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THE STATE OF THE INDUSTRY

George Monahan and Grace Toto

AN OPEN LETTER TO THE IMF

Frank Fernandez

LIQUIDITY MEASUREMENT

Frank Fernandez

MANAGING YOUR EXPECTATIONS

SIA Investor Education Committee

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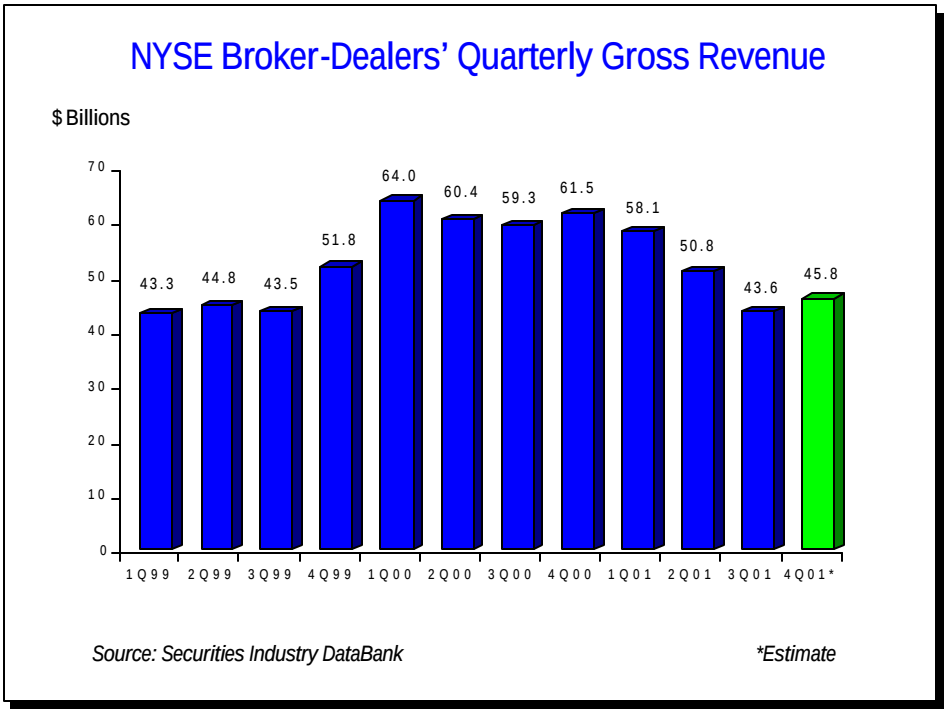
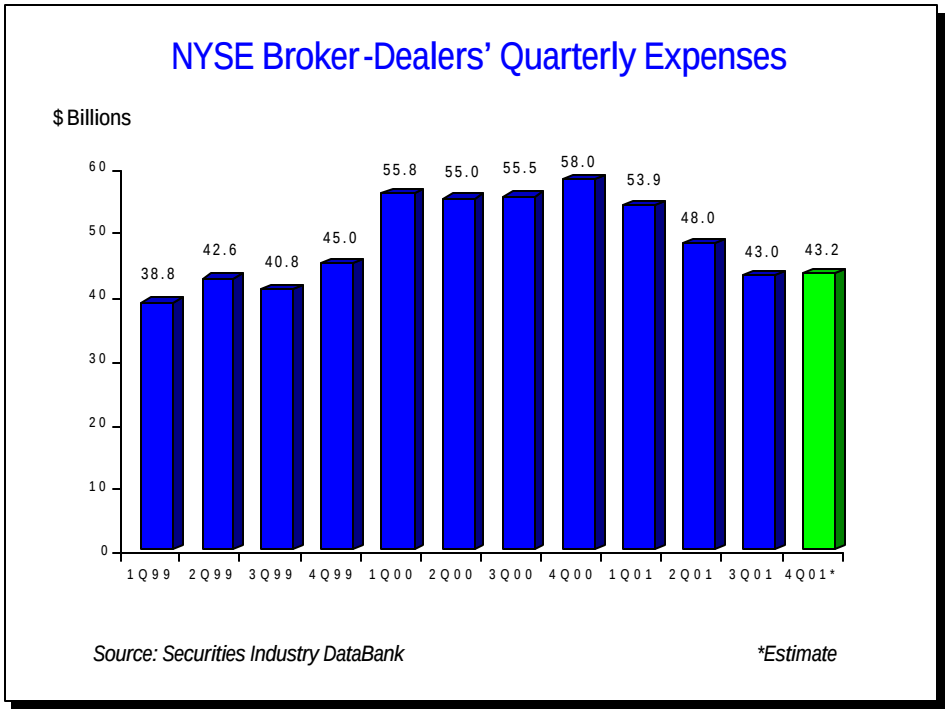
The performance of the US securities industry, like that of US equity markets, appears to be recovering from a cyclical downturn. The steady deterioration in industry revenues and profits, which began after record levels were set in 1Q'00, halted during 4Q'01 and a partial, slow recovery appears to be underway. Revenues and profits are expected to show improvement in 4Q'01 and into 2002, and, if so, it would obviate the need for another round of cost cutting by securities firms.

Industry Performance in 3Q'01

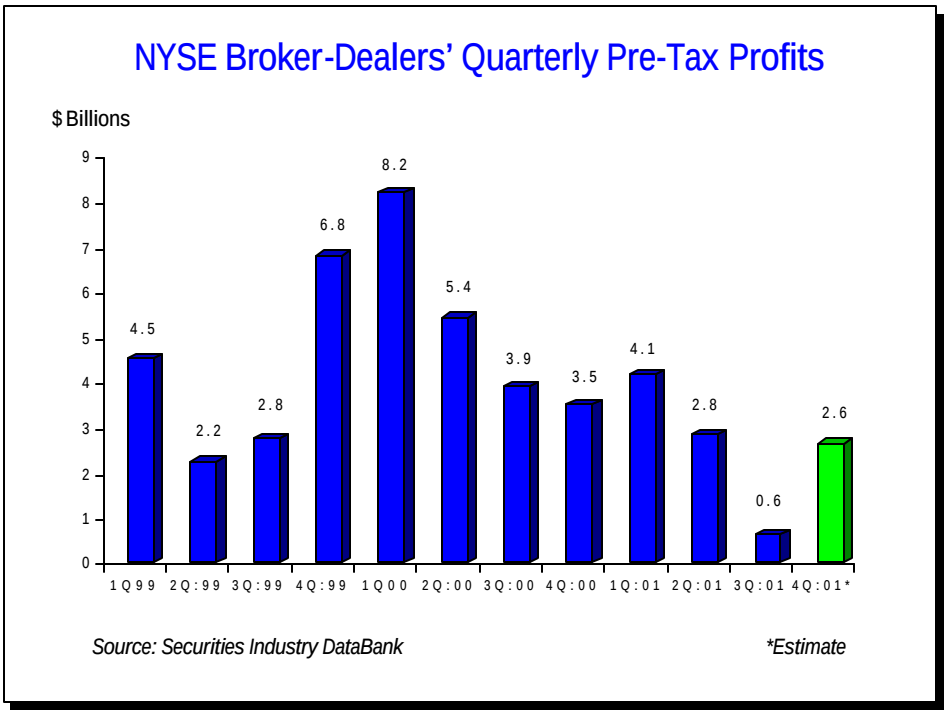
Total revenue of NYSE member firms declined 14.1% from 2Q'01 levels and 26.5% from 3Q'00. The decline in revenues was broad based, with most, but not all, significant line items falling during the last trimester. The sharpest declines were registered in underwriting revenue (29.1%) and trading gains (66.2%). A sharp jump in commodities revenue largely offset the sharp fall off in trading gains; and losses were recorded in the firms' investment accounts. Commissions were down 9.1%, margin interest revenue fell 18.8% and mutual fund sales revenue and asset management fees dropped 5.5% and 4.9%, respectively.



Total expenses in 3Q'01 were pared by 10.3% from 2Q'01 and were 22.4% below levels set in the same quarter last year. Interest expense and compensation, which jointly account for 76% of total expenses, declined 13.9% and 10.1%, respectively, reflecting the impact of sharp cuts in interest rates, layoffs and reductions in production payouts, bonuses and other forms of variable compensation. Total expenses are expected to rise slightly in 4Q'01, largely reflecting seasonal factors and severance packages arising from recently announced staff reductions. The cost savings from this downsizing will not be realized until next year.



Domestic pre-tax profits in 3Q'01 shrank to just $623 million, less than a quarter of the $2.82 billion result posted during 2Q'01 and the poorest outcome for the domestic operations of U.S. securities firms since a loss of $179 million was registered in 3Q'98.



Upturn Materializes in 4Q'01

In what has been a very difficult year for Wall Street, some positive trends are evident as 2001 comes to a close, including:

- 2001 will be a record year for fixed income issuance and for total underwriting as well. Fixed income issuance reached $2.12 trillion in the first eleven months of the year, 37.3% above the same period last year and already past the full year record set in 1999 of $1.77 trillion. Total underwriting topped $2.27 trillion in the first eleven months, 30.2% above the same, year-earlier period and well ahead of the record 1999 pace of $1.96 trillion, despite a 25% decline in equity issuance.
- Accounting for most of the weakness in primary equity markets was the sharp fall off in IPOs. During 2001, only 93 IPOs (excluding ADRs) were priced, less than one-quarter of 2000's total and their dollar value was just under $39 billion, down 48.8% from last year's levels. However, equity underwriting strengthened in December, which includes the most active week since end-July, and this is a very hopeful sign;

- Trading volume (shares, number of trades) has stayed strong in the aftermath of 9/11 and 2001 will be a record year. For the first 11 months of this year, share volume on the NYSE is 20.4% higher than in the comparable period last year, while Nasdaq volume is 11.3% higher. The number of trades executed this year is up 12.6% from last year. However, reflecting the decline in stock prices, the value of trading this year is running 2.6% lower on the NYSE and 45.2% lower on the Nasdaq;

- The value of mutual fund assets will fall this year 8.2%, but net flows, which were negative during 3Q'01 (for the first time in eleven years) have turned positive again in 4Q'01;

- These positive trends are expected to be reflected on the appropriate line items of securities firms' income statements and revenue growth for the industry as a , after slumping since record levels were set in 1Q'00. Profits are expected to be higher in 4Q'01, rising to $2.6 billion. Revenue growth is expected to resume, increasing 5% from 3Q'01 levels, reflecting strong secondary market activity, a partial recovery of equity issuance activity, slightly higher revenue from asset management fees and mutual fund sales as net flows into funds became positive again in the current quarter. Total expenses are also expected to be higher, but only marginally higher, in 4Q'01, largely reflecting seasonal factors and the cost of severance packages associated with recent layoff announcements.

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Full Year 2001 Results and the Outlook for 2002

- Firms have managed to stay profitable during the current downturn, despite falling revenues (down 19% this year) because the two most largest expense items of securities firms, compensation and interest expense (which jointly this year account for 76% of total expenses), have been dramatically reduced. Total compensation will fall 11.2% this year reflecting reduced headcount and sharply lower variable compensation (principally bonuses, off an estimated 50% from record levels last year) and a 24% decline in interest expense, which reflects the Fed's aggressive monetary easing (a record 11 cuts in one year) and reduced leverage by securities firms.

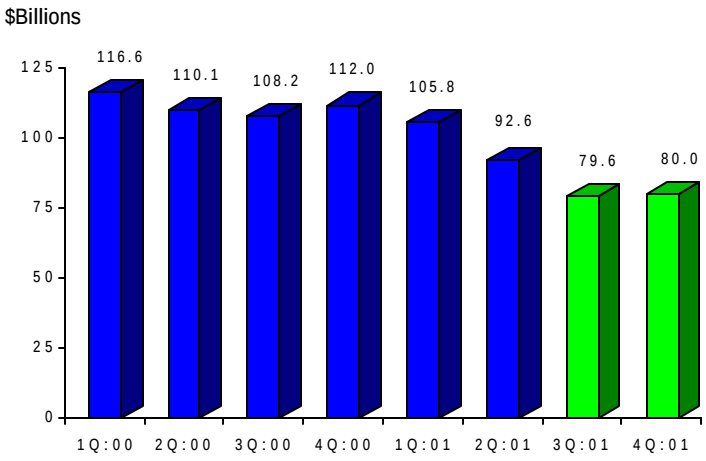
- The good news is that the trend of falling revenues appears to have halted in 4Q'01. If, as expected, revenues continue to rise, albeit modestly, in the new year, this will reduce the need for additional layoffs beyond those already announced and now being carried out.

- Worldwide holding company profits of the U.S. securities industry are projected to reach $28.2 billion in 2001, down 51% from the record $58.0 billion result last year.

- Domestic (pre-tax) securities industry profits for 2001 are projected to fall to $10.2 billion, down a like 51% from last years record $21.0 billion result, but still the fifth most profitable year in the industry's history.

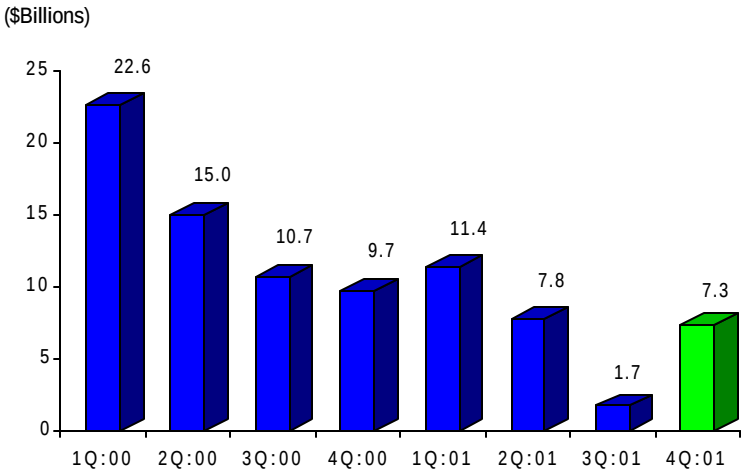
- For 2002, we expect worldwide holding company profits to rise to $32.1 billion and for the domestic operations to $11.6 billion.

U.S. Securities Industry Quarterly Global Revenue
(Estimated Holding Company Worldwide Gross Revenue)



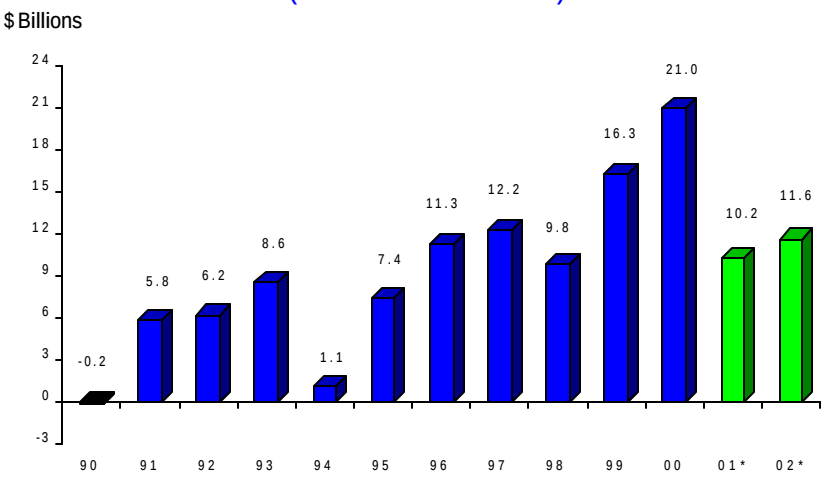
Sources: SEC; SIA Securities Industry DataBank; SIA estimates

U.S. Securities Industry Quarterly Global Profits
(Estimated Holding Company Worldwide Pre-Tax Profits)



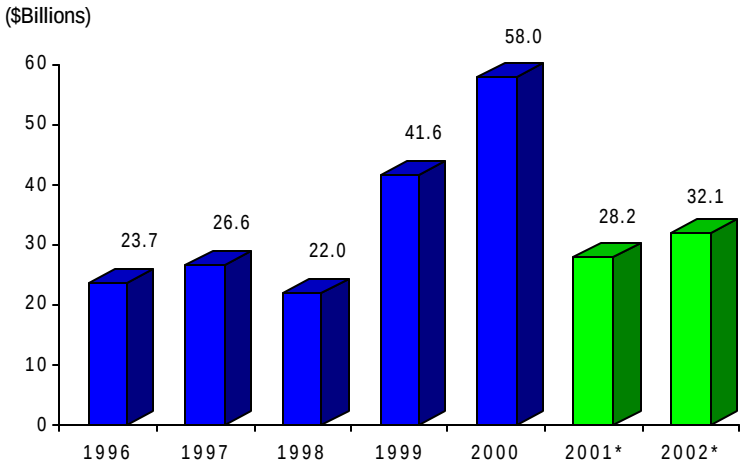
Sources: SEC; SIA Securities Industry DataBank; SIA estimates

U.S. Securities Industry
Annual Domestic Pre-Tax Profits
(NYSE Member Firms)



Source: SIA DataBank **Estimates*

U.S. Securities Industry Annual Global Profits
(Estimated Holding Company Worldwide Pre-Tax Profits)



*Sources: SEC; SIA Securities Industry DataBank; SIA estimates; * denotes estimates*

A Note on Employment

- Employment in the US securities industry reached an all time peak of 776,400 employees in February '01, before falling to 748,300 by October '01, which is down 28,100 or 3.6% in eight months. While this is a steep decline, in percentage terms it is only 40% of the 9.1% (peak-to-trough from Dec. '87 to Feb.'91) fall in industry employment in the last downturn (1988-1990). Further declines are expected in November and December figures as previously announced layoffs materialize.

- New York City/State securities industry employment accounts for virtually all the decline in national industry employment. From an all time peak of 206,800 securities industry employees in August 2000, to 182,100 in October 2001, the state has lost 24,700 jobs, an 11.9% decline. Virtually all of these have been New York City jobs. But this is still just a fraction of the 35,100 jobs, a record 20.3% decline in the last downturn following the October '87 market crash.

- In October 2001 alone the city lost 15,800 jobs. Of this total 12,000 were relocations out of the city (as New Jersey had a securities industry job gain of 6,300 in October). These figures do not fully reflect the city's job losses that occurred in the aftermath of September 11. An estimated additional 3,000 jobs migrated (principally to New Jersey) that have not yet been transferred from New York to New Jersey tax rolls, which should be reflected in November statistics. Similarly, a large portion of the 1,100 fatalities suffered by securities firms had not, at end-October, been removed from their firms' payrolls.

- Based on announced job cuts, and the above factors, we expect industry employment to fall another 9,000 to 12,000, with those losses heavily/disproportionately concentrated in New York City.

George Monahan
Vice President and Director, Industry Studies

Grace Toto
Assistant Vice President and Director, Statistics

AN OPEN LETTER TO THE IMF

This letter is in response to a recent proposal by First Deputy Managing Director Anne Krueger on a new approach to sovereign debt restructuring. We applaud the efforts that the IMF has made and is continuing to make in order to strengthen the architecture of the international financial system. We also agree with the sentiment expressed in Ms. Krueger's proposal and by other IMF officials during the past several years that the resolution of sovereign debt problems should not include extraordinary amounts of official financing. Instead, we would prefer to see a voluntary and cooperative process involving both public and private sector creditors that could help to ensure relatively smooth debt workouts, which in turn would allow countries that have had to reschedule their external obligations to regain access to the international capital market in an expeditious manner.

Unfortunately, the proposals advanced by Ms. Krueger do not represent a "cooperative" solution between public and private sector creditors, nor do they represent a solution that would enable countries that have restructured their debts to return quickly to the international capital market. Indeed, we are concerned that the real effect of Ms. Krueger's proposal will be to further reduce the flow of private portfolio capital to developing countries. A contraction in portfolio capital flows would reduce the likelihood that external financing problems in developing country could adversely affect the functioning of the international capital market, which is obviously the point of the entire proposal. However, the cost of the remedy proposed by Ms. Krueger, we believe, would be lower rates of growth and higher levels of poverty in developing countries, with consequent spillover effects on the developed world.

With respect to the proposal itself, we would like to comment on several of the issues raised by Ms. Krueger. First, Ms. Krueger has based her proposal on several key assumptions: (1) that there is a collective action problem that prevents creditors as a group from reaching agreement on restructuring terms for countries that have an "unsustainable" level of external debt; (2) that IMF assistance to debtor governments has the effect of "bailing out" private creditors; and (3) that "a framework offering a debtor country legal protection from creditors that stand in the way of a necessary restructuring" would be analogous to domestic bankruptcy procedures.

It is quite clear that the current procedure for external debt restructurings is messy and disorganized and that more can be done to organize creditors, in order to speed the debt restructuring process. However, the "messiness" that is inherent in a market-based debt restructuring process is itself an important deterrent preventing countries from seeking an easy way out of their financing difficulties by abrogating their contractual obligations to external creditors. We are concerned that one result of Ms. Krueger's proposal, if it were adopted, would be to encourage debtor governments to seek an officially sanctioned debt restructuring rather than making the painful but necessary choices regarding domestic economic policies. Ms. Krueger noted the success of 1980's debt rescheduling efforts without acknowledging that the success of those efforts were, in part, due to a balance of rights and potential actions that helped bring

both sides to the negotiating table and keep them there.

We also disagree with the argument that private creditors are being bailed out through official loans to developing countries that are facing external financing difficulties. Far from being "bailed out," private creditors have and likely will continue to experience significant losses on their exposure to emerging market sovereign debtors who have experienced payments difficulties. Meanwhile, multilateral and bilateral official creditors, in particular the IMF and the IBRD, have not absorbed comparable losses and managed to maintain their position at the head of the payments queue in these "workout" situations.

Finally, we disagree strenuously with the notion that the mechanism envisioned by Ms. Krueger could be considered as analogous to a domestic bankruptcy procedure. In a domestic bankruptcy creditors have the ability to attach a debtor's assets, which can be used as partial restitution for their losses. There is no provision at all in Ms. Krueger's proposal for even a partial restitution for creditors. Moreover, Ms. Krueger proposes that any new debt issued by the borrower would have to have seniority over existing debt, as a means to encourage private lenders to extend credit to the country. Existing creditors, as a result, would see the value of their claims on the borrower further diluted.

Moreover, eliminating creditors rights in exchange for a promise by problem debtors to put in place policies that would prevent future payments interruptions is a trade-off that few creditors, with good reason, would accept voluntarily. The history of sovereign defaults, particularly in the past two decades, is filled with similar promises that were not fulfilled. The IMF has, more often than not, seen the targets that it sets for problem debtors exceeded and its structural adjustment programs linked to debt relief lapse without achieving the needed reforms. For example, similar promises were offered to Argentina foreign creditors in the late 1980's to persuade them to accept a "haircut" in the exchange of commercial bank loans for bonds. Unfortunately, many of the needed structural reforms never occurred, which is one of the main reasons why Argentina is faced once again with an external financing crisis.

An additional concern with the proposal has to do with the potential conflict of interest that the IMF could face if the proposal were put into effect. The IMF, a principal creditor itself to the troubled debtor, would also be acting as an arbitrator since it would decide when a debt standstill would be officially sanctioned and would oversee the debt restructuring process. This potential conflict of interest could raise concerns both about the IMF's ability to be an impartial judge of a country's "ability to pay" and about the prospects for tortuous interference in the restructuring process.

We would also like to note that we consider the proposal highly impractical since, as Ms. Krueger points out, "if we are to restrict the ability of creditors to enforce their claims in national courts, then …the mechanism must have the force of law universally. Otherwise creditors will deliberately seek out the jurisdictions in which they have the best chance of enforcing their claims." We believe it is highly unlikely that this proposal will ever have the force of law universally. That means, of course, that "rogue" creditors would still be free to sue in the courts of those countries that have not adopted the

rules suggested by Ms. Krueger, thus undercutting the feasibility of the entire proposal.

Although we regard Ms. Krueger's proposal as impractical and infeasible, we are concerned that this proposal appears to have some support within the IMF's Executive Board. One important lesson that has been learned over the past few years is that sovereign debt negotiations proceed at a faster pace, with less extraneous distractions, when there is trust and dialogue between the official sector and private creditors. The IMF itself has recognized the importance of improved dialogue between the official sector and private creditors as a means to smooth the restructuring process. In that respect, this proposal represents a step backward, since it is clearly prejudicial toward the interests of private sector creditors. IMF support for the Krueger proposal, therefore, could drive a further wedge between official and private creditors, weakening the basis for cooperation in the future.

In closing, we would like to stress once again that we agree that more can be done to strengthen the architecture of the international financial system. We strongly believe, however, that the most constructive approach is through enhanced dialogue and cooperation between public and private sector creditors. We look forward to working with you on such an approach.

Frank Fernandez
Senior Vice President, Chief Economist and Director, Research

Introduction

Over the past four years, substantial efforts have been made to understand the determinants and dynamics of financial market liquidity and, secondarily, to measure and monitor liquidity risk.[1] These efforts were driven principally by successive bouts of "turbulence in global financial markets and the ever-increasing importance of traded markets to financial intermediation."[2] This prompted greater recognition that the adequate provision of liquidity is critical for the smooth operation of an economy in general and financial markets in particular. Its sudden erosion in even a single market segment or in an individual instrument can stimulate disruptions that are transmitted, with rising speed, across increasingly interdependent and interconnected financial markets worldwide. Understanding and mitigating exposure to liquidity risk has become a more important part of risk management. Also supporting these efforts has been recognition that money flows, and the availability of credit for securities markets may have become increasingly important in determining the nominal value of financial assets.[3]

Despite the need to understand the mechanics of liquidity in order to assess action that either presumes the existence of liquid markets and liquid instruments or that affects the extent to which markets or instruments are liquid, little agreement existed on the proper measurement or even definition of liquidity. Indeed, until recently, the bulk of the body of available literature was characterized by explanations of limitations.[4] Problems in measurement include those related to differences in accessibility, timeliness and frequency of data. Further complicating the task is the nature of liquidity itself, the various aspects of which are not captured by a single measure and which takes on distinct meanings at different levels of aggregation. However, market participants, academics and policy makers have made progress in developing comprehensive sets of liquidity measures for individual markets.[5] Greater availability of data, increased transparency and disclosure as well as the use of various dimensions of liquidity as indicators of the quality of order execution have sparked interest in liquidity and made its measurement more manageable.

The following is a "working paper" where we propose three distinct sets of liquidity measures that reflect the different aspects that liquidity assumes as the level of aggregation changes. Specifically, we propose attempting to measure liquidity: at the micro level (for individual securities or asset classes); for equity markets; and at the macroeconomic level (for the US economy as a whole). We invite comments and suggestions from our readers on this approach and in future issues we intend to incorporate these contributions, and present these measures along with conclusions which can be drawn from their use.

L_1: Micro Liquidity Measures

For most investors in US securities markets, the presence of ample liquidity is assumed and trade execution virtually assured. However, during periods of market stress, liquidity can erode or even evaporate completely for some issues. Even in "normal" times, the relative presence or absence of liquidity can affect the quality of order execution and the risk that market participants face. In equity markets, for example, fully liquid markets obtain only for the most actively traded issues (roughly 2,000 stocks), for relatively small (2,000 shares

or less) market orders, during normal market hours and during stable market conditions.

In individual financial markets or for individual securities, one can ***define liquidity as the degree to which large size transactions can be carried out in a timely fashion with minimal impact on prices***. However, terms such as "large"(order size), "timely"(speed of execution) and "minimal"(resiliency) tend to be subjective or, at best, variable across markets and across individual securities. In this view, as Keynes noted, liquidity is not defined or measured as an absolute standard but on relative scale, which incorporates key elements of volume, time and transaction costs. In addition, there is strong interaction between each of the three dimensions that define liquidity at the micro level: depth, breadth and resiliency. Examining this interaction had been difficult, given the quality and availability of data, which varies widely across markets.

Research on these dimensions of liquidity was given substantial impetus by a dramatic increase in data collection and interpretation efforts as a result of the SEC's promulgation of the Execution Quality Disclosure Rule.[6] "Under this Rule, all market centers that trade national market securities are required to make available to the public monthly electronic reports that include uniform statistical measures of execution quality. These measures include, for example, the effective spread for market orders…the speed of execution and price improvement and disimprovement, as benchmarked against the time order receipt."[7] The rule was adopted a year ago in response to concerns "about market fragmentation in general and internalization and payment for order flow practices in particular."[8]

While these measures are intended to show that order routing choices can increase or lower transactions costs in trading securities, they provide data on the various dimensions of effective liquidity, itself a major driver of transaction costs. Under the Rule, each month all market centers that trade national-market-system securities must disclose on a public Website data for each security they trade. This includes categorizing orders of each stock by type (market, marketable limit, and limit orders inside, at and near the Quote) and size and for each category report such factors as execution speed, fill rates and price improvement (or disimprovement). The NYSE began posting these monthly reports this summer and at end-November market centers began reporting these uniform statistical measures of order execution for Nasdaq securities.

While it is premature to judge whether these measures will be of any use in assessing the quality of the execution of the trades they receive, they do provide insight into the dimensions of liquidity: depth, breath and resiliency. Combined with other measures already available it is possible to assess the liquidity of individual securities or asset classes. One extremely useful tool for evaluating the statistic prepared in the Rule is the TAG (Transaction Auditing Group) Rule 5 Comparison Tool. A cursory examination using the Tool reinforces the belief that any measure needs to be adjusted for the characteristics of individual equities and for order size.

Depth can be defined in several ways, including: (a) turnover or trading volume; (b) the availability of counteroffers; (c) the volume of trades possible without significantly affecting prices or the quote size, or; (d) the amount of orders held by market makers or specialist or inventories maintained by market makers. Each of these measures provides some element of market depth and each can be

incorporated into a composite indicator to measure depth. Trading volume and trading frequency are popular measures of depth in that there are simple and data is easy to obtain. Market centers provide volume and value of shares trades, while clearing systems report the number of trades completed. However, trading volume and trading frequency suffer as a measure of liquidity in that although they may reflect a more liquid market, they are also associated with volatility, which is thought to impede liquidity. Volume measures only trades: bids and offers which were matched and executed, not all the potential interest that exists at or near the current market price. This understates depth in that the quantity traded at any moment in time is often less than could have been traded at a given price.

A better measure would aggregate effective supply and demand, including both actual and potential trades that may arise from portfolio adjustment. Assembling this data in real time is only now becoming realizable, as exchanges and dealer networks prepare to launch new order display facilities that will show the best bid / best offer at the current market as well as at multiple levels of price discovery away from the current market price. These display facilities will also include the aggregate size of bids and offers at each level of the displayed trading interest of market makers / specialists, electronic communications networks (ECNs) and unlisted trading privilege (UTP) exchanges. Similar types of displays are available or soon will be for government and corporate bonds as well as actively traded loans.

The obvious shortcoming of measures of displayed depth is that market makers and large institutional investors often do not reveal the full quantities they are willing to transact at a given price so that measured depth underestimates true depth. With the advent of decimal pricing, the price improvement required to capture orders sank to penny or even sub-penny increments, and displayed depth was reduced to a minimum in many cases. This difficulty can be overcome by differentiating actual or effective depth (drawn from order entry and trade execution data) from potential depth, which would include an estimate of all interest at set distances away from the NBBO. The amount of orders held by market makers or specialist or inventories maintained by market makers; something akin to the concept of a CLOB (a central limit order book) would include most potential depth, but these amounts can only be estimated. These estimates can be drawn from the frequency and distribution of trades within set price ranges and set time intervals during the trading day and from sample data from market participants. Alternatively, estimates of the volume of trades possible without significantly affecting prices or of the volume associated with a 1% or 2% change in price could be obtained.

Breadth is generally defined as the width of the bid / offer spread or the distance from mid-market prices that transactions actually occur. Quoted bid / offer spreads are sometimes used without distinguishing between firm and indicative quotes. A further drawback is that quotes are good for only a limited period of time and for limited quantities and as such represent little more than execution costs during normal market conditions for immediate transactions that have no market impact. While this is somewhat useful for the overwhelming number of small orders that are matched in automatic order execution systems, such as SOES, it has little value for other orders. Effective spreads, which measure the distance from mid-market prices that transactions actually occur, provide a better measure. Data collected for the Disclosure of Order Execution Rule provide share-weighted

average measures of both realized and effective spreads. However, since the move to decimal pricing at the start of this year, spreads have been dramatically compressed, reduced to penny or even sub-penny increments, which has reduced the value of breadth as a measure of liquidity.

Resiliency is the speed with which price fluctuations resulting from trades dissipate or how quickly markets clear order imbalances. Resiliency is the most difficult of these three dimensions to measure, but it does give an indication of potential market depth that can't be seen from prevailing market flows. This is particularly important given the desire of large institutional traders to protect the anonymity of their order book in the face of increased transparency. Increasingly, such large block orders are not displayed and, instead, are broken up into small lots to reduce potential price impact and/or passed through intermediaries to protect anonymity. An alternative formulation of this measure considers the rise (fall) in price that typically occurs with a buyer-initiated (seller-initiated) trade. It is defined as the slope of the line that relates the price change to trade size and is typically estimated by regressing price changes on trading volume for fixed intervals of time. While a useful measure for large trades, data for estimation is difficult to obtain, and frequently it is impossible to determine who initiated the trade.

Despite the obvious difficulties in data collection and processing, measures of these three dimensions of liquidity are being prepared for specific asset classes, markets and individual securities. The first task is to establish the distribution of these dimensions over time and how they change relative to one another. Monitor for "anomalies" or shifts in the shape and range of these distributions would, for example, include changes in average spreads and the volatility of spreads, both absolutely and relatively, between instruments and market segments. With the exception of trading volume and trading frequency, each of the micro liquidity measures mentioned above tend to be positively correlated with other measures across securities, suggesting that a composite indicator that reflects each of the dimensions of liquidity would serve as the best liquidity proxy for individual securities and market segments.

L_2: Financial Market Liquidity

Aggregating these micro measures for market centers could provide one measure of financial market liquidity, but it would suffer from additional shortcomings beyond those mentioned above. At the market level, the concern is as much about system stability as it is about execution quality, and the measures discussed thus far provide only a partial picture of contemporaneous liquidity, not what drives it. An alternative formulation is needed to measure financial market liquidity. This formulation must accommodate credit available for the purchase of securities. The objective here is to define a measure of ***the amount of purchasing power (money and credit) readily available for the purchase of financial assets***. This is a difficult task, but one that is aided by previous attempts to measure financial market liquidity that have a long history and that have spanned a broad range of approaches.

A broad measure of money, or one that incorporates both money and credit, or 'credit-money', is needed. Removing time or term deposits from a broad definition of money as we did above is the first step. Adding credit extended by financial institutions for the purchase of financial assets is the next step. "At any moment in time, deposits represent

savings and thus merely constitute potential purchasing power since they need to be withdrawn first. But deposited money has been lent out by banks. Credit is generally accepted and exerts effective purchasing power at any moment in time."[9]

As early as 1930, Keynes[10] suggested dividing broad money flows into those going into 'industrial circulation' and those employed in 'financial circulation'. These two types of flows can also be seen, respectively, as the "transaction" and "speculative" demands for money. In 1994, Werner proposed defining the money supply by credit as the source of purchasing power and proposed a simple framework of credit circulation that disaggregates the quantity of credit into 'real' and 'financial' transactions.[11] Incorporating credit aggregates into the equation provides more information than deposit-money aggregates alone provide[12] and also makes possible the implementation of Keynes' idea of disaggregating credit-money and tracing which sectors of the economy receive purchasing power. Keynes felt this was practically impossible since "dollars of money are not distinguished according as they are said to be held for one or the other purpose."[13] Dramatic improvements in financial reporting and transparency and restatements of monetary theory since then have made this task much more manageable.

Disaggregating credit-money into amounts held for financial transactions and real transactions, while difficult, can be approximated. Changes in amounts held for financial transactions can be obtained by looking at flows by types of investor: individual and institutional. Changes in institutional investor balances can be approximated by the sum of: the net flow into funds (along with changes in the percentage of the portfolio held in cash or "liquid" assets); changes in the proprietary holdings of financial institutions; and changes in inventory positions of specialists and market makers. By far the largest and most variable component is mutual fund flows. These can be further disaggregated into flows into stock and stock index funds and fixed income funds. Further discrimination can be made by adding weights to the flows into balanced funds (both debt and equity), reflecting portfolio distributions of these funds. Changes in amounts held for financial transactions by individual investors can be seen in net flows into customer accounts at broker-dealers. Consolidated customer account data, while difficult to obtain, can be approximated by surveys of the largest "retail" or "discount" broker-dealers, given the high degree of concentration in the industry.

Financial market liquidity, viewed as a flow concept, is, therefore, equal to the sum of changes in: money balances held by retail and institutional investors readily available for securities transactions; credit extended for the purchase of financial instruments (the sum of bank and broker-dealer securities lending to institutional and individual investors) and net foreign portfolio inflows not involving domestic financial intermediaries (and hence captured in the first two flows), minus the change in the nominal value of outstanding securities. In this formulation, the last term is the change in the value of the "float" of securities outstanding and actually able to be traded. This distinction from measures of changes in securities market capitalization is important, particularly in recent years and particularly with respect to new equity issuances.

For equity markets, the change in the quantity of the float would be the sum of new equity issuances (IPOs and secondary offerings, excluding the amounts of these offerings that are restricted such as treasury stock and shares

[17] M2 is used for "actual money,"[18] while "predicted money" is generated "by a money demand model adjusted for the 1990's shift in velocity." "Predicted money" reflects the Fed's quest for money supply consistent

with maximum long-term real growth through low inflation and can be seen in the growth ranges set each year for growth of monetary aggregates such as M2. It is worth noting that the growth of these monetary aggregates has been above their target ranges in each of the last four years, before accelerating in 2001 to a pace that "may turn out to be quiet [19] In a restatement of this relationship, The Federal Reserve Bank of Cleveland replaced M2 with an alternative definition of money, MZM, or "money at zero maturity" which appears to provide a better measure of total liquidity.

MZM comprises all monetary instruments that have zero maturity and hence are redeemable at par on demand.[20] Included are M1 (currency, demand deposits, other checkable deposits and traveler's checks), savings deposits, and all money market mutual funds (MMMFs). MZM velocity (the ratio of nominal GDP to MZM) varies systematically with its opportunity cost (the difference between the 3-month Treasury yield and the share-weighted average of yields paid on MZM components) and appears relatively stable.

In contrast, the relationship between M2 velocity and its opportunity cost broke down in the 1990s, when M2 velocity persistently rose in the face of falling opportunity cost. This distortion is believed to be a consequence of the proliferation of bond and equity mutual funds, which grew largely at the expense of small time deposits. Because MZM does not include small time deposits, it was not affected by the widespread substitution of bond and equity funds for bank deposits.[21] (MZM differs from M2 in that small time deposits are excluded and institutional MMMFs are included). Examining the substitutability of elements of MZM provides interesting insight into monetary policy and securities market movements and perhaps a good leading indicator of real goods price inflation. Excess money or ready money balances available for financial transactions can then be defined as actual money of zero maturity (MZM) minus the predicted demand for money. However, we still need to add available credit to our definition.

Using Werner's model of credit circulation we can define:

(1) $C = C_R + C_F$ where C is loans by deposit–taking financial institutions. C_R is credit-money used in 'real transactions', such as investment in productive purposes or consumption and C_F is credit-money used for financial transactions and speculative purposes.

(2) $C_R V_R = P_R Y$ If V_R, the 'real' velocity of money, is stable, then the stock of credit money that enters 'real circulation' determines the nominal value of real goods and services ($P_R Y$).

(3) $C_F V_F = P_F A$ Similarly, with a stable 'financial' velocity of credit-money, the stock of credit money that enters 'financial' circulation determines the nominal value of financial assets ($P_F A$).

Substituting a still more expanded concept of the money supply (M): the sum of MZM, C and net inflows of foreign portfolio investment (dF_P) (the later added to provide an open economy extension to the model),

(4) $MZM + C + dF_P = M$

Applying this to our earlier definition of liquidity, where liquidity or excess money equals actual credit-money ($MZM + C + dF_P$) minus predicted money (M_P), assuming the velocities (including V_{MZM}, V_R and V_F) are constant or at least relatively stable (after adjusting for perceived permanent shifts of MZM), and defining predicted money as the

amount of credit-money needed to satisfy all purchases of real and financial assets ($M_P = P_RY + P_FA$), we obtain:

(5) L3 = MZM + CR + CF + dFP - PRY - PFA

This definition of liquidity (L_3) incorporates liquidity available for real and financial transactions (L_R and L_F).

(6) L3 = LR + LF

Further, assuming that velocities (including V_{MZM}, V_R and V_F) are at least relatively stable (adjusting for perceived permanent shifts), then the equation can be simplified to:

(7) $L_3 = L_R + L_F = MZM + (C_R - P_RY) + (C_F - P_FA) + dF_P$

And disaggregated (admittedly imprecisely) into two equations:

(8) $L_R = MZM_R + C_R - P_RY$
(9) $L_F = MZM_F + C_F - P_FA + dF_P$

While this formulation suffers from a list of shortcomings, not the least of which is the widely varying frequency and timely availability of the data for the variables and problems in specification, most if not all can be addressed. Once completed, the measure is expected to provide insight into the determinants and dynamics of financial liquidity.

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Definitions of Money

M is the money supply in its various definitions, which include:

M1 = Currency, travelers checks, demand deposits (traditional checking accounts), NOW and similar interest-earning checking accounts;

M2 = Includes M1 plus savings deposits and money market deposit accounts, small time deposits (under $100,000) excluding IRA and Keogh accounts, retail-type money market mutual fund (MMMF) balances, overnight re-purchase agreements (repos), and overnight Eurodollars deposits;

MZM = Includes M2 minus small time deposits and plus institutional MMMF balances;

M3 = Includes M2 plus large time deposits (over $100,000), wholesale-type money market mutual fund balances, term (beyond overnight) repos and term (beyond overnight) Eurodollar deposits.

Footnotes

[1] See for example, Bernard, H. and Bisignano, J., *Monetary Policy and the Equity Market: Liquidity, Information, Market Interdependence and the Allocation of Emergency Credit*, Draft BIS Working Paper No. XX, Bank for International Settlements (BIS), Basle, Switzerland, December 2000.

[2] Bank for International Settlements (BIS), *Market Liquidity: Research Findings and Selected Policy Implications*, Report of a Study Group Established by the Committee on the Global Financial System of the Central Banks of the Group of Ten Countries, Basle, Switzerland, May 3. 1999.

[3] Werner, R.A., *Towards a 'Quantity Theorem' of Disaggregated Credit and International Capital Flows With Evidence From Japan*, University of Oxford, Journal of Economic Literature, February 1994.

[4] Fernandez, F., *Liquidity Risk: New Approaches to Measurement and Monitoring*, SIA Working Paper, December 1999.

[5] See for example, Fleming, M.J., *Measuring Treasury Market Liquidity*, Federal Reserve Bank of New York, forthcoming, draft June 2001.

[6] U.S. Securities & Exchange Commission, Securities Exchange Act Rule 11Ac1-5, November 15, 2000.

[7] Nazareth, A.L., Speech by SEC Staff: Keynote Address at the 2001 Options Industry Conference, April 27, 2001, p.4.

[8] Ibid.

[9] Op. cit. 3.

[10] Keynes, J.M., *A Treatise on Money, Vol. 1*, McMillan, London 1930.

[11] Op.cit. 3.

[12] See surveys of the "credit school" such as: Gertler, M., 'Financial Structure and Aggregate Economic Activity', *Journal of Money, Credit and Banking*, Vol.20, No. 3, August 1988; Goodhart, C.A.E., 'The Conduct of Monetary Policy' Economic Journal, 99, June 1989, pp. 293-346,and; Jaffee, D. and Stiglitz, J., 'Credit Rationing' in B.M.Friedman and Hahn, F.H. (eds.), Handbook of Monetary Economics, Vol. II, Elsevier, B.V. 1990, pp. 838-888.

[13] Friedman, M., 'The Quantity Theory of Money A Restatement' in *Studies in the Quantity Theory of Money*, Univ. of Chicago, 1956.

[14] Carlson, J.B., Hoffman, D.L., Keen, B.D. and Rasche, R.H., "Results of a Study of the Stability of Cointegrating Relations Comprised of Broad Monetary Aggregates", Federal Reserve Bank of Cleveland, Working Paper 99/17, 1999.

[15] Johnson, H.G., Essays in Monetary Economics, Allen and Unwin, London, 1967, p.35.

[16] Boorman, J.T. and Havrilesky, T.M., Money Supply, Money Demand and Macroeconomic Models, AHM, 1975.

[17] Federal Reserve Bank of Cleveland, *Economic Trends*, July 2001, p. 5 and November 2001, p.7.

[18] For definitions of M2 and other monetary aggregates see insert.

[19] Federal Reserve Bank of Cleveland, *Economic Trends*, August 2001, p.7.

[20] MZM includes all financial instruments that are, or can be easily converted into, transaction balances without penalty or risk of capital loss. This concept was first proposed by Motley, B., "Should M2 Be Redefined?" Federal Reserve Bank of San Francisco, Economic Review, Winter 1988, pp. 33-51.

[21] Federal Reserve Bank of Cleveland, 'An Alternative Measure of Money', *Economic Trends*, July 1996.

MANAGING YOUR EXPECTATIONS

Preface

J. P. Morgan, the legendary turn-of-the-century American banker, was often asked what the stock market's next move would be. He responded "It will fluctuate!"

Although most investors readily accept this answer on an intellectual level, the volatility of the market is far harder to deal with emotionally. One can say confidently "Of course I understand the market goes down as well as up." But plummeting averages and increased media coverage induce a fear that causes investors to flee to the safety of short-dated assets. And fear has a far stronger grip on human action than does the weight of decades of historical experience.

The great bull market that began in August 1982 recorded stock returns that are about twice their historical average. This raised the expected return of many stockholders to levels that were far above what stocks have returned in the past, and above what they will likely return in the future. Nevertheless, throughout history stock returns have surpassed returns on all other financial assets, and in the future stocks will almost certainly be the best performers for those with a long-run perspective.

This brochure is designed to educate investors about what returns one can realistically expect from holding stocks and provide a plan for dealing with market volatility. You don't have to "beat the market" to do well in stocks. Success comes with patience and persistence and ability to harness your emotions when volatility strikes.

Jeremy J. Siegel
Professor of Finance
The Wharton School and
Author of Stocks for the Long Run

Introduction

Public enthusiasm for investing in stocks comes and goes in cycles that echo the market's own rhythms.* When the market rises for a sustained period of time, the idea that stocks can suffer serious declines tends to be dismissed by many participants as an antiquated notion that may have applied to previous eras but has no relevance to the current one. Conversely, a real bear market—that is, a decline of 20 percent or more that stretches over a number of months or even years—demoralizes many investors so thoroughly that they lose sight of the favorable long-term outlook for stocks. In short, extremes in stock price movements distort the expectations of a large percentage of investors, except for those who are able to look beyond the short-term.

In this brochure, we will attempt to help you see the stock market from a long-term perspective. Most importantly, we will offer some concrete suggestions for keeping your investment plan on track, no matter what the market does next. Knowing that your plan can succeed under a variety of scenarios will enable you to sleep at night and make your investment journey pleasant as well as rewarding.

Advice on managing expectations seems particularly appropriate now. By year-end 1999, stock investors were basking in a golden age of prosperity. The advance in share prices that began in 1982 had carried all of the popular market averages to unforeseen heights. Capping this extraordinary move was a string of five consecutive years, from 1995 to 1999, in which the Dow Jones

* *Past performance is not indicative of future performance in the stock market.*

Industrial Average—the most well-known measure of market activity—recorded prodigious gains of 33.5 percent, 26.0 percent, 22.6 percent, 16.1 percent and 25.2 percent respectively.

Although there were some down moments, investor expectations remained buoyed in the late 1990's. During the summer of 1998, the winds of change came to the market. Spurred by ongoing weakness in many Asian economies following the outbreak of that region's currency crisis in 1997, the same conditions spread like a "contagion" to Latin America and other emerging markets, U.S. equity prices began a sharp slide in July of 1998 that was punctuated on August 31 by a massive 512.61-point plunge in the Dow Jones Industrial Average and comparable drops in all of the other averages. However, the market quickly recovered and surged in 1999, before the long bull market came to an end early in 2000. The correction appears to have halted late in 3Q 2001, after a sharp fall when markets reopened in the aftermath of the September 11th tragedy. The time is right, then, for taking a step back and having another look at the big picture.

Great Expectations

To further quantify our observations about public perceptions of the stock market, we turn to a 1998 and 2000 poll conducted by the Gallup Organization. The poll***s*** sampled the opinions of nearly 2000 investors randomly selected from across the country. Here are two of the poll's most important findings:

1. Performance expectations for the stock market during the twelve months following the poll were 13.4 percent—well below its recent annual returns of about 20 percent but still considerably above the 10 percent or so considered by many analysts to be average.
2. Although, overall, investors said they earned 16.9 percent on their stock investments for the previous 12 months, they expected to earn only slightly less—15.2 percent—over the next 12 months.

In the context of realistic expectations, these findings are highly significant. Although investors expected the market's return to decrease by about half, investor expectations of the market's performance are still well above the long-term averages for the past seventy years or so. More importantly, investors had even more optimistic expectations for their own accounts. In order to achieve the expected rates of return for their personal portfolios, the investors interviewed for the poll would have to "beat considerable degree, even though they didn't come close to doing so under more favorable market conditions.

This discrepancy strongly suggests an "It won't happen to me" mentality wishful thinking on the part of many investors that they will somehow find a way to preserve their extraordinary returns even if, as many experts have predicted, the market must have a more ordinary year. What benchmarks should you use to set your sights over the long-term? That is the subject of the next section.

Stock market returns: a long-term view

We've noted that the extraordinary returns posted by the Dow Jones Industrial Average in the 1995-1999 period were far in excess of how stocks have performed over any reasonably long time frame. In *Stocks for the Long Run*, economist Jeremy Siegel examined stock returns all the way back to 1802.

During the modern financial era, from 1926 to 1999, the total annual compound return for stocks was somewhat higher at 11.3 percent. Some investors may object that the

depression-era stock market of the 1930s was an anomaly that is unlikely to be repeated. Fair enough. If we look at just the period following World War II (1946-1999), we see that the total return was 13.0 percent—a bit higher but still a long way from the unprecedented returns of the 1995-1999 period. Those five years have been truly exceptional, and it would clearly be a mistake to base any long-term investment program on them.

Risk: the other side of the coin

In one form or another, every investor seeks to get the best return for the least risk. Over long periods of time, there's little question that stocks are capable of offering attractive returns. However, the stock market has very forceful ways of reminding investors that what goes up can also come down. And so, the question must be asked: What about the risks of investing in stocks?

TABLE 1
STOCK MARKET RETURNS SINCE 1926

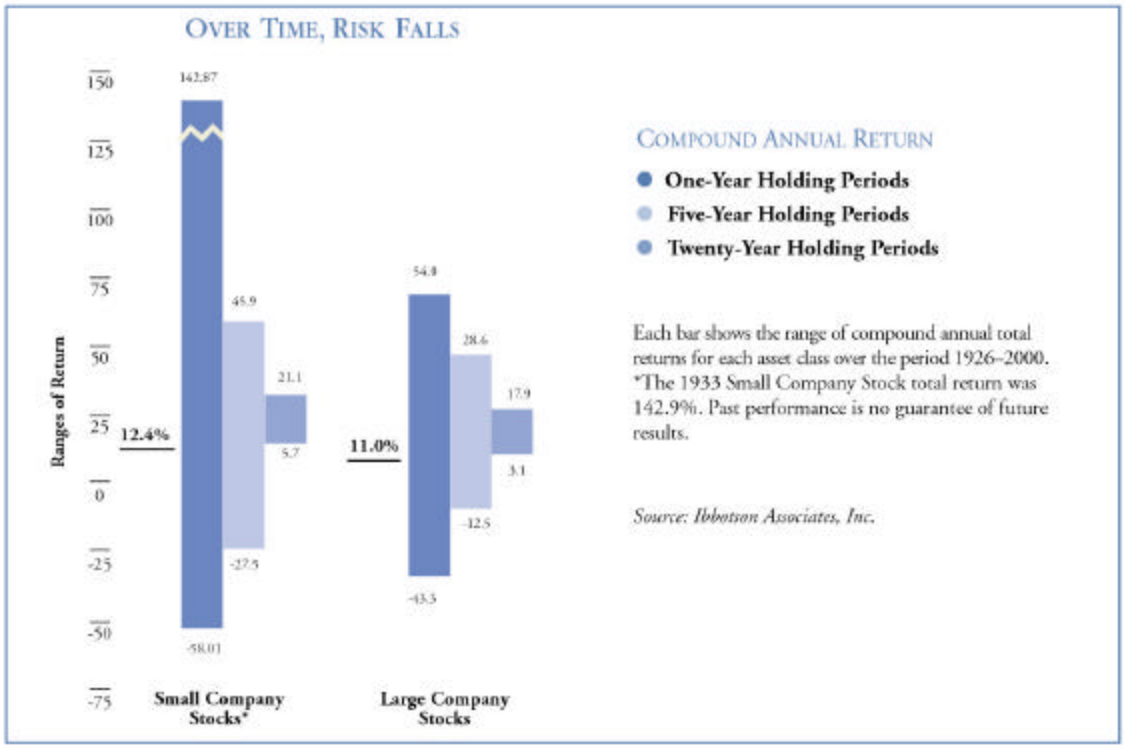
		Total Nominal Compound Annual Return	Nominal Capital Appreciation	Dividend Yield
Major Period	1926–2000	11.1	6.4	4.7
Post-War Period	1946–2000	12.5	8.2	4.3
	1995–2000	21.3	19.2	2.1

Source: Ibbotson Associates, Inc.

The stock market of the past two decades has been remarkable not only for its length and its meteoric rise in its late stage? The absence of a broad-based, sustained decline of true "bear market" proportions[1] for a generation may have colored investors' perceptions of risk. You may know about the Great Depression of the early 1930s, during which the Dow Jones Industrial Average lost roughly 90 percent of its value. The worst decline since World War II occurred in 1973-74, when the S&P 500 lost 43 percent of its value and declined for 21 months. By comparison, the most recent decline was nearly 37% from the peak reached by the S&P 500 on March 4, 2000 to the recent trough 18 months later on September 21, 2001.

While it is not clear when, or if, declines of such magnitudes will occur again, it is advisable to plan for the possibility. A little crisis planning now will go a long way towards counteracting feelings of fear and panic that may arise if the worst does happen.

To properly evaluate the risk of stock investments, it's necessary to grasp a key principle: the longer you hold stocks, the lower your chances of losing money on them, and the greater your chances of earning a return close to the long-term averages. That's because stocks have historically had what economists call mean-reverting returns—that is, over the long-term, periods of below-average returns tend to be followed by periods of above-average returns, and vice versa. It is best not to overreact to short-term market movements. For example, the recent market downturn was punctuated by a sharp 11.6% decline in the week of September 17-21, but has rallied since then, rebounding 16% by year-end.



Risk clearly flattens out with the lengthening of your investment time horizon. For example, the worst one-year return for small company stocks from 1926 to 1999 was more 58 percent—painful by almost any yardstick. However, the worst compound annual return over any five-year period for small company stocks during that same 74-year period was much more tolerable at 28 percent. Significantly, once we move out to 20 years and beyond, the worst-case scenario for small company stocks is a positive 6 percent. Of course, this means that some of the intervening years could (and often did) have sharply declining stock prices, but investors who held on through an entire 20-year period were rewarded with returns that, when compounded, were still positive and higher than other investments. The lesson of history, therefore, is that those who are willing to commit to a long-term investment program in stocks are unlikely to lose their investment capital and, in fact, are likely to add significantly to it. The trick is to stay invested even when the market is moving against you, and to use diversification to damp down risk to a level you can live with.

Is it different this time?

This brochure has presented a view of stock market reality that has been validated by many years of observation and experience. In recent years, some argued that stock market reality had fundamentally changed and that extended market declines were no longer the inevitable occurrences they used to be. While this proved not to be true, many were persuaded as the proponents of a "new economy" pointed to significant structural shifts to buttress their arguments.

There were the baby boomers to be considered, for one thing. Members of this huge segment of the U.S. population—born between 1946 and 1964 entered their prime saving years in the late 1990's. Moreover, they

were suspicious of the government's ability and willingness to fund Social Security in a way that would make a meaningful contribution to their retirement savings. There was also the undeniable fact that until recently, many baby boomers saved little and spent a lot. To all of this, add the backdrop of a moderately growing economy, low inflation, and low interest rates. The result was a huge segment of the population with the motivation, the means, and an ideal environment in which to invest massive amounts of capital in the stock market.

Globalization, the spread of free market economies, rapidly growing middle classes who are hungry for a high-consumption lifestyle in places such as Russia, China, and India, and the dizzying pace of technological progress are other trends cited by those who argue that the current stock market must be evaluated according to a different set of standards. It is beyond the scope of this brochure to discuss these considerations in detail. It is sufficient to note that spurred by these factors, sharply reduced transaction costs and more accessible and transparent markets, flows of capital accelerated, powering the longest bull market in U.S. history.

We should note, though, that this is not the first time investors have succumbed to the tantalizing notion that the rules of the game have been rewritten to exclude failure. They did so in the 1920s. And in the 1960s. Twenty years later, Japan served as the example. When the president of the Chicago Mercantile Exchange, who was visiting on a business trip in 1987, expressed amazement at the high valuation of Japanese securities, his hosts replied, "You don't understand. We've moved to an entirely new way of valuing stocks here in Japan." The TOPIX index—the Japanese equivalent of our Dow Jones Industrial Average—subsequently fell from over 2881 at the end of 1989 to 1722 at the end of 1999, roughly a 40 percent drop.

In the end, it doesn't matter what the specific circumstances are that lead people to believe that things were different this last time around. What matters is the simple fact that they believed it. Once that happens on a broad scale, speculative excesses—and the correction of those excesses—are inevitable. And on that happy note….How can you invest with realistic expectations and avoid being caught up in the speculative frenzy that tends to characterize historic bull markets? Here are a few suggestions.

- ***Maintain a clear distinction between long-term and short-term investments.***

  There's a trap that many investors fall into as the market surges upwardly month after month. It all seems so easy, so automatic. In such circumstances, it may be tempting to withdraw funds from your money market accounts or refinance your house to invest in stocks. Think very carefully before you do these things. You still need a short-term, emergency source of cash. You still need a house. Both could be jeopardized if you plunge into the market at the wrong time. Remember that market risk increases as you shorten your investment time frame. If it's money you might need in less than five years, you're probably better off leaving it where it is.

- ***Decide how much risk you can tolerate.***

  For planning purposes, it's best to assume that the market will continue to operate as it has in the past, and that you will be faced with one or more substantial declines during your investing lifetime. You should know now how you will react to those declines. In order to receive the benefit of those mean-reverting long-term returns we

mentioned earlier, you need to be invested through the market's valleys as well as its peaks. Resolve now to do so-and mean it. If, after an honest self-appraisal, you feel that you can't stand the risk inherent in the stock market's short-term swings, consider some of the suggestions for diversification mentioned below. Talking with a qualified financial planner or investment advisor will help you tailor your investment program to your individual needs.

- ***Diversify your investments among different industries, asset classes, and geographical areas.***

  Diversification simply means having investments that are not synchronized, so that some move up when others move down. An example would be buying the stock of an airline and an oil company; one is hurt by higher oil prices, while the other is helped. Other examples include holding bonds and money market assets as well as stocks, and investing a portion of your funds overseas. Diversification achieves two goals. It helps cut risk and actually increases the expected compound return of your portfolio. For these reasons, a certain amount of diversification is recommended even if you expect somewhat lower returns from the investments purchased for that purpose.

- ***Understand the power of dividends to contribute significantly to your total returns over the long run.***

  Your total return from an investment is comprised of capital appreciation and dividend or interest income. Capital appreciation comes from changes in the price of the investment. Dividends are quarterly payments to shareholders made by many companies. Most people assume that the bulk of the returns from stock investments comes from capital appreciation. In fact, from 1929 to 1999 the contribution of capital appreciation and dividends to total return was roughly equal, and the percentage contribution from dividends was even greater when measured on an inflation-adjusted basis. Not all stocks pay dividends, and there may be times when you are willing to forego a dividend if a stock looks particularly promising. But dividend-paying stocks can be a powerful addition to your investment arsenal, especially if you reinvest all of your dividends.

- ***Keep an eye on the effects of taxes on your investment portfolio.***

  There are several points to keep in mind about taxes. First, tax considerations strongly support a buy-and-hold strategy, as opposed to frequent in-and-out trading. The longer you hold a stock, the longer you can postpone paying capital gains taxes on your profits. Second, the tax laws are specifically designed to reward long-term investors. Assets held for 12 months or less are taxed at the same rate as your income, up to 39.6 percent at the maximum individual federal rate. However, assets held for more than 12 months are taxed at the traditional capital gains tax rate of 20 percent. In addition, dividends and interest are taxed as ordinary income, which means that they may be subject to federal tax rates as high as 39.6 percent. It may make sense, therefore, to keep high-dividend stocks in an IRA or some other tax-sheltered account and growth stocks, which frequently have negligible dividends and none at all in many cases, in a regular (taxable) account. Finally, remember to maintain a balanced view of things. While tax considerations should never be the sole factor influencing your investment decisions, they should at least be weighed carefully.

- ***Diversify across time by investing on a regular schedule.***

  If you invest a large sum of money in the market all at once, you're effectively putting all of your financial eggs in one time basket. If the time at which you choose to invest your money happens to be an inopportune one, you could expose yourself to considerable risk.

Conclusion

Investors' enthusiasm for stocks has been well-warranted; the U.S. stock market has produced an attractive average compound rate of return for nearly two centuries—as long as records have been kept in this country. While the five years from 1975 to 1999 produced the best average return of any consecutive five-year period in the last 75 years, this kind of performance was not likely to be sustained. Market declines over much of 2000 and 2001 may have dampened investor enthusiasm, but the value of long-term investment planning persists. The greatest danger at this stage of the investment cycle is that investors will lose their perspective and fail to respond to changes in market conditions With a little planning, built on the solid foundation of realistic expectations derived from knowledge of the market's performance over the long-term, stock investors can prepare themselves to ride out the inevitable hills and valleys along the road to reaching their financial goals.

Footnote

[1] The October 1987 plunge wiped out 20.5 percent of the Standard & Poor's 500 value. However, after hesitating for a few weeks, share prices resumed their upward course. The drop in 1997, although comparable in number of points, was much smaller in percentage terms. It, too, was short-lived.

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