SEC staff was which variables are driving growth in the hedge fund industry, particularly in terms of assets under management (AUM), which, according to a study by Bernstein, hovered around $620 billion in 2002.[5] According to one panelist's data, AUM in hedge funds grew by $6 billion in the first quarter.

Panelists responded that while there is a lot of talk about retailization of hedge funds, most of the new money in funds is coming from institutional investors like pension funds and endowments. According to Bernstein Research, the category of foundations and endowments "is the customer segment with the highest penetration of hedge fund usage," with over 30% penetration.[6] It was revealed that the due diligence process that occurs prior to investing in these vehicles has evolved as a process due to the increase in institutional investors, and that sometimes the process of investigating a fund and deciding whether or not to invest money can now sometimes take years.

Three-fourths of participants managing funds in one panelist's survey turned out to be Registered Investment Advisers or otherwise registered with one or more of agencies. A joint study by the Investment Counsel Association of America and National Regulatory Services found that the number of SEC-registered investment advisors that provide advice to hedge funds and other such investment vehicles grew from 1,619 in 2002 to 1,762 in 2003.[7] This increase can be explained by the recent influx of institutional money into alternative investment vehicles.

However, there are also managers who are not competing for institutional money, and that sometimes those managers are drawn into the business by the opportunity to work for themselves. In fact, *The Economist* reports that large firms that try to house some sort of hedge fund product sometimes find it challenging to retain these managers in such a formal structure and setting.[8] It was suggested that these larger and smaller funds are two different kinds of investment vehicles, and that perhaps the small investment vehicles should not be subject to the same requirements that larger funds are.

It was agreed that hedge funds have a role in liquidity provision due to the fact that they inject money into the system regardless of which way the market is moving. It was asked why retail investors are not allowed to take advantage of non-directional trading services provided by some funds, given that diversified choices do facilitate capital formation. The point was made that risks related to this type of investing are sometimes difficult to communicate to smaller investors, but that it was not clear that these risks outweighed the risk of the public going "long-only."

[5] Bernstein Research, "The Hedge Fund Industry: Products, Services or Capabilities?" June 2003, p. 10.

[6] Ibid., p. 15.

[7] "ICAA/NRS Report Finds Decrease in Assets Under Management, Growth in Number of Investment Advisers and Registered Hedge Fund Advisers," May 28, 2003, see www.icaa.org.

[8] "Alpha Males: Institutional Fund Managers Find It Hard to Keep their High-Flyers on Board," *The Economist*, April 5, 2003, p. 70.

Panelists explained that the structure of hedge funds, as with many types of businesses, has been driven by tax implications more than just by the regulatory structure of the jurisdiction in questions, and that the classic structure in the United States has been the limited partnership. It was also stated that the use of U.S. GAAP is dominant in the industry, and is followed rigorously. Third party administrators that are utilized by many funds, particularly offshore funds, are involved in providing services like accounting, as well as investor services.

Prime brokers, on the other hand, mostly provide clearing and settlement services to hedge funds. While sometimes they also introduce suitable investors looking to invest in hedge funds to managers, in no way do they "promote" hedge funds. It was also noted that the credit policies of prime brokers have a positive, stabilizing influence on funds' use of leverage. Some hedge funds also utilize multiple prime brokers.

When commenting generally upon the state of the hedge fund industry, it was noted that hedge funds comprise a small section of the overall marketplace. Also, panelists made the point that the industry as a whole is certainly growing "rapidly," but by no means is it growing "explosively." Bernstein Research reports that the barriers to entry into the industry are still quite low: in fact, "starting up a bare-bones hedge fund could cost as little as $30,000-$50,000 in legal, audit and accounting expenses."[9] Bernstein also reports that the average life of now-defunct funds is approximately four years; a panelist noted that according to his data, the average life of a hedge fund in general is 6.5 years.

## Marketing, Transparency, Disclosure, and Valuation

Hedge funds are subject to the "no solicitation" requirement under Regulation D. There was acknowledgement of the fact that widespread use of the Internet could potentially complicate this requirement. One regulator mentioned that eliminating the ban on solicitation was worthy of consideration, at least if it were coupled with increases in the accredited investor threshold.

This discussion of retailization was driven, on one hand, by a concern that retail investors must be protected from investments that may not be suitable for some. Of course, broker-dealers do have general and specific suitability requirements when selling any of these financial products. On the other hand, the discussion was also driven by the desire to promote democratization of the marketplace, and by the fact that many retail investors want to take advantage of investments that have been able to outperform the market in some cases. The tension between those two goals is a difficult one to resolve.

Fund of funds is one investment vehicle that provokes discussion of retailization. The fund of fund invests in, and does due diligence on, a number of different hedge funds. Investing in a fund of funds is thought to be much less risky because the fund of fund manager chooses different funds in order to diversify the risk of any one of those finds. Fund of funds have become a focus of regulators, however, because the investment minimums in the United States are as low as $25,000. Some panelists noted, however, that an investment of $25,000 is still quite significant.

[9] Bernstein Research, p. 17.

On the topic of adequate disclosure of information to investors, regulators asked if funds of funds should present to their investors a certain amount of information on the underlying funds, or whether investors should even do some due diligence on the underlying funds themselves. Panelists responded that the fund of funds managers are in a much better position than investors to judge the ability of managers and the quality of their investment decisions. In fact, that type of quality due diligence is what the investor is actually paying for.

It was noted that there are different types of disclosures, one of which is business-oriented disclosure for the investor, and another is disclosure oriented around legal issues, such as the disclosures required by the U.S.A. Patriot Act. In general, disclosures that address the character and quality of people are, of course, challenging to standardize. Regulators mentioned that one important question for an investor to ask and to look for in offering documents would be the disclosure of any conflicts of interest that may affect a manager's investment decisions.

On the topic of transparency, there was general recognition that transparency of actual positions could hamper funds' competitiveness by disclosing the proprietary information on which trades are based and strategies chosen. The point was also made that transparency of positions do not help predict when a fund may be about to lose significant amount of money. While position transparency itself may not help mitigate risk, there have been significant improvements in risk management techniques over the past decade that help to measure market, credit, and operational risk. There are many risk management software systems that quantify risk levels. Hedge fund managers employ these sophisticated risk measurement systems, including gauging market risk through a portfolio's calculated Value-at-Risk, as well as through stress testing and back-testing.

With regard to valuation, panelists mentioned that it can be challenging for regulators to know when a relatively illiquid asset has been valued incorrectly, and when there may have been fraud involved, as in artificially inflating the value of an asset in order to increase performance fees. Third party administrators of hedge funds sometimes play the role of independent valuator of assets as well. There are also companies that provide the services of marking-to-market securities daily, checks valuations of less liquid securities with other outside dealers, and use risk management software to provide risk calculations.[10] The SEC itself has determined that there should be no set formula for determining the fair value of a product, so they tend to focus on the process according to which the valuation is determined.

## Market Participation, Enforcement Concerns, and Regulatory Frameworks

There was widespread agreement about the fact that in the process of taking advantage of arbitrage opportunities, hedge funds make markets more efficient and function more smoothly. Hedge funds are, therefore, vital to the operation of the market. Because this is a very specific sort of investing that has a very specific purpose, panelists also made the point that this type of investing will never be the dominant form of investment in the market. In fact, from one perspective, funds that pursue arbitrage strategies contain the

[10] "Hedge Funds: For Members Only?" *Clearing Quarterly & Directory*, Summer 2003.

"seeds of their own demise." The more frequently that strategy is pursued, the more that dislocations will be eliminated in the markets. Panelists also made the point that hedge funds actually serve to mitigate some unnecessary volatility in the market. Moreover, in and of itself, volatility may not necessarily be a bad thing; it can, for example, be a sign that there is a good deal of price discovery happening in the marketplace.

Regulators also made some observations about enforcement and fraud. First, they noted that there is no inherent characteristic of hedge funds that makes fraud more likely. Fraud can occur in every type of business. However, they also noted that due to strained resources on the part of regulators, and due to the fact that not all hedge funds are registered, fraud actually is discovered more often through responses to complaints as opposed to being revealed through the examination process. Of course, even unregistered vehicles are subject to anti-fraud statues in the federal securities laws.

The SEC staff said that there were 12 cases against hedge funds in 2002. Most of these cases, they said, involved material misrepresentation of performance, "Ponzi" schemes, or just plain theft. The CFTC representative revealed that they have had approximately 10 cases a year over the past several years that somehow involve hedge funds, which represents 2%-3% of all of their cases, and as such does not constitute a large part of their enforcement program. A state regulator noted that in some states, managers are also required to register as state advisors. The state regulators have documented nine enforcement cases across the country, at least 4 or 5 of which involve some kind of fraud.

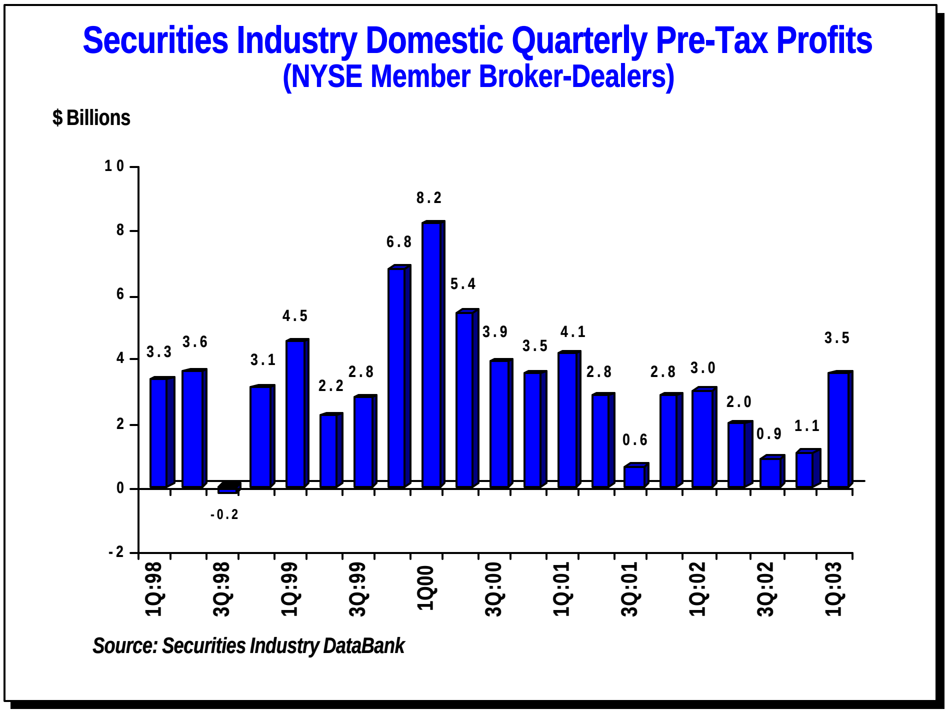
Regulators asked about sources of information that investors could use to perform some due diligence on different investment vehicles. First, the investor should know enough about the nature of the vehicle in which he is investing to know what types of things to look for when doing his research. Despite the fact that hedge fund data can sometimes be spotty, there are enough different performance databases that comparing returns across different sources can be helpful. There are, in fact, even new informational databases about managers themselves, reflecting a change in focus from more quantitative due diligence to more qualitative methods. The SEC itself has an investor advisor database. The investor can also ask the hedge fund manager for a list of references or a list of other investors in the fund. One regulator noted that he had yet to come across an enforcement case involving a fund of funds. SEC Chairman Donaldson closed the proceedings by stating that he believes that the Roundtable demonstrated that "hedge funds play an important role in our markets, and offer investors legitimate and oftentimes lucrative investment opportunities."[11]

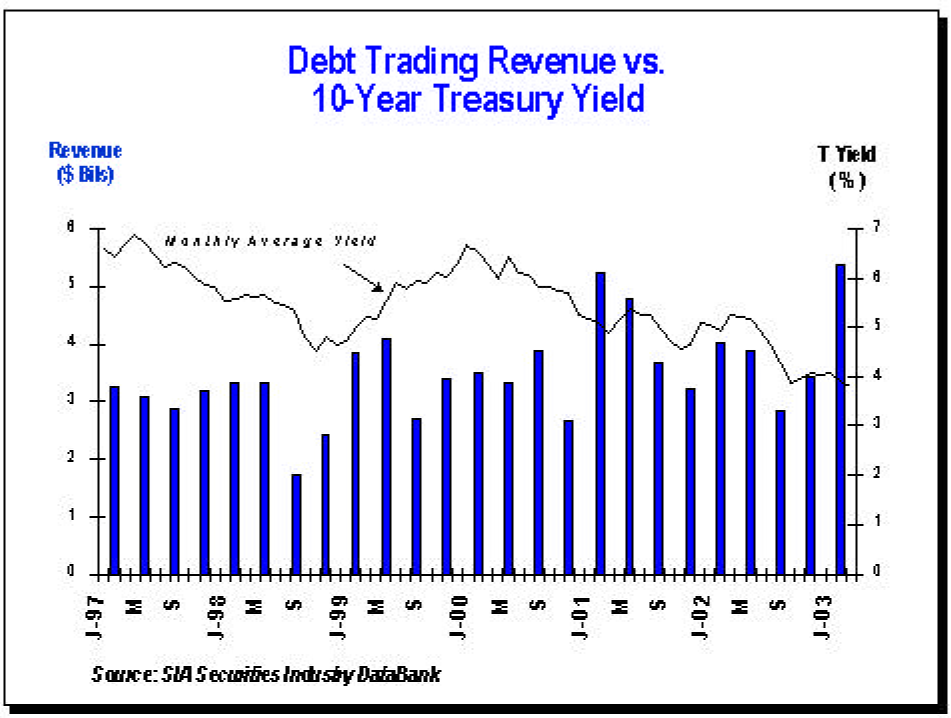
***Judith Chase***
*Vice President and Director, Securities Research*

[11] Please see the Roundtable transcript at: http://www.sec.gov/spotlight/hedgefunds.htm .

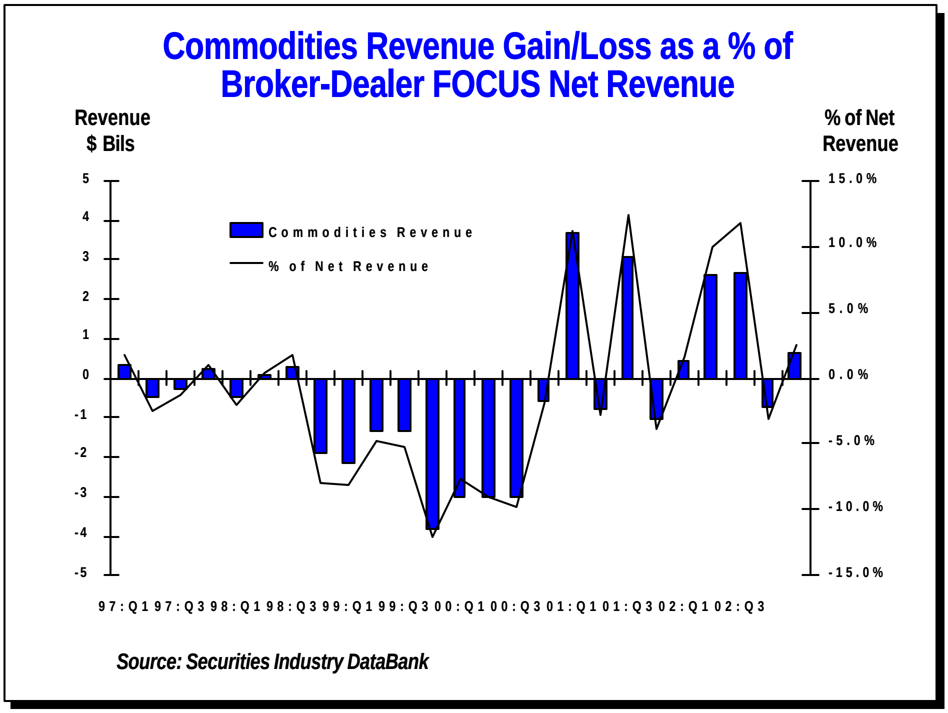
## SECURITIES INDUSTRY UPDATE
## Fixed Income to the Rescue

Domestic pre-tax profits for the U.S. securities industry more than tripled during the first quarter to $3.5 billion from $1.1 billion in 4Q 2002, and was the best quarterly showing in two years. However, the improvement came from just two sources, fixed income and energy related commodities trading revenue, while nearly every other revenue source declined. These two sources generated $6.0 billion of revenue in this year's first quarter compared to $2.7 billion during the fourth quarter of last year.

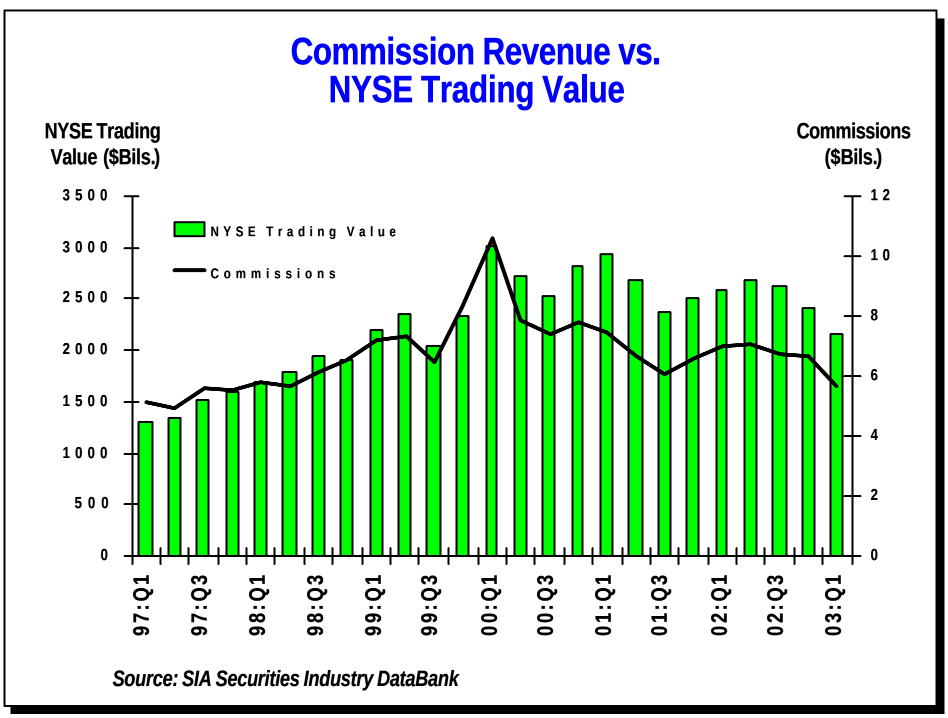


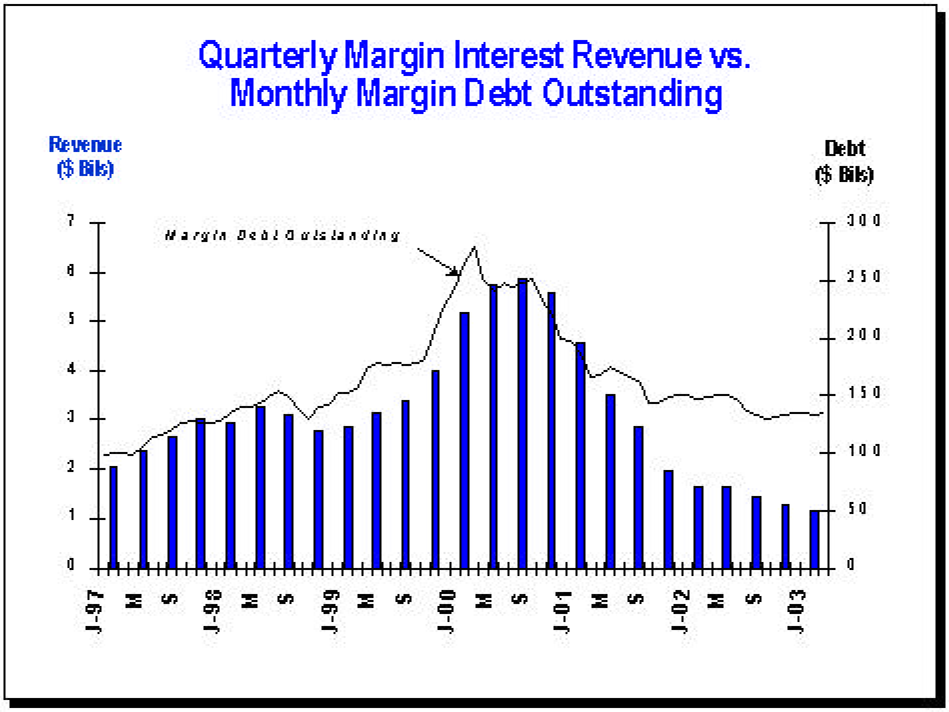
Debt trading alone climbed $2 billion, or 59%, in the first quarter to $5.4 billion from $3.4 billion in 4Q 2002. Further, debt trading accounted for 89% of the $6.1 billion in total trading gains during the first quarter. Meanwhile, spurred by rising energy costs, the volatile commodities trading revenue line climbed back from a loss of $737 million in 4Q 2002 to a gain of $644 million in 1Q 2003.




Other than these two items, all other revenue sources either fell in the first quarter or were more or less flat relative to 4Q 2002 levels. Both commissions and gross interest revenue dropped 15% during the first quarter. Commission revenues of $5.7 billion were $1.0 billion below 4Q 2002 levels.



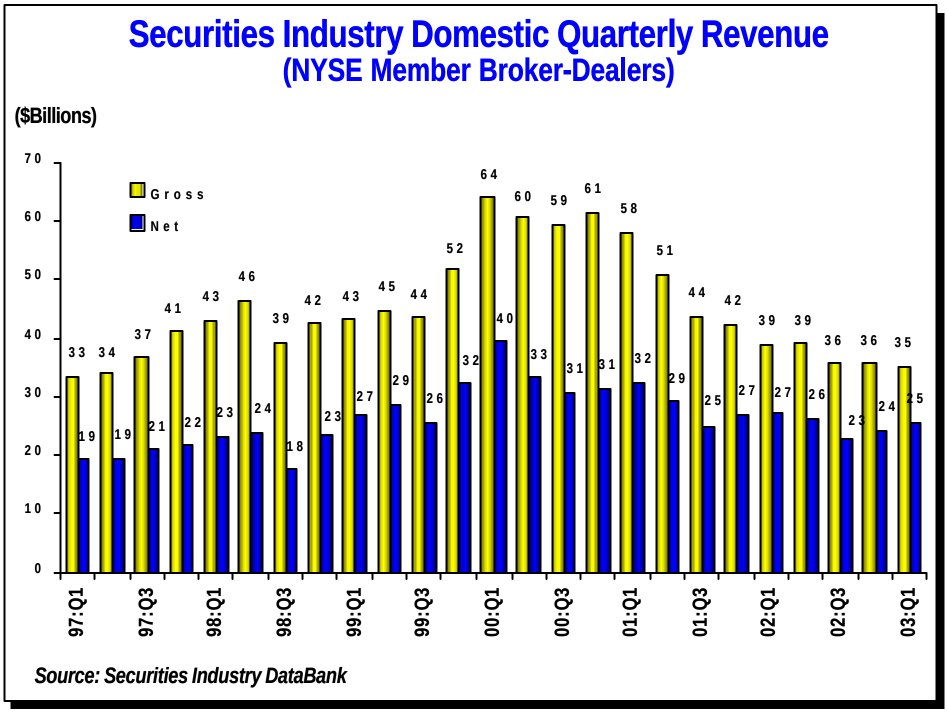
"Other revenue related to the securities business," which today is almost entirely gross interest revenue (other than margin interest) but including a minor amount of revenue from mergers & acquisitions activity and private placement fees, fell $2.0 billion, or 15%, during the first quarter to just $11.5 billion. That's a $15.7 billion, or 58%, drop in revenues from non-margin interest and M&A fees in just over two years, down from $27.2 billion in 4Q 2000, and the lowest level in seven years.



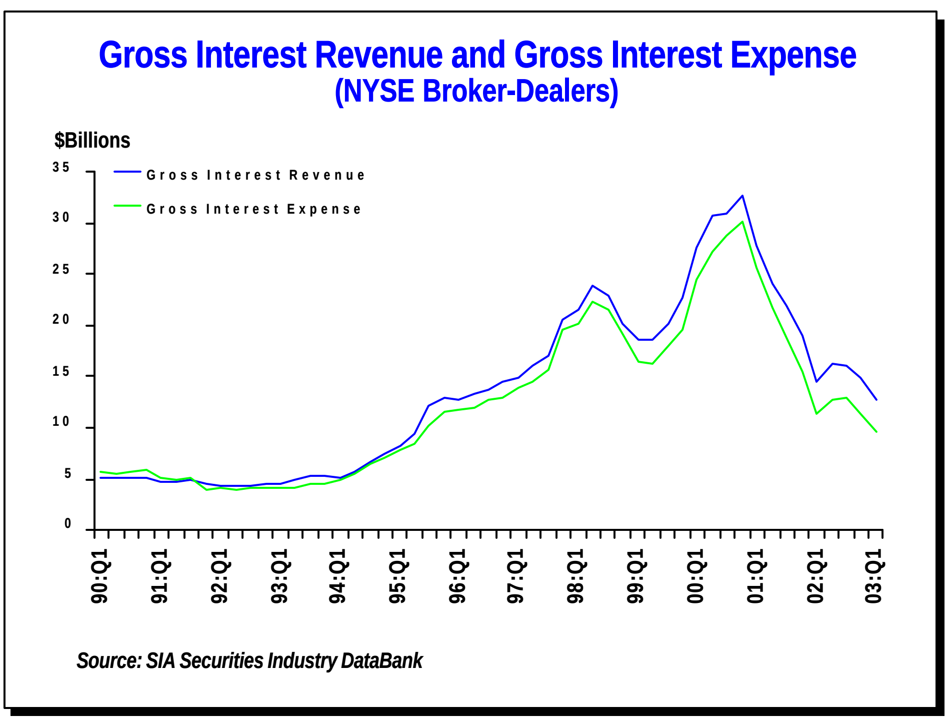

Margin interest itself dropped an additional 9% in this year's first quarter to under $1.2 billion, a nine-year low and an 80% decline in just 2 ½ years from the $5.9 billion earned in 3Q 2000. Gains from firms' own investments sank to just $135 million in the first quarter, down 71% from $464 million posted in 4Q 2002. First quarter mutual fund and asset management revenues remained flat with the prior quarter, both of which had fallen back to levels earned in the late 1990s. Finally, underwriting fees of $3.2 billion in 1Q 2003 were marginally up from the prior two quarters but still sitting at only slightly more than half the $5.6 billion earned just three years earlier, in 1Q 2000.

So, despite the $3.3 billion improvement from fixed income and commodities, first quarter gross revenue still slipped once again to a six-year quarterly low of $35.1 billion domestically, down 1% from the prior quarter's $35.5 billion. This is only slightly more than half of the quarterly gross revenue generated just three years earlier ($64.0 billion in 1Q 2000).

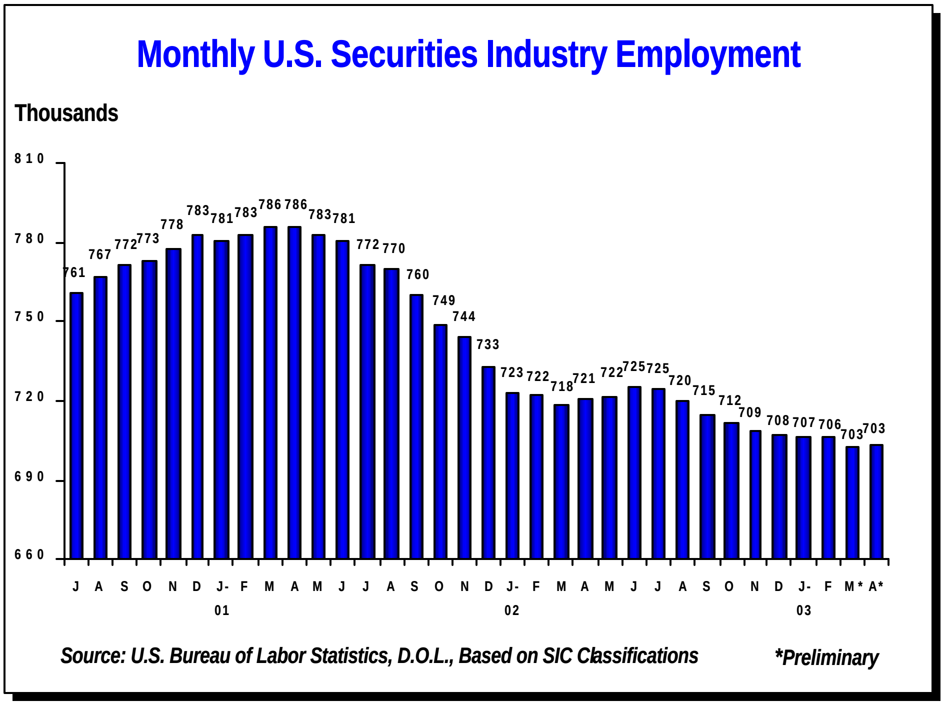
Net revenue, however, experienced another quarter of marginal improvement, rising 5% from $24.1 billion in last year's final quarter to $25.4 billion in this year's first quarter. Still, that's about the same level of net revenues being earned four years ago, in Q3 1999.




Cost controls combined with interest rate declines have kept the expense side of the income statement in line with falling revenue for the past three years. Thanks to monetary easing from the Federal Reserve that began two years earlier (1Q 2001), gross interest expense has fallen fast and furious for U.S. broker-dealers. Currently, yields on 10-year Treasuries are at 45-year lows, levels not seen since the Eisenhower Administration. Gross interest expense fell another $2 billion during this year's first quarter to a recent nadir of $9.6 billion. This is an eight-year low for gross interest expense and only nine quarters earlier, during 4Q 2000, the securities industry's domestic interest costs were triple that level, or $30.1 billion, even on a 15% lower debt load. That quarter's interest expense alone was also more than 95% of this year's first quarter *total* expenses of $31.6 billion. So Fed easing certainly eased the costs for financial institutions and kept them from posting red ink during this period.



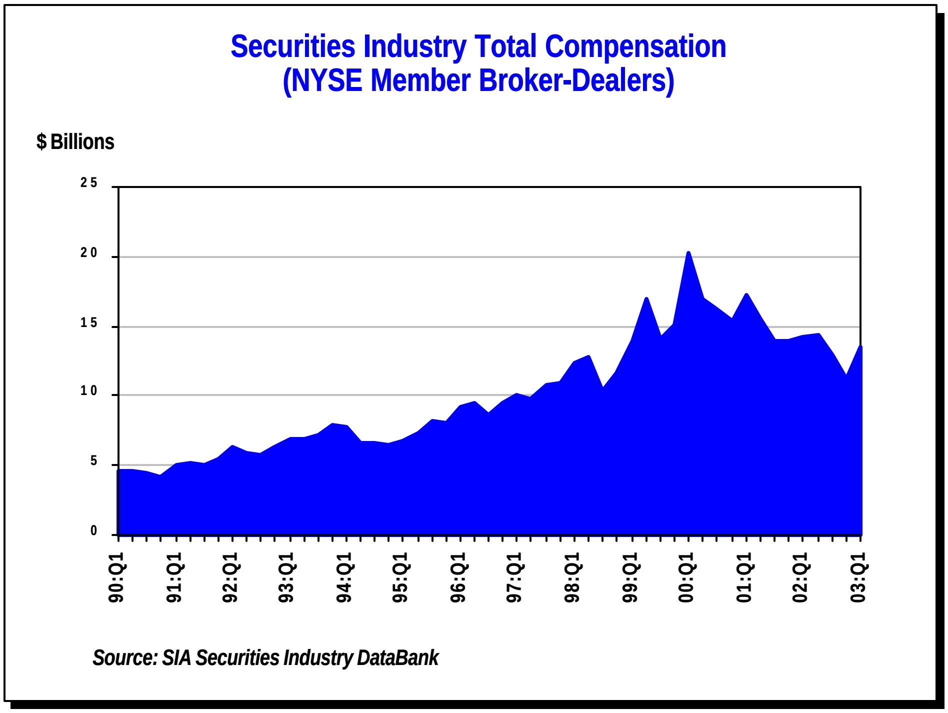
The Fed did not do all the work, however, as firm management has strained to reign in every other cost over this period also. Compensation costs had been nearly slashed in half from their peak of $20.2 billion in 1Q 2000 to just $11.3 billion in last year's final quarter. That slashing came from record headcount reductions for the securities industry the past two years and vastly scaled back bonuses and payouts for the remaining workforce.

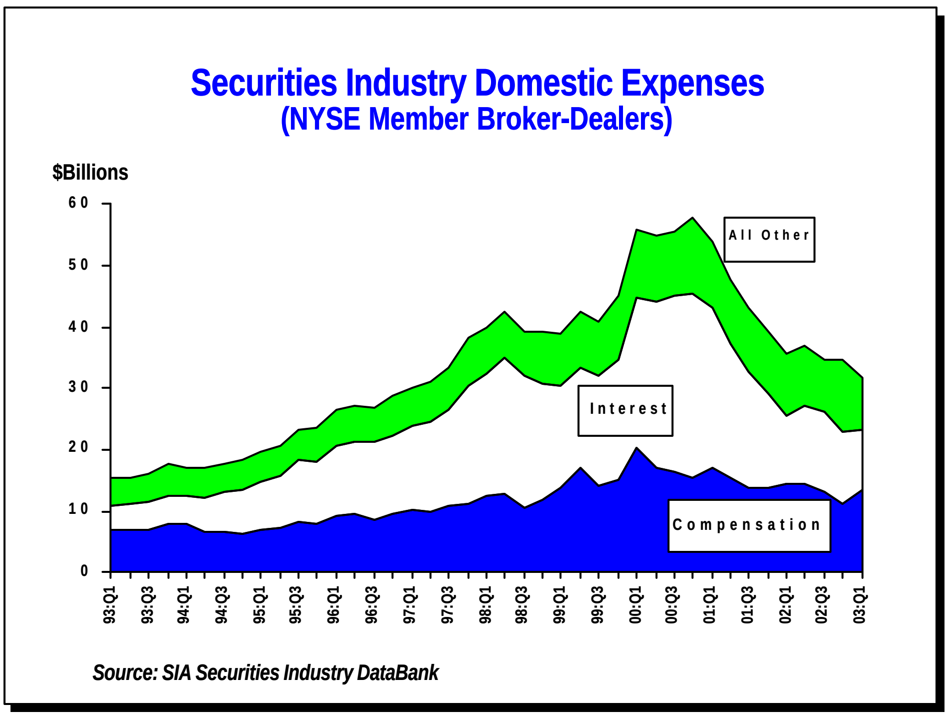



Over the eight quarters ended March 2003, a record 83,300, or 11%, of the U.S. securities industry jobs were eliminated, according to the U.S. Bureau of Labor Statistics. This was a record decline in number of job losses for the securities industry nationally (with an indeterminate but certainly record number of losses overseas also) and the worst percentage loss since the 17% national decline during the industry's 1972-74 recession. It also outpaced the industry's job recession, in both aggregate and percentage terms, which followed the October 1987 stock market crash. Nearly half of those losses were in New York City.

New York is always the most hardest hit in downturns since about one-quarter of the total U.S. securities industry workforce is located in the single borough of Manhattan. Further, the city's concentration of the largest number of, and highest compensated pool, of investment bankers, traders, and other senior securities talent than anywhere else in the world leaves this workforce the most vulnerable to downturns. New York City accounted for 38,000 of those job losses, a 19% decline in the city's securities industry workforce, and nearly half the nation-wide cuts.

However, even with the continued declines in the workforce in this year's first quarter, total compensation finally shot back up dramatically during these three months. Total compensation (payroll and benefits) shot up 20% to $13.6 billion in the first quarter from $11.3 billion in 4Q 2002. Fueling the surge was the payment of last year's bonuses during the first quarter; the large payouts to fixed-income traders who generated most of the quarter's profits; some firms switching to expensing stock option awards as compensation expense; and steadily rising health care costs. Still, that $2.3 billion compensation rise was more than offset by the $3.3 billion rise in revenues from fixed income and commodities trading.



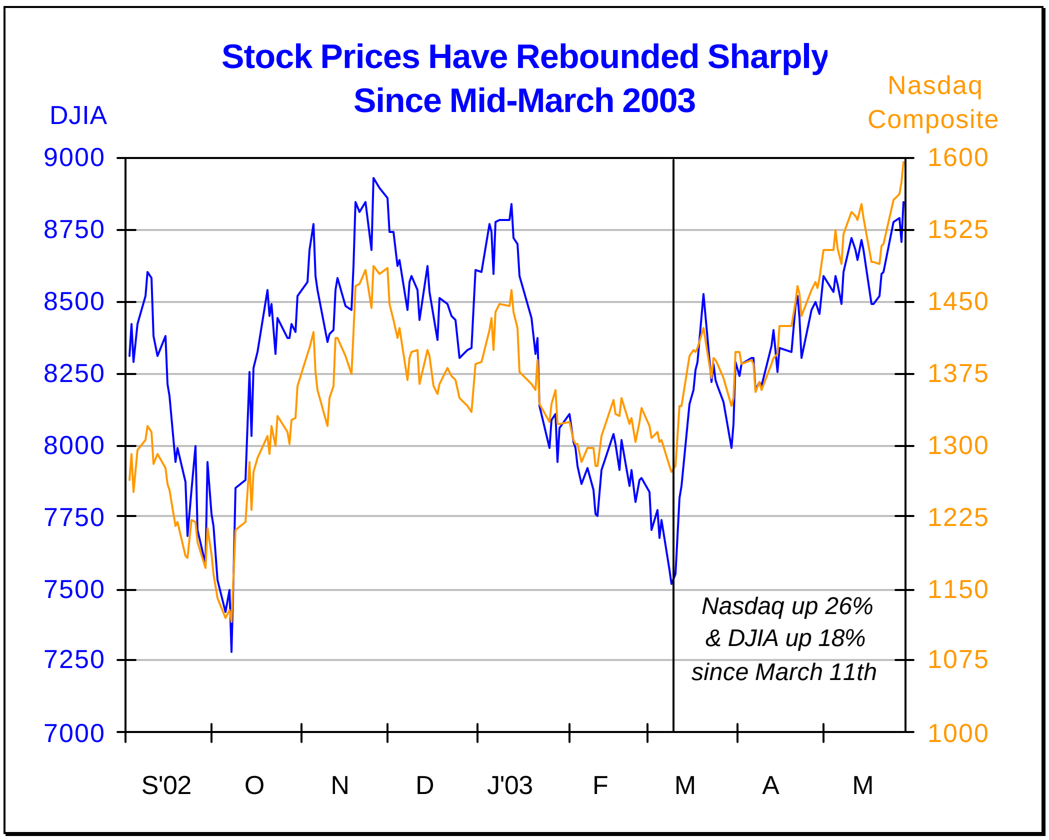




Also offsetting the first quarter's compensation bubble was a reversal in the "other expenses" bubble which occurred in 4Q 2002 from write-offs of the anticipated costs of the research analyst/investment banking pending global settlement. Other expenses jumped from $3.7 billion in 3Q 2002 (around the norm) to $6.2 billion in 4Q 2002, but immediately fell back to around the norm with $3.5 billion expensed in 1Q 2003, a $2.7 billion, or 44% decline. With all of these combined, total expenses declined 8% to $31.6 billion in the first quarter from $34.4 billion in 4Q 2002. Since gross revenue declined only 1% while gross expenses fell 8% during the first quarter, pre-tax profits for the U.S. securities industry more than tripled during the quarter to $3.5 billion from $1.1 billion in 4Q 2002.

**George Monahan**
Vice President and Director, Industry Studies

## U.S. Equity Market Activity

***Stock Prices*** – Benchmark indices have enjoyed strong gains since mid-March and reached new highs for 2003 at May's close. A confluence of events has fueled the stock market's recovery: the swift conclusion of the Iraq conflict; better-than-expected first quarter earnings growth of 12% for companies in the S&P 500; falling interest rates; recent signs of a turnaround in economic activity; and passage of a $350 billion tax-cut package.

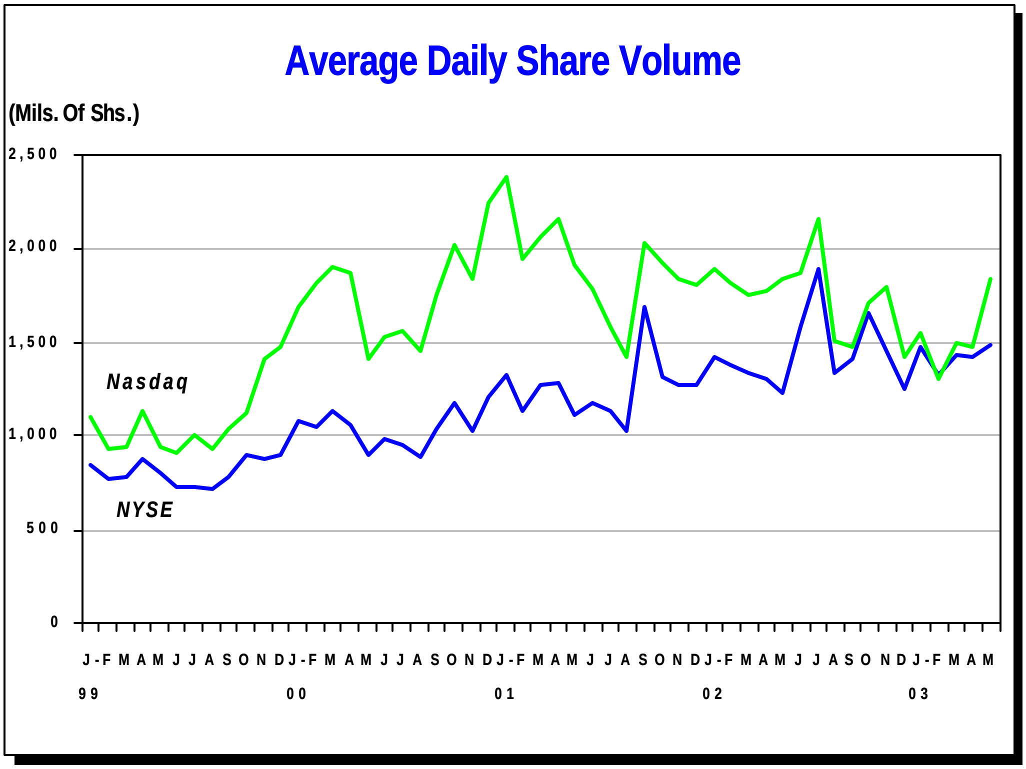



The tech-laden Nasdaq Composite Index ended May at a 12-month high of 1595.91, up 9.0% for the month and its fourth straight monthly gain. Meanwhile, the S&P 500 and DJIA advanced 5.1% and 4.4%, respectively, in May, marking their third consecutive month of gains (the first such occurrence since October-December 2001).

Since the start of the year, the Nasdaq Composite has surged 19.5%, the S&P 500 ascended 9.5%, and the DJIA increased 6.1%.

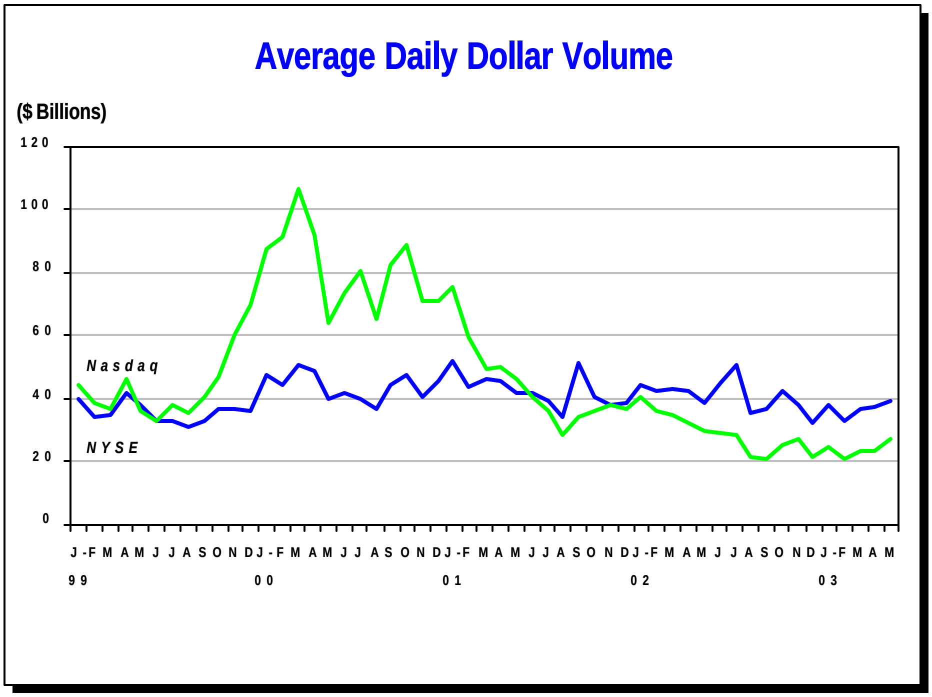
***Share Volume*** – May's stock market rally sparked increased share activity on both Nasdaq and the NYSE. Average daily share volume on Nasdaq soared 25.0% in May to 1.85 billion shares, the sharpest monthly increase since September 2001 and its briskest pace in 10 months. NYSE volume rose 4.6% in May to 1.49 billion shares daily, its highest level in six months.

Despite this increase in activity, volumes on both major markets year-to-date are still running below 2002's average daily pace. Nasdaq volume of 1.54 billion shares daily through the first five months of 2003 trails 2002's daily average by 12.1%, and NYSE volume of 1.43 billion shares daily is down 0.5% compared to 2002.

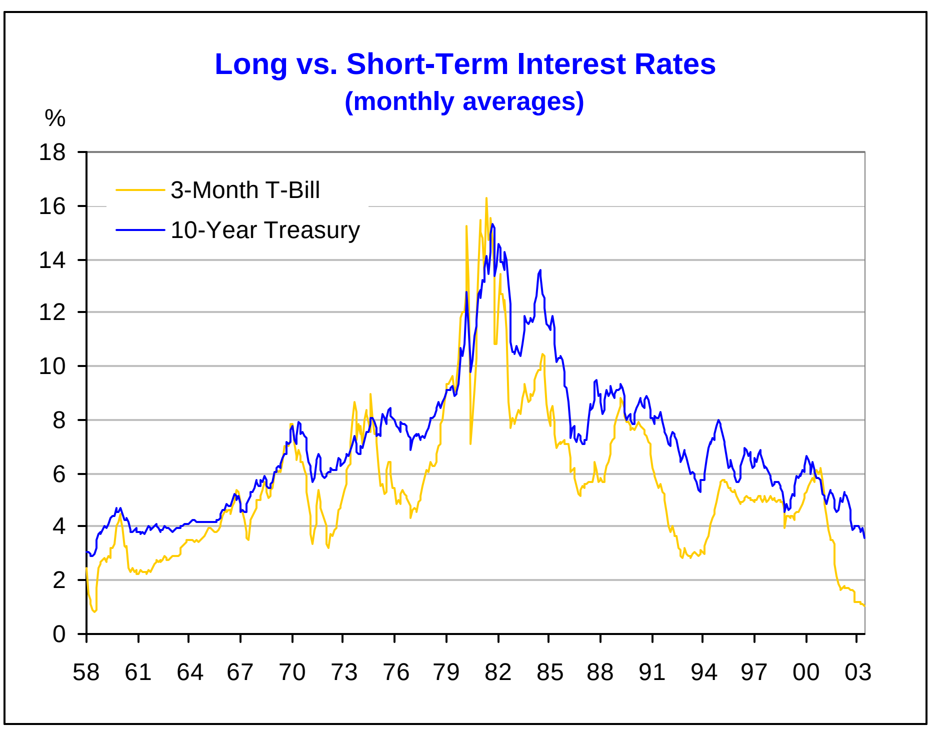



***Dollar Volume*** – In May, the dollar value of trading in NYSE and Nasdaq stocks climbed to the highest level of the year (and the best level since July 2002) amid rising share prices and heightened trading volume. NYSE average daily dollar volume of $39.2 billion daily in May was up 5.7% from April, while dollar volume on Nasdaq jumped 16.6% in May to $27.4 billion daily.

Year-to-date, however, Nasdaq's average daily dollar volume of $23.9 billion is still 17.0% below 2002's already depressed level of $28.8 billion daily. Meanwhile, NYSE dollar volume is down 10.5% to $36.6 billion daily from $40.9 billion daily in 2002.

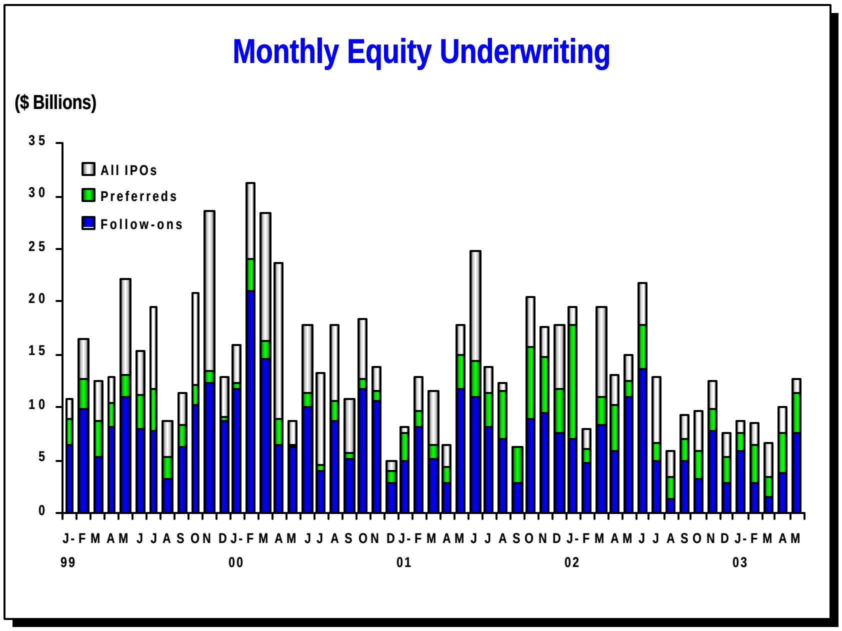



***Interest Rates*** – Long-term interest rates have fallen dramatically in the aftermath of the May 6th FOMC policy meeting, when the Fed left the door open for further reductions in the federal-funds target rate if deflationary pressures intensify. Since then, benchmark 10-year Treasury yields tumbled 50 basis points to a 45-year low of 3.34% by May 22 before edging up to 3.37% by month's end. As long-term rates dropped further than short-term rates, the spread between the 3-month and 10-year Treasury yield narrowed to 250 basis points in May, its slimmest gap since last October.

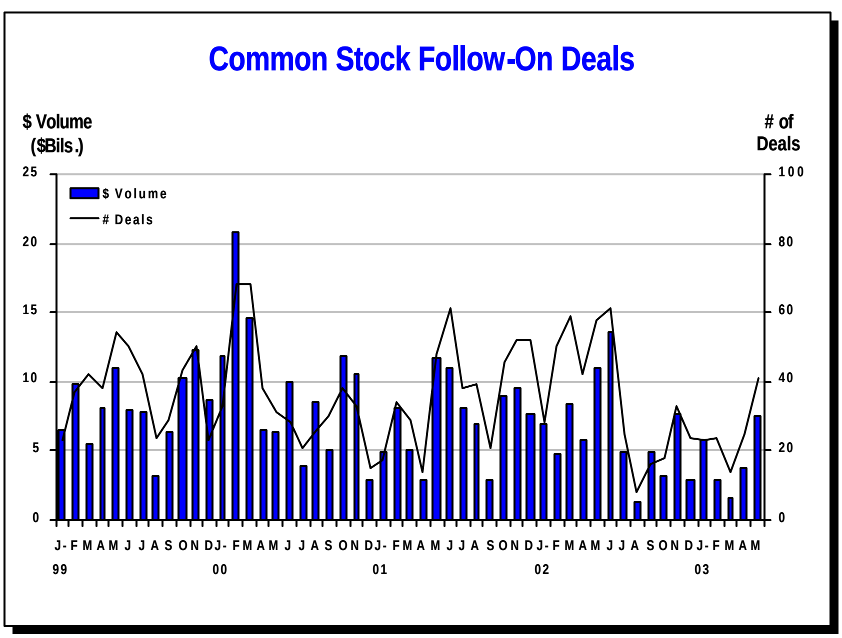


## U.S. Underwriting Activity

***Equity Underwriting*** – Improved conditions in the stock market led to a 27.0% jump in total equity issuance from April's $10.0 billion to $12.7 billion in May, the highest monthly level since June 2002 (underwriting figures exclude 144A private placements). Despite May's showing, common and preferred stock underwriting activity is down 38.3% to $46.2 billion year-to-date compared to the same period last year.

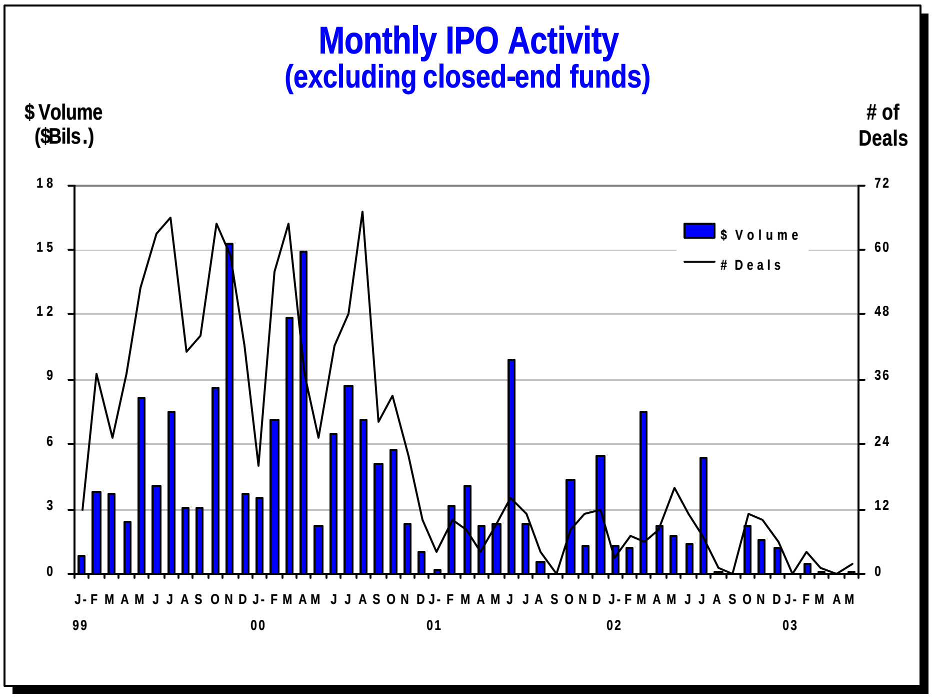



Follow-on common stock offerings climbed to $7.5 billion in May, nearly double the $3.8 billion raised in April and its strongest monthly volume so far this year. Despite this monthly increase, the year-to-date total of $21.4 billion is still a whopping 41.8% below the $36.7 billion raised during last year's comparable period.



There was a flicker of light in the IPO market, as the number of companies filing new IPO deals with the SEC has increased recently. Nonetheless, continued weakness in IPO activity was evident in May, with only 2 deals offered raising a meager $90 million. Ipayment Inc.'s $80 million offering on May 12 was the first IPO completed since March 3.

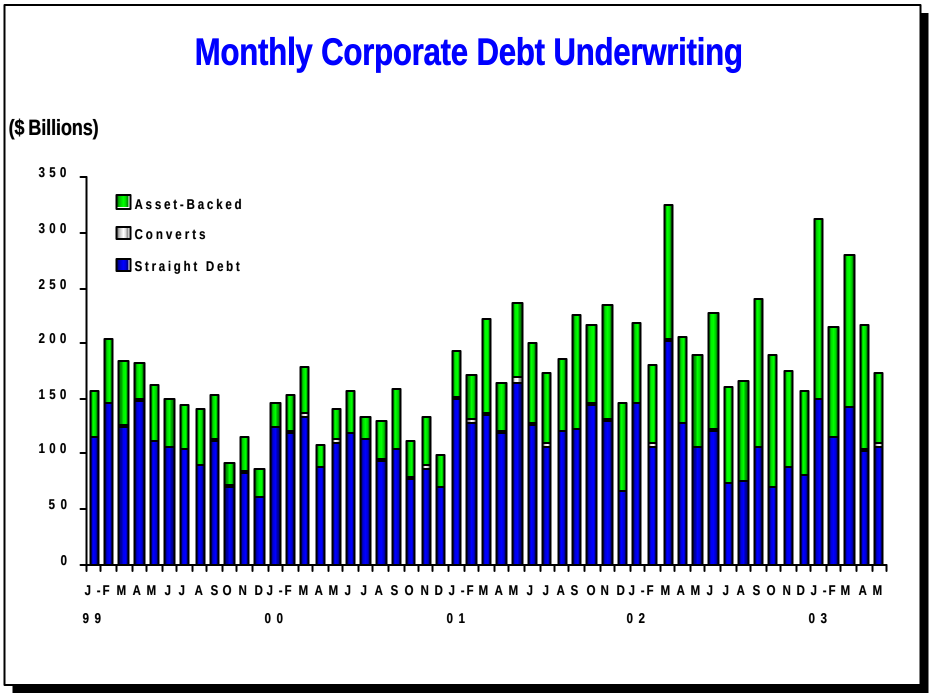
Year-to-date, only 7 deals were priced totaling $734.2 million, a mere 5% of the $14.0 billion raised in last year's comparable period. Looking forward, there are now 28 U.S.-registered IPOs in the pipeline, expected to raise $4.9 billion.

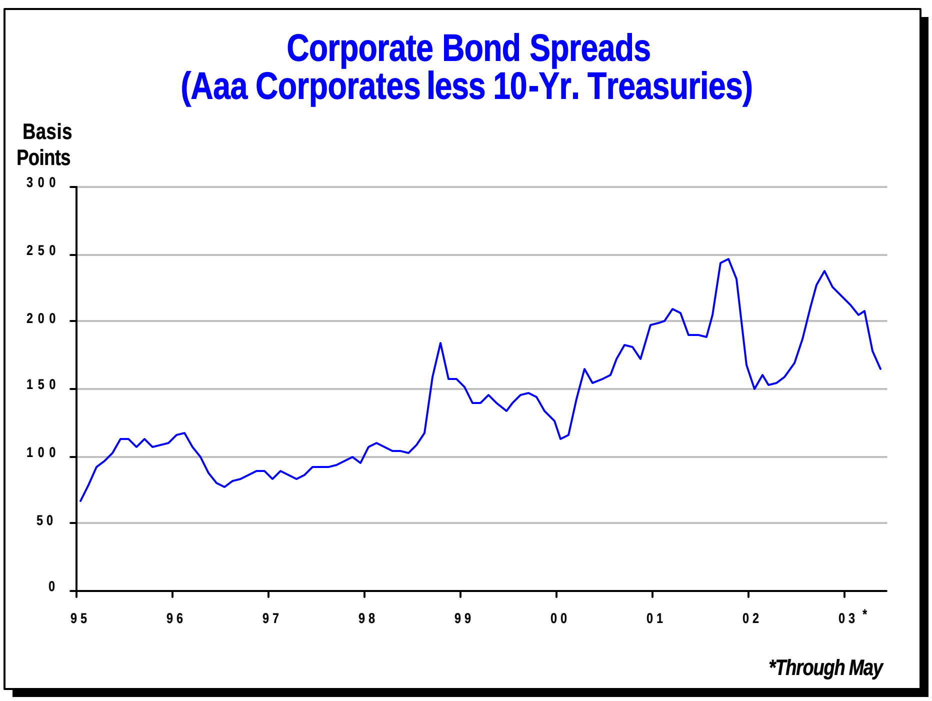



***Corporate Bond Underwriting*** – Asset-backed securities offerings plummeted 43.3% from April's level to a 2003 monthly low of $63.5 billion in May. Nevertheless, year-to-date volume of $575.8 billion was 36.5% higher than the $421.9 billion raised in last year's comparable period.

Straight corporate bond issuance, after sinking to a 2003 low of $102.9 billion in April, increased 4.1% to $107.1 billion in May. That brought the year-to-date total to $616.6 billion, 10.2% short of the $686.5 billion issued a year ago.

Underwritten convertible debt offerings more than doubled to $2.9 billion in May from April's $1.3 billion, marking the most activity seen in this market since last March. An additional $12.8 billion was raised for privately placed Rule 144A deals in May, up 70.7% from the prior month and reaching a new 2003 monthly high.




***Grace Toto***
*Vice President and Director, Statistics*

## U.S. CORPORATE UNDERWRITING ACTIVITY

(In $ Billions)

| | Straight Corporate Debt | Con-vertible Debt | Asset-Backed Debt | TOTAL **DEBT** | Common Stock | Preferred Stock | TOTAL **EQUITY** | All IPOs | "True" IPOs | Follow-Ons | **TOTAL** UNDER-**WRITINGS** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1985 | 76.4 | 7.5 | 20.8 | 104.7 | 24.7 | 8.6 | 33.3 | 8.5 | 8.4 | 16.2 | 138.0 |
| 1986 | 149.8 | 10.1 | 67.8 | 227.7 | 43.2 | 13.9 | 57.1 | 22.3 | 18.1 | 20.9 | 284.8 |
| 1987 | 117.8 | 9.9 | 91.7 | 219.4 | 41.5 | 11.4 | 52.9 | 24.0 | 14.3 | 17.5 | 272.3 |
| 1988 | 120.3 | 3.1 | 113.8 | 237.2 | 29.7 | 7.6 | 37.3 | 23.6 | 5.7 | 6.1 | 274.5 |
| 1989 | 134.1 | 5.5 | 135.3 | 274.9 | 22.9 | 7.7 | 30.6 | 13.7 | 6.1 | 9.2 | 305.5 |
| 1990 | 107.7 | 4.7 | 176.1 | 288.4 | 19.2 | 4.7 | 23.9 | 10.1 | 4.5 | 9.0 | 312.3 |
| 1991 | 203.6 | 7.8 | 300.0 | 511.5 | 56.0 | 19.9 | 75.9 | 25.1 | 16.4 | 30.9 | 587.4 |
| 1992 | 319.8 | 7.1 | 427.0 | 753.8 | 72.5 | 29.3 | 101.8 | 39.6 | 24.1 | 32.9 | 855.7 |
| 1993 | 448.4 | 9.3 | 474.8 | 932.5 | 102.4 | 28.4 | 130.8 | 57.4 | 41.3 | 45.0 | 1,063.4 |
| 1994 | 381.2 | 4.8 | 253.5 | 639.5 | 61.4 | 15.5 | 76.9 | 33.7 | 28.3 | 27.7 | 716.4 |
| 1995 | 466.0 | 6.9 | 152.4 | 625.3 | 82.0 | 15.1 | 97.1 | 30.2 | 30.0 | 51.8 | 722.4 |
| 1996 | 564.8 | 9.3 | 252.9 | 827.0 | 115.5 | 36.5 | 151.9 | 50.0 | 49.9 | 65.5 | 979.0 |
| 1997 | 769.8 | 8.5 | 385.6 | 1,163.9 | 120.2 | 33.3 | 153.4 | 44.2 | 43.2 | 75.9 | 1,317.3 |
| 1998 | 1,142.5 | 6.3 | 566.8 | 1,715.6 | 115.0 | 37.8 | 152.7 | 43.7 | 36.6 | 71.2 | 1,868.3 |
| 1999 | 1,264.8 | 16.1 | 487.1 | 1,768.0 | 164.3 | 27.5 | 191.7 | 66.8 | 64.3 | 97.5 | 1,959.8 |
| 2000 | 1,236.2 | 17.0 | 393.4 | 1,646.6 | 189.1 | 15.4 | 204.5 | 76.1 | 75.8 | 112.9 | 1,851.0 |
| 2001 | 1,511.2 | 21.6 | 832.5 | 2,365.4 | 128.4 | 41.3 | 169.7 | 40.8 | 36.0 | 87.6 | 2,535.1 |
| 2002 | 1,303.2 | 8.6 | 1,115.4 | 2,427.2 | 116.4 | 37.6 | 154.0 | 41.2 | 25.8 | 75.2 | 2,581.1 |
| <u>2002</u> | | | | | | | | | | | |
| Jan | 145.7 | 0.2 | 71.2 | 217.1 | 8.6 | 10.8 | 19.4 | 1.8 | 1.3 | 6.9 | 236.5 |
| Feb | 106.2 | 3.8 | 70.2 | 180.1 | 6.7 | 1.2 | 8.0 | 1.9 | 1.2 | 4.8 | 188.0 |
| Mar | 200.5 | 3.2 | 121.7 | 325.4 | 16.9 | 2.7 | 19.6 | 8.5 | 7.5 | 8.3 | 344.9 |
| Apr | 127.3 | 0.0 | 77.5 | 204.9 | 8.7 | 4.4 | 13.1 | 2.9 | 2.2 | 5.8 | 218.0 |
| May | 106.7 | 0.1 | 81.4 | 188.2 | 13.3 | 1.6 | 14.9 | 2.4 | 1.8 | 10.9 | 203.1 |
| June | 121.3 | 0.4 | 105.2 | 226.9 | 17.7 | 4.1 | 21.8 | 4.1 | 1.4 | 13.6 | 248.7 |
| July | 74.1 | 0.4 | 84.9 | 159.4 | 11.0 | 1.8 | 12.8 | 6.1 | 5.4 | 4.9 | 172.2 |
| Aug | 74.7 | 0.0 | 91.7 | 166.4 | 3.8 | 2.0 | 5.7 | 2.5 | 0.1 | 1.3 | 172.2 |
| Sept | 106.8 | 0.0 | 132.3 | 239.1 | 7.3 | 2.0 | 9.3 | 2.4 | 0.0 | 4.9 | 248.4 |
| Oct | 70.5 | 0.1 | 117.4 | 188.1 | 7.0 | 2.6 | 9.5 | 3.8 | 2.2 | 3.2 | 197.6 |
| Nov | 88.5 | 0.4 | 86.4 | 175.3 | 10.2 | 2.1 | 12.3 | 2.6 | 1.6 | 7.7 | 187.6 |
| Dec | 80.8 | 0.0 | 75.6 | 156.4 | 5.2 | 2.4 | 7.6 | 2.3 | 1.2 | 2.9 | 164.0 |
| <u>2003</u> | | | | | | | | | | | |
| Jan | 150.0 | 0.0 | 162.5 | 312.4 | 6.8 | 1.8 | 8.6 | 1.0 | 0.0 | 5.8 | 321.0 |
| Feb | 114.9 | 0.0 | 99.1 | 213.9 | 4.7 | 3.7 | 8.4 | 1.9 | 0.5 | 2.8 | 222.3 |
| Mar | 141.8 | 0.1 | 138.7 | 280.7 | 4.8 | 1.8 | 6.5 | 3.3 | 0.1 | 1.5 | 287.2 |
| Apr | 102.9 | 1.3 | 112.0 | 216.2 | 6.3 | 3.8 | 10.0 | 2.5 | 0.0 | 3.8 | 226.3 |
| May | 107.1 | 2.9 | 63.5 | 173.4 | 8.9 | 3.8 | 12.7 | 1.4 | 0.1 | 7.5 | 186.1 |
| June | | | | | | | | | | | |
| July | | | | | | | | | | | |
| Aug | | | | | | | | | | | |
| Sept | | | | | | | | | | | |
| Oct | | | | | | | | | | | |
| Nov | | | | | | | | | | | |
| Dec | | | | | | | | | | | |
| YTD '02 | 686.5 | 7.3 | 421.9 | 1,115.6 | 54.2 | 20.7 | 74.9 | 17.5 | 14.0 | 36.7 | 1,190.5 |
| YTD '03 | 616.6 | 4.3 | 575.8 | 1,196.7 | 31.4 | 14.8 | 46.2 | 10.0 | 0.7 | 21.4 | 1,242.9 |
| % Change | -10.2% | -41.0% | 36.5% | 7.3% | -42.1% | -28.4% | -38.3% | -42.8% | -94.8% | -41.8% | 4.4% |

Note: IPOs and follow-ons are subsets of common stock. “True” IPOs exclude closed-end funds.
Source: Thomson Financial Securities Data

## MUNICIPAL BOND UNDERWRITINGS
(In $ Billions)

## INTEREST RATES
(Averages)

| | Compet. Rev. Bonds | Nego. Rev. Bonds | **TOTAL REVENUE BONDS** | Compet. G.O.s | Nego. G.O.s | **TOTAL G.O.s** | **TOTAL MUNICIPAL BONDS** | 3-Mo. T Bills | 10-Year Treasuries | SPREAD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1985 | 10.2 | 150.8 | 161.0 | 17.6 | 22.8 | 40.4 | 201.4 | 7.47 | 10.62 | 3.15 |
| 1986 | 10.0 | 92.6 | 102.6 | 23.1 | 22.6 | 45.7 | 148.3 | 5.97 | 7.68 | 1.71 |
| 1987 | 7.1 | 64.4 | 71.5 | 16.3 | 14.2 | 30.5 | 102.0 | 5.78 | 8.39 | 2.61 |
| 1988 | 7.6 | 78.1 | 85.7 | 19.2 | 12.7 | 31.9 | 117.6 | 6.67 | 8.85 | 2.18 |
| 1989 | 9.2 | 75.8 | 85.0 | 20.7 | 17.2 | 37.9 | 122.9 | 8.11 | 8.49 | 0.38 |
| 1990 | 7.6 | 78.4 | 86.0 | 22.7 | 17.5 | 40.2 | 126.2 | 7.50 | 8.55 | 1.05 |
| 1991 | 11.0 | 102.1 | 113.1 | 29.8 | 28.1 | 57.9 | 171.0 | 5.38 | 7.86 | 2.48 |
| 1992 | 12.5 | 139.0 | 151.6 | 32.5 | 49.0 | 81.5 | 233.1 | 3.43 | 7.01 | 3.58 |
| 1993 | 20.0 | 175.6 | 195.6 | 35.6 | 56.7 | 92.4 | 287.9 | 3.00 | 5.87 | 2.87 |
| 1994 | 15.0 | 89.2 | 104.2 | 34.5 | 23.2 | 57.7 | 161.9 | 4.25 | 7.09 | 2.84 |
| 1995 | 13.5 | 81.7 | 95.2 | 27.6 | 32.2 | 59.8 | 155.0 | 5.49 | 6.57 | 1.08 |
| 1996 | 15.6 | 100.1 | 115.7 | 31.3 | 33.2 | 64.5 | 180.2 | 5.01 | 6.44 | 1.43 |
| 1997 | 12.3 | 130.2 | 142.6 | 35.5 | 36.5 | 72.0 | 214.6 | 5.06 | 6.35 | 1.29 |
| 1998 | 21.4 | 165.6 | 187.0 | 43.7 | 49.0 | 92.8 | 279.8 | 4.78 | 5.26 | 0.48 |
| 1999 | 14.3 | 134.9 | 149.2 | 38.5 | 31.3 | 69.8 | 219.0 | 4.64 | 5.65 | 1.01 |
| 2000 | 13.6 | 116.2 | 129.7 | 35.0 | 29.3 | 64.3 | 194.0 | 5.82 | 6.03 | 0.21 |
| 2001 | 17.6 | 164.2 | 181.8 | 45.5 | 56.3 | 101.8 | 283.5 | 3.39 | 5.02 | 1.63 |
| 2002 | 19.5 | 210.5 | 230.0 | 52.3 | 73.1 | 125.4 | 355.4 | 1.60 | 4.61 | 3.01 |
| <u>2002</u> | | | | | | | | | | |
| Jan | 1.1 | 12.3 | 13.4 | 4.3 | 3.8 | 8.1 | 21.5 | 1.65 | 5.04 | 3.39 |
| Feb | 1.5 | 10.6 | 12.1 | 4.9 | 4.0 | 8.9 | 20.9 | 1.73 | 4.91 | 3.18 |
| Mar | 1.7 | 13.0 | 14.7 | 4.9 | 5.6 | 10.5 | 25.2 | 1.79 | 5.28 | 3.49 |
| Apr | 2.3 | 14.7 | 17.0 | 4.4 | 4.1 | 8.5 | 25.5 | 1.72 | 5.21 | 3.49 |
| May | 2.4 | 20.7 | 23.1 | 4.0 | 6.9 | 10.9 | 34.0 | 1.73 | 5.16 | 3.43 |
| June | 1.5 | 20.3 | 21.8 | 5.2 | 11.6 | 16.8 | 38.6 | 1.70 | 4.93 | 3.23 |
| July | 1.1 | 15.7 | 16.8 | 4.8 | 6.2 | 11.0 | 27.8 | 1.68 | 4.65 | 2.97 |
| Aug | 0.6 | 20.4 | 21.0 | 3.8 | 6.6 | 10.4 | 31.5 | 1.62 | 4.26 | 2.64 |
| Sept | 1.1 | 16.8 | 17.8 | 4.1 | 5.6 | 9.7 | 27.5 | 1.63 | 3.87 | 2.24 |
| Oct | 2.9 | 24.0 | 26.9 | 5.9 | 8.9 | 14.8 | 41.7 | 1.58 | 3.94 | 2.36 |
| Nov | 1.4 | 25.3 | 26.7 | 3.0 | 5.6 | 8.5 | 35.2 | 1.23 | 4.05 | 2.82 |
| Dec | 2.0 | 16.6 | 18.6 | 2.9 | 4.4 | 7.3 | 26.0 | 1.19 | 4.03 | 2.84 |
| <u>2003</u> | | | | | | | | | | |
| Jan | 1.4 | 16.4 | 17.9 | 4.4 | 4.3 | 8.7 | 26.6 | 1.17 | 4.05 | 2.88 |
| Feb | 1.8 | 15.5 | 17.3 | 5.1 | 7.6 | 12.7 | 30.0 | 1.17 | 3.90 | 2.73 |
| Mar | 2.0 | 15.7 | 17.7 | 4.2 | 5.8 | 10.0 | 27.7 | 1.13 | 3.81 | 2.68 |
| Apr | 1.6 | 16.9 | 18.5 | 4.4 | 10.0 | 14.5 | 33.0 | 1.13 | 3.96 | 2.83 |
| May | 2.9 | 15.7 | 18.7 | 5.5 | 5.5 | 11.0 | 29.7 | 1.07 | 3.57 | 2.50 |
| June | | | | | | | | | | |
| July | | | | | | | | | | |
| Aug | | | | | | | | | | |
| Sept | | | | | | | | | | |
| Oct | | | | | | | | | | |
| Nov | | | | | | | | | | |
| Dec | | | | | | | | | | |
| YTD '02 | 8.9 | 71.4 | 80.2 | 22.6 | 24.3 | 46.8 | 127.1 | 1.72 | 5.12 | 3.40 |
| YTD '03 | 9.7 | 80.3 | 90.0 | 23.7 | 33.2 | 56.9 | 146.9 | 1.13 | 3.86 | 2.72 |
| % Change | 9.3% | 12.5% | 12.2% | 4.9% | 36.9% | 21.5% | 15.6% | -34.2% | -24.6% | -19.8% |

Sources: Thomson Financial Securities Data; Federal Reserve

| | STOCK MARKET PERFORMANCE INDICES (End of Period) | | | | STOCK MARKET VOLUME (Daily Avg., Mils. of Shs.) | | | VALUE TRADED (Daily Avg., $ Bils.) | |
|---|---|---|---|---|---|---|---|---|---|
| | Dow Jones Industrial Average | S&P 500 | NYSE Composite | Nasdaq Composite | NYSE | AMEX | Nasdaq | NYSE | Nasdaq |
| 1985 | 1,546.67 | 211.28 | 1,285.66 | 324.93 | 109.2 | 8.3 | 82.1 | 3.9 | 0.9 |
| 1986 | 1,895.95 | 242.17 | 1,465.31 | 348.83 | 141.0 | 11.8 | 113.6 | 5.4 | 1.5 |
| 1987 | 1,938.83 | 247.08 | 1,461.61 | 330.47 | 188.9 | 13.9 | 149.8 | 7.4 | 2.0 |
| 1988 | 2,168.57 | 277.72 | 1,652.25 | 381.38 | 161.5 | 9.9 | 122.8 | 5.4 | 1.4 |
| 1989 | 2,753.20 | 353.40 | 2,062.30 | 454.82 | 165.5 | 12.4 | 133.1 | 6.1 | 1.7 |
| 1990 | 2,633.66 | 330.22 | 1,908.45 | 373.84 | 156.8 | 13.2 | 131.9 | 5.2 | 1.8 |
| 1991 | 3,168.83 | 417.09 | 2,426.04 | 586.34 | 178.9 | 13.3 | 163.3 | 6.0 | 2.7 |
| 1992 | 3,301.11 | 435.71 | 2,539.92 | 676.95 | 202.3 | 14.2 | 190.8 | 6.9 | 3.5 |
| 1993 | 3,754.09 | 466.45 | 2,739.44 | 776.80 | 264.5 | 18.1 | 263.0 | 9.0 | 5.3 |
| 1994 | 3,834.44 | 459.27 | 2,653.37 | 751.96 | 291.4 | 17.9 | 295.1 | 9.7 | 5.8 |
| 1995 | 5,117.12 | 615.93 | 3,484.15 | 1,052.13 | 346.1 | 20.1 | 401.4 | 12.2 | 9.5 |
| 1996 | 6,448.27 | 740.74 | 4,148.07 | 1,291.03 | 412.0 | 22.1 | 543.7 | 16.0 | 13.0 |
| 1997 | 7,908.25 | 970.43 | 5,405.19 | 1,570.35 | 526.9 | 24.4 | 647.8 | 22.8 | 17.7 |
| 1998 | 9,181.43 | 1,229.23 | 6,299.93 | 2,192.69 | 673.6 | 28.9 | 801.7 | 29.0 | 22.9 |
| 1999 | 11,497.12 | 1,469.25 | 6,876.10 | 4,069.31 | 808.9 | 32.7 | 1,081.8 | 35.5 | 43.7 |
| 2000 | 10,786.85 | 1,320.28 | 6,945.57 | 2,470.52 | 1,041.6 | 52.9 | 1,757.0 | 43.9 | 80.9 |
| 2001 | 10,021.50 | 1,148.08 | 6,236.39 | 1,950.40 | 1,240.0 | 65.8 | 1,900.1 | 42.3 | 44.1 |
| 2002 | 8,341.63 | 879.82 | 5,000.00 | 1,335.51 | 1,441.0 | 63.7 | 1,752.8 | 40.9 | 28.8 |
| <u>2002</u> | | | | | | | | | |
| Jan | 9,920.00 | 1,130.20 | 6,116.90 | 1,934.03 | 1,425.9 | 56.1 | 1,888.7 | 44.5 | 40.8 |
| Feb | 10,106.13 | 1,106.73 | 6,117.96 | 1,731.49 | 1,381.8 | 56.3 | 1,812.8 | 42.1 | 35.9 |
| Mar | 10,403.94 | 1,147.39 | 6,348.79 | 1,845.35 | 1,337.1 | 57.1 | 1,756.8 | 42.9 | 34.5 |
| Apr | 9,946.22 | 1,076.92 | 6,071.22 | 1,688.23 | 1,307.3 | 55.4 | 1,779.0 | 42.4 | 32.1 |
| May | 9,925.25 | 1,067.14 | 6,035.27 | 1,615.73 | 1,234.2 | 61.5 | 1,834.2 | 38.9 | 29.8 |
| June | 9,243.26 | 989.82 | 5636.54 | 1,463.21 | 1,587.0 | 66.9 | 1,877.1 | 44.8 | 29.4 |
| July | 8,736.59 | 911.62 | 5,195.61 | 1,328.26 | 1,886.3 | 79.0 | 2,158.2 | 50.9 | 28.1 |
| Aug | 8,663.50 | 916.07 | 5,239.81 | 1,314.85 | 1,341.4 | 58.4 | 1,509.0 | 35.5 | 21.2 |
| Sept | 7,591.93 | 815.28 | 4,709.96 | 1,172.06 | 1,409.0 | 90.3 | 1,477.3 | 36.3 | 20.5 |
| Oct | 8,397.03 | 885.77 | 5,000.32 | 1,329.75 | 1,654.8 | 68.3 | 1,709.3 | 42.5 | 25.4 |
| Nov | 8,896.09 | 936.31 | 5,236.85 | 1,478.78 | 1,454.4 | 57.7 | 1,799.5 | 37.9 | 27.3 |
| Dec | 8,341.63 | 879.82 | 5,000.00 | 1,335.51 | 1,247.9 | 57.6 | 1,423.6 | 32.1 | 21.6 |
| <u>2003</u> | | | | | | | | | |
| Jan | 8,053.81 | 855.70 | 4,868.68 | 1,320.91 | 1,474.7 | 62.9 | 1,547.6 | 37.5 | 24.7 |
| Feb | 7,891.08 | 841.15 | 4,716.07 | 1,337.52 | 1,336.4 | 53.6 | 1,311.4 | 32.8 | 20.4 |
| Mar | 7,992.13 | 848.18 | 4,730.21 | 1,341.17 | 1,439.3 | 64.7 | 1,499.9 | 36.3 | 23.0 |
| Apr | 8,480.09 | 916.92 | 5,131.56 | 1,464.31 | 1,422.7 | 54.7 | 1,478.2 | 37.1 | 23.5 |
| May | 8,850.26 | 963.59 | 5,435.37 | 1,595.91 | 1,488.6 | 69.6 | 1,847.9 | 39.2 | 27.4 |
| June | | | | | | | | | |
| July | | | | | | | | | |
| Aug | | | | | | | | | |
| Sept | | | | | | | | | |
| Oct | | | | | | | | | |
| Nov | | | | | | | | | |
| Dec | | | | | | | | | |
| YTD '02 | 9,925.25 | 1,067.14 | 6,035.27 | 1,615.73 | 1,335.1 | 57.3 | 1,814.7 | 42.1 | 34.5 |
| YTD '03 | 8,850.26 | 963.59 | 5,435.37 | 1,595.91 | 1,434.2 | 61.2 | 1,541.4 | 36.6 | 23.9 |
| % Change | -10.8% | -9.7% | -9.9% | -1.2% | 7.4% | 6.8% | -15.1% | -13.0% | -30.8% |

## MUTUAL FUND ASSETS
($ Billions)

## MUTUAL FUND NET NEW CASH FLOW*
($ Billions)

| | Assets: Equity | Assets: Hybrid | Assets: Bond | Assets: Money Market | **TOTAL ASSETS** | Flow: Equity | Flow: Hybrid | Flow: Bond | Flow: Money Market | **TOTAL** | Total Long-Term Funds |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1985 | 116.9 | 12.0 | 122.6 | 243.8 | 495.4 | 8.5 | 1.9 | 63.2 | -5.4 | 68.2 | 73.6 |
| 1986 | 161.4 | 18.8 | 243.3 | 292.2 | 715.7 | 21.7 | 5.6 | 102.6 | 33.9 | 163.8 | 129.9 |
| 1987 | 180.5 | 24.2 | 248.4 | 316.1 | 769.2 | 19.0 | 4.0 | 6.8 | 10.2 | 40.0 | 29.8 |
| 1988 | 194.7 | 21.1 | 255.7 | 338.0 | 809.4 | -16.1 | -2.5 | -4.5 | 0.1 | -23.0 | -23.1 |
| 1989 | 248.8 | 31.8 | 271.9 | 428.1 | 980.7 | 5.8 | 4.2 | -1.2 | 64.1 | 72.8 | 8.8 |
| 1990 | 239.5 | 36.1 | 291.3 | 498.3 | 1,065.2 | 12.8 | 2.2 | 6.2 | 23.2 | 44.4 | 21.2 |
| 1991 | 404.7 | 52.2 | 393.8 | 542.5 | 1,393.2 | 39.4 | 8.0 | 58.9 | 5.5 | 111.8 | 106.3 |
| 1992 | 514.1 | 78.0 | 504.2 | 546.2 | 1,642.5 | 78.9 | 21.8 | 71.0 | -16.3 | 155.4 | 171.7 |
| 1993 | 740.7 | 144.5 | 619.5 | 565.3 | 2,070.0 | 129.4 | 39.4 | 73.3 | -14.1 | 228.0 | 242.1 |
| 1994 | 852.8 | 164.5 | 527.1 | 611.0 | 2,155.4 | 118.9 | 20.9 | -64.6 | 8.8 | 84.1 | 75.2 |
| 1995 | 1,249.1 | 210.5 | 598.9 | 753.0 | 2,811.5 | 127.6 | 5.3 | -10.5 | 89.4 | 211.8 | 122.4 |
| 1996 | 1,726.1 | 252.9 | 645.4 | 901.8 | 3,526.3 | 216.9 | 12.3 | 2.8 | 89.4 | 321.3 | 232.0 |
| 1997 | 2,368.0 | 317.1 | 724.2 | 1,058.9 | 4,468.2 | 227.1 | 16.5 | 28.4 | 102.1 | 374.1 | 272.0 |
| 1998 | 2,978.2 | 364.7 | 830.6 | 1,351.7 | 5,525.2 | 157.0 | 10.2 | 74.6 | 235.3 | 477.1 | 241.8 |
| 1999 | 4,041.9 | 383.2 | 808.1 | 1,613.1 | 6,846.3 | 187.7 | -12.4 | -5.5 | 193.6 | 363.4 | 169.8 |
| 2000 | 3,962.0 | 346.3 | 811.1 | 1,845.2 | 6,964.7 | 309.4 | -30.7 | -49.8 | 159.6 | 388.6 | 228.9 |
| 2001 | 3,418.2 | 346.3 | 925.1 | 2,285.3 | 6,975.0 | 31.9 | 9.5 | 87.7 | 375.6 | 504.8 | 129.2 |
| 2002 | 2,667.0 | 327.4 | 1,124.9 | 2,272.0 | 6,391.3 | -27.7 | 8.3 | 140.7 | -46.6 | 74.7 | 121.3 |
| 2002 | | | | | | | | | | | |
| Jan | 3,372.1 | 347.2 | 946.9 | 2,303.4 | 6,969.6 | 19.4 | 2.2 | 10.4 | 14.0 | 46.0 | 32.0 |
| Feb | 3,310.5 | 348.3 | 962.5 | 2,301.0 | 6,922.3 | 4.7 | 2.3 | 10.9 | -5.5 | 12.4 | 17.9 |
| Mar | 3,495.7 | 359.2 | 958.3 | 2,247.9 | 7,061.1 | 29.7 | 3.3 | 6.6 | -53.0 | -13.4 | 39.5 |
| Apr | 3,367.8 | 354.5 | 980.6 | 2,231.4 | 6,934.4 | 12.8 | 3.3 | 7.7 | -19.6 | 4.3 | 23.9 |
| May | 3,341.5 | 356.4 | 994.1 | 2,230.7 | 6,922.7 | 4.8 | 1.5 | 10.5 | -3.2 | 13.6 | 16.8 |
| June | 3,088.7 | 341.4 | 1,003.7 | 2,197.4 | 6,631.2 | -18.3 | 0.4 | 12.2 | -43.6 | -49.3 | -5.7 |
| July | 2,770.1 | 320.7 | 1,032.9 | 2,254.6 | 6,378.4 | -52.6 | -4.7 | 28.1 | 54.6 | 25.4 | -29.2 |
| Aug | 2,781.1 | 324.9 | 1,063.7 | 2,217.5 | 6,387.3 | -3.1 | 0.6 | 17.4 | -38.7 | -23.9 | 14.9 |
| Sept | 2,505.3 | 305.4 | 1,089.0 | 2,164.6 | 6,064.2 | -16.1 | -0.6 | 15.4 | -54.9 | -56.2 | -1.4 |
| Oct | 2,659.5 | 316.7 | 1,083.6 | 2,177.5 | 6,237.2 | -7.5 | -1.0 | 6.4 | 12.5 | 10.4 | -2.1 |
| Nov | 2,818.4 | 332.3 | 1,098.7 | 2,309.3 | 6,558.6 | 7.0 | 1.2 | 7.6 | 129.9 | 145.6 | 15.8 |
| Dec | 2,667.0 | 327.4 | 1,124.9 | 2,272.0 | 6,391.3 | -8.3 | -0.2 | 7.3 | -38.8 | -40.0 | -1.2 |
| 2003 | | | | | | | | | | | |
| Jan | 2,597.7 | 324.7 | 1,138.2 | 2,273.6 | 6,334.2 | -0.4 | 1.1 | 13.0 | -1.2 | 12.5 | 13.7 |
| Feb | 2,537.8 | 322.9 | 1,171.1 | 2,236.2 | 6,268.0 | -11.1 | 0.1 | 19.7 | -39.6 | -30.9 | 8.7 |
| Mar | 2,551.3 | 325.3 | 1,183.3 | 2,204.7 | 6,264.6 | -0.3 | 0.9 | 10.6 | -32.3 | -21.0 | 11.3 |
| Apr | 2,769.6 | 346.7 | 1,210.5 | 2,158.3 | 6,485.1 | 16.1 | 2.7 | 10.6 | -53.7 | -24.3 | 29.4 |
| May | | | | | | | | | | | |
| June | | | | | | | | | | | |
| July | | | | | | | | | | | |
| Aug | | | | | | | | | | | |
| Sept | | | | | | | | | | | |
| Oct | | | | | | | | | | | |
| Nov | | | | | | | | | | | |
| Dec | | | | | | | | | | | |
| YTD '02 | 3,367.8 | 354.5 | 980.6 | 2,231.4 | 6,934.4 | 66.6 | 11.1 | 35.6 | -64.1 | 49.2 | 113.4 |
| YTD '03 | 2,769.6 | 346.7 | 1,210.5 | 2,158.3 | 6,485.1 | 4.4 | 4.8 | 53.8 | -126.8 | -63.8 | 63.0 |
| % Change | -17.8% | -2.2% | 23.4% | -3.3% | -6.5% | -93.5% | -56.4% | 51.0% | NM | -229.6% | -44.4% |

* New sales (excluding reinvested dividends) minus redemptions, combined with net exchanges
Source: Investment Company Institute

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