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"**Achieving Cross-Border Trade Processing Goals: Part 2: Proposed Solutions**," by Mariya Rosberg, introduces some of the solutions proposed to address the challenges associated with achieving low-cost, low-risk, seamless cross-border trade processing, which is seen as key to the further development of a global securities market. Proposed solutions aim at achieving automated trade management, cross-border clearing and settlement harmonization, and international regulatory coordination. While these efforts represent steps toward a more global post-trade processing infrastructure, significant hurdles remain. The article discusses the innovations and remaining obstacles in the U.S., Europe, and Asia. "Part 1: The Status of Cross-Border Clearing and Settlement," published in March, provides the background for this month's article.....Page 3

"**Developments in Global E-Finance**" prepared by Judith Chase, is based on presentations by Tom Glaessner, as well as Stijn Claessens and Daniela Klingbiel. The impact that new information technology developments are having on financial services is examined. Technology is changing the industrial structure of financial services, leading to large cost reductions, enabling financial services providers to conduct business more efficiently. Technological advances result in benefits for the consumer and improve access, while making the location of trading less relevant. However, increasingly, emerging markets of all sizes are experiencing a migration of capital raising to the largest most liquid financial centers and/or trading platforms. The article reviews: current developments in technology and financial services; the public policy implications of these new developments, and; their impact on emerging market economies. .....Page 9

"Regulation FD: How is it Working?" Talking points prepared by Frank Fernandez for presentation at the SEC-sponsored Roundtable of the same name. More than thirty participants, on four separate panels, were invited by Acting Chairman Unger and Commissioner Hunt, to a "fact-finding" exercise and charged with assessing the impact of the Fair Disclosure Regulation (Reg. FD) after six months of its operation. There appeared to be general support for the view that the Regulation, while well intended, appears to be generating uncertainty and some previously anticipated negative consequences that might be remedied by modifications and greater clarity. General comments and specific responses to questions posed to the panel viewing the issues from "The Securities Analyst Perspective" are presented. .....Page 15

"**Seligman Advisory Committee on Market Information: Meeting Four**," by Judith Chase. There was one main question on the agenda for the April 12, 2001 meeting at the SEC: "How should user fees be determined and revenues allocated among plan participants?" This question was to be addressed in the context of reforming the current market data system. In this discussion, transparency and most-favored-nation (MFN) pricing were the main topics, but no clear consensus on either issue emerged. It does appear that the committee will be making two recommendations, one of incremental change, and one of more radical change based on issues explored by the subcommittee with regard to competing consolidators. .....Page 20

"**Monthly Statistical Review**," by Grace Toto, is an update of U.S. equity market activity and underwriting volume. .....page 23

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ACHIEVING CROSS-BORDER TRADE PROCESSING GOALS

Part 2: Proposed Solutions

I. Introduction

As noted in the first part of this two-part report on cross-border trade processing (published in the March *Research Reports*), the movements toward global back-office connectivity and more efficient cross-border clearing and settlement solutions have been gaining momentum. The need for solutions in this area grows as cross-border trading increases, a trend that is due primarily to the growth of equity cultures around the world and the linkage of trading platforms across borders. Part 1 of this report outlined current cross-border trade processing practices; Part 2 will introduce and discuss a variety of solutions proposed by industry participants.

The Americas, Europe, and Asia are all at different points in the development of regional solutions, depending on both the stability and efficiency of existing domestic systems and the relative need for regional solutions as determined by multiple, unique factors. In the United States, clearing and settlement rationalization occurred when the regional systems merged into the Depository Trust Company (DTC) in the 1970s and again when the DTC merged with National Securities Clearing Corporation (NSCC); this process will continue with the incorporation of Emerging Markets Clearing Corporation (EMCC) and Government Securities Clearing Corporation (GSCC). U.S. efforts are now focused on global solutions for the trade management process. The majority of attempts to create regional clearing and settlement solutions are taking place in Europe, where cross-border issues are top priority due to the frenzied consolidation of trading platforms and the movement toward financial consolidation in that region. Asia has been focused primarily on the development of efficient domestic systems, and is just beginning to turn its attention to regional and global levels.

The development of cost-effective, efficient, and low-risk cross-border clearing and settlement systems involves innovation at several different points in the post-trade process. These activities can be grouped as trade management/ information communication, settlement, and central counter-party activities. Rationalization of these processes across borders also depends on broad scale regulatory cooperation. There are therefore various goals, and the challenges presented by each are currently being addressed by at least one of the initiatives presented here.

II. Solutions for Trade Management/ Information Communication

There is a lack of automation and convention in the post-trade processes of trade management, which complicates and lengthens trade settlement. The post-trade, pre-settlement process known as trade management includes matching two sides of a trade, confirming that allocation, and communicating details to all relevant entities. This process currently depends on disconnected bilateral dialogues, manual handling and multiple messaging protocols – a scenario that introduces trade failure risks and attendant costs. Trade management is the bottleneck of trade processing, a problem that is exacerbated when the process occurs across borders and involves different settlement cycles (which can range from T+1 to T+ three weeks or a month). It is estimated that errors and miscommunications during this process cause 15%-16% of cross-border trades to fail.[1]

The global securities industry has been making attempts to collectively address this process and rationalize trade management to the greatest extent possible. Standard messaging protocols – such as SWIFT, ISITC and FIX – have been developed to facilitate more accurate and rapid communications. There is still a need for interoperability, however, among these protocols and proprietary messaging languages. In the U.S. the move to shorten the settlement cycle to T+1 has prompted the groups behind these protocols to discuss standard messaging formats that could be used to make the protocols understand each other, thus eliminating time-consuming translation procedures. Meanwhile, Straight-Through-Processing (STP) products for fully automated end-to-end trade management are multiplying. Most recently, two global utilities for trade matching and enrichment have appeared

on the scene, eclipsing most existing partial or domestic STP solutions. The Global STP Association (GSTPA) and Omgeo, the joint venture of DTCC and Thomson Financial, seek to streamline global information flows by providing standardized trade management processes. And finally, securities markets around the globe are constantly working to shorten settlement cycles to facilitate the lightening speed transmission of trade information.

To be fully effective on a global basis, these initiatives need to be coordinated and integrated such that trade management is done on the same schedule globally (i.e., on a standardized, minimized settlement cycle). Ideally, trade management would also involve a minimal number of messaging languages based on shared standards. Finally, the hope is that competitors – namely GSTPA and Omgeo – will not act at cross purposes and will eventually link or cooperate such that users will perceive no disconnect and experience no duplication.

A. GSTPA

The GSTPA is governed by its participants – fund managers, broker/dealers, and custodians from around the world – and is dedicated to the design of a central trade matching and enrichment facility. The GSTPA has designed a product called the Transaction Flow Monitor (TFM) to be operated by SWIFT and the Swiss Settlement entity, SegaInterSettle (SIS). The system is designed specifically for cross-border trades, and ostensibly will eliminate the need for costly manual processes and communication.

Both the GSTPA and Omgeo want to add the delivery of settlement instructions to their trade matching services, without having to register as clearing agents. In a U.S. environment, this entails linking into the DTCC. Omgeo, half owned by the DTCC, should have no problem accomplishing this, while the GSTPA hopes to build its own link into DTCC. In foreign environments, this may mean delivery of instructions to a central counter-party for netting and novation and/or delivery to a settlement entity for book-entry transfer. (Note: see Part 1 of this report, published in the March Research Report, for a full discussion of the roles and activities of clearing and settlement entities.)

B. Omgeo

Omgeo, which just received regulatory approval this month, is a joint venture of Thomson Financial and the DTCC. Its first offering will be a combined trade management product linking money managers' allocations to broker/dealers for automatic trade confirmation of institutional trades. This product will incorporate Thomson's OASYS Global, which replaces manual confirmation procedures with electronic communication of trade details among investment managers and broker/dealers in 37 countries, and the DTCC's TradeMatch, which offers similar functionality on a domestic basis. Omgeo's central matching service for cross-border trades (its counterpart to TFM) will begin testing later this summer. Omgeo, as well as GSTPA and some additional, smaller players, has yet to disclose its business model.

If successful, and if successfully coordinated, these ventures will facilitate the shortening of the post-trade process in the U.S. and abroad, and will go a long way toward eliminating the risk of trade failure due to communication problems.

III. Pan-European Challenge

While a solution to trade management woes will address the most pressing post-trade processing issues of the U.S. market, it only partially addresses the great challenges to this area in Europe. As pointed out in Part 1 of this report, the fervor for harmonization of clearing and settlement entities is far stronger in Europe than anywhere else in the world, due to a nascent and growing equity culture, proliferation and cross-border linkages of trading platforms, the introduction of a single currency and the general financial harmonization of that region.

After trades have been matched across borders, the challenge in Europe is to clear and settle them without incurring overwhelming costs and high counter-party risks. To review what was

presented in Part 1, a cross-border trade can be settled via multiple avenues, involving the participation of a global custodian and/or a network of local sub-custodians, through direct membership in a foreign CSD, or via an International CSD such as Euroclear and Clearstream (for eligible securities only). These options all involve multiple intermediaries and are, as such, costly and risky. To combat this situation and set the stage for intense predicted growth in cross-border trading, European clearing and settlement entities began building bilateral links a decade or so ago. The CSD-to-CSD "spaghetti" model prevailed until very recently. But the impetus toward full Pan-European consolidation is strong, and the harmonization process continues to be taken to new levels, as participants seek to facilitate lower cost and lower risk cross-border trading.

There are three essential ingredients to the development of a Pan-European system (barring trade management automation, discussed above). These are:

- Consolidation/harmonization of settlement infrastructures
- Development of a regional central counter-party
- Regulatory cooperation (without which, none of the above can be achieved)

A. Consolidation/Harmonization of Settlement Infrastructures

Development of a Pan-European system requires that domestic settlement entities find some way to link or merge such that the involvement of intermediaries is no longer necessary as part of the settlement process. Thus far, progress has been limited to the creation of "silo" systems, or replications of domestic, vertically complete clearing and settlement structures across two or more nations. However, movements have been made toward the development of horizontal Pan-European infrastructures.

The current landscape in Europe was introduced in Part 1 of this report; the major existing silos will be briefly reviewed here:

- **Euroclear**

  Euroclear, an ICSD, has merged with Sicovam, the French CSD, and is currently working on mergers with the Belgian and Dutch CSDs. Euroclear has therefore become the settlement agency for Euronext, the exchange formed by the consolidation of the Paris Bourse and the Belgian and Dutch Exchanges, as well as an ICSD.

- **Clearstream**

  When the ICSD Cedel and Deutsche Borse Clearing (the German CSD) merged in 1999, they created Clearstream.

- **CREST/SIS**

  The link between CREST, the U.K.'s CSD and the largest CSD in Europe, and SegaInterSettle (SIS), the Swiss CSD, has resulted in the creation of a silo system shared by those two nations.

- **NOREX**

  Although there have yet to be any concrete developments, the Scandinavian exchanges – of Sweden, Norway, Iceland and Denmark – have formed the NOREX alliance for the creation of a central clearing, settlement and central counterparty system. Current negotiations are stalled by nationalistic concerns, although the markets recognize that the risks and costs of cross-border Scandinavian trading will be dramatically reduced once clearing and settlement functions are centralized.

These first steps toward consolidation represent movements for three competing proposed European settlement models. CSD links hark back to Europe's initial strategy of bilateral linkage, while Euroclear and Clearstream both appear to be attempting growth in accordance with the models they advocate.

ECSDA Bilateral Links

In 1997, a group of European CSDs formed the European CSD Association, or ECSDA, for the creation of bilateral CSD-to-CSD linkages. ECSDA was a response to the growing need for cheaper, more efficient cross-border settlement and a pre-emptive attempt to maintain prominence over the ICSDs. In this model, each CSD would have an account in every other CSD, where they would maintain positions for their domestic clients in the foreign securities of the host CSD country. It would require over 600 bilateral links to form a complete "sphaghetti network" in which each European CSD holds accounts at every other CSD; thus far, only about 50 links meeting ECSDA specifications have been built.[2] In addition, the cost savings of this model are not equal to the savings that would be realized with a more centralized approach. However, this model does have powerful proponents, led by CREST (the U.K. CSD, and a settlement system larger than both Euroclear and Clearstream), and it does appeal to nationalistic sentiments in that domestic CSDs retain independence.

- **Euroclear's "Hub and Spokes" Model**

In the spring of 1999, Euroclear formally adopted a hub and spokes model, in which Euroclear would act as the hub, and domestic CSDs as the spokes. In this model, every domestic European CSD would have an account with Euroclear, which would handle all cross-border transactions. Domestic transactions would remain in the province of the CSDs, as would management of individual retail accounts. Ostensibly, this would leave Euroclear free to handle high volumes of cross-border trades while maintaining the importance of existing CSDs at the local level. Euroclear also proposed that it act as a gateway for CSDs to any non-European markets that also maintained accounts at Euroclear. The model does not, however, provide a very alluring incentive to local CSDs, who would lose out on the most profitable settlement business.

Originally, Euroclear envisioned an ICSD hub that included Cedel, and courted its rival for a merger. Cedel rejected the offer, and Euroclear merged with Sicovam instead. The consolidation of the ICSD and the French CSD reflects Euroclear's vision in that Sicovam, renamed Euroclear France – and eventually the Dutch and Belgian CSDs – will continue to operate locally but will send cross-border business through Euroclear in Brussels.

- **Clearstream's European Clearing House Model**

Cedel, in its rejection of Euroclear and the hub and spokes model, proposed a competing model based on pure consolidation of CSDs into a single Pan-European CSD. With its merger to Deutsche Borse Clearing (DBC), Cedel achieved a step towards its goal. The combined entity, Clearstream, is owned 50% by Cedel and 50% by DBC. Clearstream's vision is to incorporate more CSDs into that governance structure and to act as the single settlement agency for trades involving the markets it serves. This solution is arguably the most ideal from the standpoint of convenience and cost, as it would provide the most standardized access to all markets and aggregation of volumes for the most efficient clearing and collateral management.

Although European market participants differ in their vision of ideal settlement infrastructures, they tend to agree that any horizontal settlement structure would be enhanced by a shared central counterparty.

B. Development of a Regional Central Counter-Party

Counter-party risk is a key concern in settlement. Many clearinghouses currently minimize counter-party risk by netting all transactions. Central counter-parties (CCPs) take this a step further and eliminate counter-party risk by becoming the buyer to every seller and the seller to every buyer, effectively

assuming and centralizing the risks of counter-party default, a process known as novation.

Although it is universally agreed that CCPS contribute to the health of markets, only a handful of CCPs currently exist. The DTCC provides central counter-party service to the U.S. markets, and in Europe Clearnet and the London Clearing House do so for the French and U.K. markets, respectively.

A DTCC White Paper and subsequent meeting of existing CCPs from around the globe (in October, 2000) emphasize the importance of the netting and novation services and advocate the creation of a global CCP solution, to be promulgated alongside valuable national and regional initiatives currently underway.

In Europe, existing initiatives include the expansion of markets served by Clearnet and LCH, the initiative of the European Securities Forum (ESF), and most recently, the creation of a CCP to serve Nasdaq Europe. The ESF, which is comprised of 24 members from European securities entities, has advocated the creation of a European CCP built "from scratch" as opposed to the consolidation and expansion of existing facilities. Nasdaq Europe, the result of Nasdaq's acquisition of the struggling Pan-European exchange Easdaq, plans to cooperate with the DTCC for the creation of CCP services. In its first phase of operation, Nasdaq Europe will operate without a CCP and with links to Euroclear and Clearstream for settlement, but in Phase 2, it plans to introduce a DTCC provided CCP solution.

The success of the CCP initiatives described here will depend on the volumes generated by associated trading platforms and the efficiency of links to selected CSD/ICSDs. Eventually, a dominant player or players will emerge and provide the basis for the creation of a horizontal CCP solution for Europe.

C. Regulatory Cooperation

Finally, and some would argue most importantly, regulatory barriers to cross-border financial activity must be minimized. Differences in national legal and taxation policies, as well as differing interpretations and enforcement approaches of existing Pan-European regulations hamper the development of Pan-European market infrastructure. Beyond domestic discrepancies in policy and the interpretation of existing rules, there is an absence of Europe-wide regulation regarding basic ingredients of a Pan-European securities market, such as prospectuses, listing requirements, cross border collateral, and so on. Regulatory cooperation is therefore critical to the further evolution of Pan-European solutions. European heads of state have attempted to address this issue, through the development of a Financial Services Action Plan (FSAP) at the Lisbon European Council in the spring of 2000. The ultimate goal is the full integration of Europe's financial markets; in the words of Internal Market Commissioner Frits Bolkestein, "a single financial market is an essential complement to the single currency."[3] Unfortunately, achieving that goal is much easier said than done.

There are currently some 40 entities regulating securities markets in the European Union[4], and getting them to agree on core principals and shared regulations is a difficult task indeed. Different approaches to this problem have been suggested, ranging from the creation of a Pan-European regulatory entity akin to the SEC (which would require amendments to the European Union Treaty), to global or regional "single passport" policies based on mutual recognition and home-country supervision.[5]

To jumpstart the FSAP and realize tangible accomplishments by the 2005 deadline, the Council of Economic and Finance Ministers (ECOFIN) commissioned a committee of 7 "wise men", chaired by Alexandre Lamfalussy, to prepare recommendations for the regulation of European Securities Markets. The final report of the committee was published this February.

The Committee believes that the most important step at this stage is to introduce changes in the legislative and decision- making process. As such, the Committee recommends a four-level approach to securities regulation. The Committee's approach begins with the

development – within existing legislative frameworks – of "framework principles" for European financial markets regulation. These principles would be translated into legislation with implementation plans by a network of existing regulatory bodies and two new European securities committees. The European Commission would monitor national compliance and be responsible for enforcement. These measures are designed to facilitate the flexible and speedy implementation of decisions reflecting common core principles.

The Committee's regulatory priorities include a Pan-European prospectus for issuers, standardization of listing requirements, modernization of rules for investment and pension funds, the adoption of International Accounting Standards and a single passport for recognized stock markets.

With regard to the development of horizontal clearing and settlement infrastructures, the Committee believes the private market should make the first attempt. The implementation of more efficient and consistent regulatory structure will, however, greatly assist any efforts to develop and/or expand cross-border clearing and settlement systems.

Ultimately, the development of a Pan-European clearing and settlement solution will depend on the evolution of current initiatives. Which settlement model will attract the most supporters and participants? Which CCP will achieve critical mass? How will the changing regulatory landscape hamper or facilitate the cross-border expansion of these initiatives? And, once dominant players emerge, how and to what degree will they achieve interoperability?

IV. Asian Developments

While the U.S., with its sophisticated and integrated clearing and settlement platforms, struggles to achieve T+1 and contribute to global STP, and while Europe grapples with the evolution of horizontal clearing and settlement infrastructures, Asia faces the challenges of the initial steps toward cross-border cooperation.

In Asia, highly successful domestic systems exist in a handful of more sophisticated markets, but these have yet to integrate back-office activities. The international ventures of Asian markets have thus far tended to focus on front-office initiatives, such as the linkage of order books and trading platforms. Any back-office consolidation that has occurred has been within national borders (e.g., the merger of the Hong Kong futures and stock clearinghouses that followed the merger of those exchanges). The lack of cross-border back-office development is due primarily to sovereignty issues and foreign currency risk.

Nevertheless, the 20 plus members of the Asia Pacific CSD Group (ACG), formed in 1997, meet on an annual basis to discuss potential cross-border initiatives. The group has considered the likely growth of intra-Asian cross-border trading, and has weighed the approaches they, as settlement entities, could take to facilitate this growth. In their deliberations, the ACG has determined that the best near-term model for Asia would be bilateral CSD-to-CSD links reminiscent of Europe circa 1998.

* * *

The next step toward the ultimate goal of globally efficient back-office trade processing is distinct for each region. The evolution of this development tends to flow from a focus on contained domestic systems, through a temporary solution based on cross-border links, and finally to the development of fully horizontal regional solutions. The global integration of regional solutions is a challenge that remains to be tackled.

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Footnotes

[1] Global Investment Technology: "Messaging Standards Continue to be Key to T+1 as Industry Falls in Tune with Market Realities", March 2001
[2] Karel Lannoo, Centre for European Policy Studies: "Updating EU securities market regulation", August 2000
[3] Europa, the European Union Online (www.europa.eu.int): "Financial services: Commission calls for quantum leap towards rapid implementation of Action Plan", November 2000
[4] Securities Industry News: "Obstacles Remain in Move to Cross-Border Trading", Monday April 2, 2001
[5] Under this policy, any firm or exchange with approval in one EU country could operate elsewhere under the supervision of the its own country. This approach has been tried in Europe but has not been widely successful.

DEVELOPMENTS IN GLOBAL E-FINANCE

This article is based on a presentation called "Electronic Finance: Reshaping the Financial Landscape Around the World," and on a more recent presentation, "E-Finance in Emerging Markets: Is Leapfrogging Possible?" by Stijn Claessens, Tom Glaessner, and Daniela Klingebiel. Thanks to Tom Glaessner from the World Bank for the presentations. The following article represents the views of the authors, not necessarily those of the World Bank.

Three major factors are currently changing the way that financial services are provided. First, globalization is encouraging increased capital flows and entry of foreign financial institutions into domestic financial structures. The second factor is the deregulation of certain financial products and activities, including that which occurs through new legislation. The third factor, and the focus of this article, is the impact of new developments in information technology. What real impact are advances in technology having on financial services? And what are the public policy implications that follow?

The first section of this article will review current developments in technology and financial services. The second section will discuss the public policy implications of these new developments. The third section will preview the impact of these changes on emerging market economies, and the fourth section provides examples of technological "leapfrogging" in developing countries.

Recent Developments

The impact that new information technology developments are having on financial services can be broken down into four categories. First, technology is changing the industrial structure of financial services. Second, the new technologies are leading to large cost reductions, enabling financial services providers to conduct business more efficiently. Third, technological advances do result in benefits for the consumer and improve access. Fourth, technology is making the location of trading less relevant and increasingly emerging markets of all sizes are experiencing what can be called a migration of capital raising to the largest most liquid financial centers and/or trading platforms.

With regard to the change in industrial structure in financial services, there have been four developments worth noting. The first development has to do with new types of specialized financial service providers, such as aggregators, that have entered the marketplace. Aggregators serve an important function for consumers in allowing them to comparison shop. Online brokers and e-payment providers also facilitate easy retail investing. Financial portals, meanwhile, can expose the customer to the whole range of financial services providers that they may not have otherwise known about.

The second change in industrial structure relates to the entry of non-bank entities into the marketplace that now also offer a financial services menu to its customers. The main types of non-bank entities involved in this activity are telecom companies and utilities, though the trend is not restricted to these types. In the UK, for example, a supermarket acquired a bank. There is a transport company in Hong Kong is offering payment services.

The third change in industrial structure has to do with companies acquiring and consolidating around recognized brand names. Acquisitions of this type allow the company to gain market share and also be able to offer whole range of new products and services. An example of this is Deutsche Bank's acquisition of Dresdner Bank; or the ties ups between telecom networks with a wide distribution network and financial service providers..

The fourth change in financial services' industrial structure is the fact that trading services are now becoming a commoditized product. Market participants are able through enhanced communications capability to trade remotely. In response to this new capability, exchanges are both marketing themselves globally and forming alliances with other participants. Nasdaq for example has made competitive inroads into Japan, Canada, and purchased a large stake in Easdaq to form Nasdaq Europe. In emerging markets exchanges are also demutualizing and

starting to either spin-off many types of ancillary businesses (e.g. software production; risk management services) as competitive pressures radically reduce order flow for secondary market trading and as securities offerings increasingly dwindle. At the same time more regionally focused electronic brokerage operations and order routing entities are becoming more prominent in capturing order flow.

So what are the new components of this industrial structure? There are six building blocks in the processes of production and distribution. These steps tend to be vertically integrated or overlap with one another. On the production side, we have the electronic enablers that provide support to financial service providers in the form of software and hardware. Examples of these enablers include Sanchez, Checkfree, and S1. The second building block is the financial products themselves, those that are tailored by the service providers or commoditized. These include home banking products, mortgages, brokerage, insurance, e-Wallets, electronic bill presentment and payment, checking, business services, and credit cards. The third building block is the financial institutions themselves, who either choose to specialize in certain products, or to be diversified entities.

The fourth building block is the group of aggregators, discussed above, which include companies like LendingTree.com, AdvanceMortgage.com, and Dollardex.com. The fifth building block are those companies functioning as distribution channels, or portals, such as AOL, Yahoo, Microsoft, Infoseek, Netscape, and Excite. The last building block is of course the access devices themselves used for distribution. These number and type of these access devices has grown exponentially, particularly mobile devices that provide internet connections. The obvious devices include phones, kiosks, wireless devices, PCs with modems, and TVs.

The second major impact that current developments in technologies are having on financial services is the massive cost reduction involved in the provision of those services. These include direct cost reductions related to the costs of the technology itself. Computer power, for example, has risen by a factor of 10,000 over the past 20 years. There is a great deal of indirect cost reduction as well, as a result of the fact that the internet has eliminated many processing steps that were previously required. The internet obviously functions as a relatively low cost new distribution channel as well. The two-way communication that is greatly enhanced by the internet facilitates personalized pricing structures—sometimes referred to as versioning or electronic customer relation management as well as cost-effective customer stratification. Financial products can be unbundled and commoditized, tailored to maximize the preferences of the individual consumer. Finally, the fact that the initial barriers to entry have been lowered by the new technologies also leads to lower costs. For example, it becomes less expensive to launch a new bank into the marketplace. Financial products can be purchased "off the shelf." Services can be outsourced. Electronic delivery modes do not need to be on the bank network. Information about borrowers is cheaper and easier to obtain.

The third major impact of information technology advances on financial services is the new benefits that accrue to consumers. The industry itself has become much more competitive in many segments, both through new entrants into the marketplace and from already existing entities operating more efficiently. Nowhere is this more apparent than on the retail side of the business. Retail brokerage fees have fallen from upwards of $50 per trade to virtually free. Aggregators, by coordinating information flows in rational ways, help consumers to find the best offer for them. The competition has led to better service across a variety of dimensions. The customer often has more information and better transparency about the process they are engaged in because of better two-way communication channels. The speed of service has also improved dramatically, as in the case of online loan applications.

There have been benefits accruing to the institutional customers as well. Transaction costs are lower, search and monitoring costs are lower. There are financial service providers that act as "incubators" for new initiatives, while also serving as screening device for venture capital firms.

Public Policy Implications

How do these developments in information technology translate into the world of public policy? The following four areas are relevant to this discussion: safety and soundness regulations, competition policy, consumer protection and education, and global public policies.

With regard to the crucial issue of safety and soundness, it can be argued that banks have long been perceived to be special entities. Advances in technology, however, are eroding the special nature of banks. This may necessitate another look at associated prudential regulation and supervision.

The special nature of banks is eroding as a result of two factors. First, we observe the emergence of substitutes for bank deposit and loan products. Second, the proprietary information that the banks had on their borrowers is now cheaper and more widely available. These facts could lead to the need for a potentially substantial reduction in the extent of safety net required for banks per se. One reason for this is the fact that the entry of non-financial service providers into the marketplace is blurring the lines between financial and non-financial institutions. This makes it difficult for supervisors to monitor financial service providers and increases the potential for leakage of the safety net to activities that are not related to deposit taking.

If the safety net is substantially reduced there could be less need for prudential regulation and supervision. In emerging markets, this is especially important because there is a tendency to define the safety net too widely. The changes in industrial structure of financial services provision implied by e-finance may result in a de-facto extension of the public safety net to various forms of non-financial institutions with potentially dangerous fiscal implications in times of financial distress.

Reduction of the safety net also allows for the financial sector and markets to be treated like other markets. Competition policy, therefore, becomes both more feasible and more important. It is true, however, that market and product definitions, critical to competition tests, will become more complex. Moreover, defining markets has become more difficult with many markets becoming more and more global. At the same time, non-financial products are taking on properties of financial contracts.

Maintaining low barriers to entry is crucial to ensure that consumers continue to see the benefits. However, the ability to enter the marketplace in developing countries can be hampered by a number of factors. First, there are numerous sunk costs or high fixed costs. Existing network externalities also contribute to barriers to entry for new participants. These externalities are particularly prevalent in particular in payment and trading services. What would be most useful is to harmonize competition policy on a global scale. Such an effort would involve coordinating the definition of, and sanctions for, violations on a global basis.

Consumer and investor protection and education is becoming an even more important public policy function than it has been with the advent of e-finance. This is due to the fact that e-finance raises a number of issues about standards in areas such as fraud, privacy, and transparency. But what global entity would develop those standards, and who would enforce them? Non-traditional financial services providers, for example, complicate the application of investor protection mechanisms that are based on current institutional frameworks. Who has jurisdiction over portals? Many portals provide investment advice on their sites; yet they may have exclusivity agreements with a small number of financial services providers. This is where the issue of disclosure becomes even more important.

With regard to global public policy, the harmonization of standards and practices becomes more urgently needed as cross-border products and services become more popular. Today, countries still limit cross border provision of financial services. While the internet will make this ban harder to enforce over time, the real question is whether or not regulators worldwide could agree to the terms of a global financial passport. The cross-border provision of financial services does raise issues of jurisdiction.

Moreover, it must be kept in mind that increased economic integration could potentially carry with it new or increased risk. The increased commoditization of financial products could lead to less risk sharing by institutions. This could feasibly lead to increased asset price volatility. Different national markets could become even more susceptible to herding, contagion and spurious currency attacks than they are now. Capital account restrictions, limiting capital flows, could be more difficult to enforce and even in the area of cross border provision of financial services the costs of exit would be far less for foreign providers. Finally, an increase in the number of creditors may further complicate coordinating actions prior to, or during, a financial crisis.

Implications for Emerging Markets Countries

The general experience with government intervention in the financial sector in emerging markets has been very poor. Government ownership of banks tends to retard financial sector development and increase the risk of financial crises. Attempts to reach under-serviced groups often miss their targets, are captured by special interest groups, and can imply large fiscal costs. E-finance reduces the need for government interventions, as the private sector can provide financial services even when a country's own financial sector is weak. Market failures will be less likely as information is more easily available and, with related reforms, of better quality as well. This will permit financial services to be provided more widely and markets to trade risks and assets to be more complete, which reduces the need for the government intervention.

Both e-finance and e-commerce is growing rapidly in developing countries. The rate of growth of the internet is rapid in emerging economies. In Korea, for example, an amazing 67% of trading takes place online. In India, online bank accounts and online services are also growing rapidly. Even lower income customers are moving online. In emerging market economies, access to financial services and the quality of services delivered can be limited. E-finance, therefore, offers important opportunities for these countries. It has the potential to improve the range of services and widen the access to those services. Access will be improved to the extent that electronic delivery of financial services does permit a per unit cost reduction in relation to the size of transactions, thereby allowing financial services to be profitably provided via smaller size transactions.

The "take-off" point for some emerging market countries, however, may be far off unless they improve critical areas of infrastructure. Some of these critical areas include: electronic signature or online-verification, regulations governing outsourcing for financial institutions, the ability to obtain positive or negative information on borrowers, regulation of electronic payments, and a real-time gross settlement system.

The emergence of e-finance will allow for and require a reassessment of the paradigm that has been used to pursue financial sector development in developing countries. There are four lessons that emerge. First, as noted above, e-finance can allow emerging market economies to avoid establishing an elaborate safety net, if there is confidence in the basic structure of the banking system and access to savings vehicles. Second, e-finance allows for much easier access to global capital and financial service providers. This offers not only potential gains in terms of increased financial sector stability, but also means that countries have less of a need to build up a full fledged domestic supervisory capacity.

Third, because services can be imported, the question should be raised as to whether very small countries should put in the effort to build up domestic equity and bond markets and the associated infrastructure. Finally, in order for many emerging markets, to reap the gains of e-finance, more focus on reforms in basic legal, information, and technology infrastructure is required.

Some preconditions for the continued development of e-finance in developing countries include: communications infrastructure, security arrangements, and contract enforcement. With regard to communications infrastructure, in many countries post telegraph and post administrations are still in public hands. In many cases, this impedes progress in the development of telecom infrastructure, and privatization should be considered, as well as the unbundling of public

switched telephone networks. Additional useful steps in this regard include improving the licensing of competitive operators, reducing international trade barriers, and developing price cap regulations.

The state of security arrangements is an important precondition, because security breaches are becoming more common. These breaches reduce public trust and confidence in the financial system as a whole. There are several questions that the authorities from each developing country should address with regard to security. First, should the Certification Authority be public or private? How stiff should the penalties be for security infractions? How can private keys be made much more secure to permit authentication, while still being broadly accessible?

Contract enforcement, as well as the enforcement of property rights, is a historically weak area of law in developing countries, and is a precondition for conducting any kind of business efficiently, including e-finance. Weak contract enforcement does, after all, imply less liquidity. There is the possibility, however, that the advances in technology could actually improve some processes related to contract enforcement, such as collateral and foreclosure processes.

Examples of "Leapfrogging" in Emerging Markets

One advantage for developing countries is that they can use advances in technology to "leapfrog," skipping certain traditional steps in development in the financial services arena. Estonia's progress in information technology, for example, has been very impressive. After the collapse of communism, this nation of 1.5 million people moved straight to wireless technologies, with almost 30 percent of the population now owning a mobile phone. Also, about 35 percent have access to internet services. E-finance has taken of similarly. Of the seven Estonian banks, five have online services, making for altogether more than 250,000 internet banking clients, a penetration almost as high as the advanced Nordic countries. As elsewhere, banks in Estonia see internet banking as a cost-efficient way of expanding, avoiding expensive new branch offices. Hansabank, the largest Estonian bank, is considered among the best online banks in Europe and a pioneer in personalized finance management. Today, about 17% of its one million costumers bank on-line and the bank processes 90% of its 2 million operations completely electronically–through secured PC links for small companies, internet connection, automatic issuing of debit or credit standing orders, or ATMs.

Korea, like Estonia, exemplifies the leapfrogging possibilities in e-finance: the number of people banking on-line shot up from 120 thousand at end-1999 to 4 million at end-2000. Simultaneously the number of transactions increased from 700 thousand per month in 1999 to 32 million per month in 2000. Online trading has similarly been growing at an exponential rate, with over 65% of brokerage transactions now conducted on-line. This revolution has been facilitated by the fact that while only 18% of Koreans own a personal computer, over 50% have a mobile phone where wireless application has been the medium of choice for getting online. Korea also has the sixth highest digital penetration worldwide, given the use of WAP-technology to do virtual banking and brokerage.

Bradesco, Brazil's largest privately owned bank, is the world's third largest internet bank, after the Bank of America and Wells Fargo. Bradesco's metamorphosis did not occur overnight. High interest rates forced Brazilian banks to invest in automation to manage resources efficiently. In 2000, Bradesco's investment of half a billion dollars in automation technology represented 25% of what Brazil–as a nation–spends on technology. These investments positioned Brazilian banks well to take advantage of the e-finance evolution. The growth in Bradesco's on-line activities was further spurred by its offer of free Internet access: of the 5.6 million online banking customers in Brazil, 1.7 million are now Bradesco's clients. The innovative nature of the bank extends to the B2B services. It provides over 700,000 corporate clients, each with revenues in excess of $100 million per year. Services include a B2B site with brokerage, insurance and pension fund services used by over 800 companies, and a B2C website that facilitates financial transactions for 1000 companies. The future of Bradesco's transaction payment services is placed on "Smartcards," with the ability of consumers to download "Smartcards" from their PCs. The reduction in

cost by using internet technology has been dramatic. The bank estimates the average cost of an internet transaction at just 11 centavos, compared with 54 centavos for a transaction conducted over the phone and 120 centavos for one conducted in a branch.

Beyond such examples of the application of e-finance within borders examples are proliferating of different online brokerage and order routing systems that service individual countries or whole regions—often from offshore. Entities such as Phillip Online Electronic Mart (POEMS) services Singapore, Malaysia, and Hong Kong and ARK access Asia Limited provides order routing services which will be rolled out via ARKlink in 2001 to service the Hong Kong, Singapore, Japanese, Australian, and Thai markets. Similarly BOOM.com, already in operation for several years, has focused on lower net worth customers throughout Asia and now provides on-line brokerage and other products. Finally in Latin America Patagon.com is one of Latin America's premier sites for stock trading. Hence these developments raise a number of complex issues for regulatory authorities in respect to jurisdiction and needed coordination in supervision and inspections as well as some homogeneity in the definition of "an ATS"; and exchange or a broker dealer.

E-finance could also help traditionally weak service areas in emerging market countries, such as insurance, housing and storage finance, small and medium enterprises, and micro-finance. In each of these cases the per unit transactions costs of providing different services that go into any one of these transactions can be reduced and unbundled. This can allow providers to offer much smaller transaction sizes and still earn adequate per-unit profits. How e-finance, for example, will affect insurance is the subject of intense debate in the industry. Many insurance companies recognize the potential of internet, not only as a marketing tool, but actual e-insurance applications are still limited. In part this is because most life and pension products, health insurance and many types of commercial insurance appear to have only a limited suitability for sale via the internet. Still, many firms recognize that the internet will lower costs, and allow companies to serve customers better and gain the edge over competitors. This realization is perhaps more pronounced in some emerging markets where the penetration of traditional insurance products has been limited. And many other new developments in e-insurance are either globally or regionally aimed or take place in large countries to reduce costs and transaction efficiency. Examples of electronic provision of insurance products as well as aggregation services to help consumers shop across such products are already occurring all over Asia including in China as well as in Latin America and Eastern Europe.

A central implication of the above developments is that the role of the Government in many emerging markets, which has often involved direct intervention via provision of subsidies or directed credit to certain segments of the population or corporate sector (agriculture or micro-enterprises), will now be less needed. Instead, the Government will enable delivery of financial services via its role in development of the proper infrastructure (legal, security, communications, etc.); via actions to share information to improve credit decisions and information subject to privacy concerns; and via much more creative use of brick and mortar infrastructure in such areas as post-offices that can act as a conduit for the extension of many forms of e-services provided by the private sector where this distribution network can have value.

Judith L. Chase
Vice President and Director, Securities Research

"REGULATION FD: HOW IS IT WORKING?"

Talking Points Prepared by Frank Fernandez, Director of Research, SIA for Presentation at the SEC-sponsored Roundtable of the Same Name on April 24, 2001

More than thirty participants, on four separate panels, joined Acting Chairman Unger and Commissioner Hunt in a "fact-finding" exercise charged with assessing the impact of the Fair Disclosure Regulation (Reg. FD) after six months of its operation. The specific topics posed to the panel viewing the issues from "The Securities Analyst Perspective" are presented immediately below, followed by general comments and specific responses to the individual topics.

The topics were:

1) What was the analyst's role pre-FD? What has changed?
2) What has been the effect of FD on: (a) the quality of information; (b) issuer review of analyst reports and models; (c) analyst coverage; (d) how analysts gather information; and (e) the accuracy of forecasts?
3) Has there been any difference in effect on the buy-side vs. the sell-side?
4) Has there been any difference in effect on different industries or types of companies?
5) Has there been any effect on analyst independence?
6) Has there been any perceived effect on volatility?
7) What are the long-term vs. short-term view of the effects: if there have been changes to analyst roles, what does this mean for the market?

General Comments

First, I would like to clarify SIA's position. SIA has, since the inception of the debate on the issue of selective disclosure, and still does today support the same ends as the Commission. We favor a system that provides broad, non-discriminatory dissemination of quality information. Although the process of increasing information flow and opening access to all investors has accelerated in the past six months, it was already underway prior to Reg. FD's adoption, largely as a result of diffusion of significant inventions and innovations in information and communications technology, a broadening of the investor base, and heightened competition. We also believe that the SEC already had sufficient enforcement powers. Nonetheless, Reg. FD has equipped the SEC with an additional enforcement tool to use in instances where selective disclosure occurs. Our concern then, as now, is that any solution mandated by regulatory fiat is apt to produce unintended consequences. Our hope would be to mitigate those unintended, negative consequences to the greatest extent possible. We want to work constructively with the SEC to improve Reg. FD to achieve the goals we all share. Listening to the comments of earlier speakers, it would appear that the goals might include possible modifications to Reg. FD. These possible goals may include the following:

- Modifications to the materiality standard;
- More flexible treatment/clearer guidance on dissemination techniques;
- Liberalization of restrictions on earnings guidance. It would appear that comments by SEC officials have already begun this process;
- More flexible treatment of unintended disclosures, and;
- Limitations on derivative liability.

Second, SIA has sought throughout to present a balanced appraisal of the impact of Reg. FD and assess its costs and benefits. We are nearing completion of our effort in this regard and will in the next month be prepared to release our findings. Our preliminary conclusions present few surprises. The impact of Reg. FD appears to have produced the unintended consequences we anticipated in our early comment letters on this issue. These are, specifically, that Reg. FD:

- Would produce a "chilling effect", reducing the quantity of information in many cases and, more importantly, the quality of information and analysis in general;
- Would impose significant costs, costs well in excess of those presupposed by the advocates of this regulation prior to its effectiveness and

costs well in excess of the perceived benefits, and;

- Could induce additional volatility in a market place already experiencing sustained, high (near recorded) levels of volatility, which imposes additional costs.

Responses to Analysts' Roundtable Topics

1) What was the analyst's role pre-FD? What has changed?

The analyst's role prior to Reg. FD was much the same as it has been, thus far, post-implementation. That role is principally to prepare research reports, and detailed below are some of the common practices that go into preparing a research report. What has changed is the way in which issuers disseminate information. In some ways this has made the analysts' job harder, as well as reducing the quality of the assessments provided. One important part of the analysts' role in the preparation of research reports was ferreting out information to supplement issuer releases, as well as to add analysis of the information supplied. The SEC in its release specifically hoped that this ferreting role would not be impaired. We believe it has been.

A part of any equity research effort is to provide earnings projections and estimates. Earnings projections and estimates should be substantiated and crosschecked from as many perspectives as possible (i.e., bottoms-up, top down, supplier and customer corroborated). To the extent that access to suppliers/buyers/competitors is more limited, the value and accuracy of the earnings projections is commensurately reduced. Analysts are also expected to apply a "reasonableness test" of their projections for all companies in the sector in aggregate compared with their assessment of market size. In addition, analysts should also identify all assumptions used in preparing projections. Opportunities to pose the questions required to carry out these functions are more limited as companies are more reticent to discuss non-material information—not just material information—with analysts.

Analysts are expected to compare and contrast their projections with the official guidance provided by the subject company. These tasks are perceived to be more difficult now. So too is the most critical value-added function of analysts: the provision of financial analysis and advice—taking all available information and drawing a conclusion that is appropriate and suitable for investors.

2) What has been the effect of FD on: (a) the quality of information; (b) issuer review of analyst reports and models; (c) analyst coverage; (d) how analysts gather information; and (e) the accuracy of forecasts?

a) I believe that the quality of information has been reduced in at least two ways: first the information contained in issuer statements is more scripted and contains less depth, and second, the way in which the information is disseminated reduces the quality, since at the time of release it is generally devoid of any analysis. Surveys indicate that a significant portion of respondents believes that companies are disclosing less. For example, in an AIMR survey, 57% of respondents expressed this view, 47% in SIA's survey, 33% in one conducted by Thompson and 25% in the NIRI survey. Similarly, 72% of SIA interviewed analysts and 56% of AIMR surveyed analysts agree that the quality of the information has been reduced.

The reduction in quality springs in part from the separation of the distribution of information from analysis. Part of this, in turn, has been due to putting the media first in line for dissemination of new information and the lifting the "15 minute rule" (in response to the operation of Reg. FD) that had provided the financial media with time to add its own analysis. The result is now an initial barrage of raw, unorganized data and commentary that is often lacking in context, added content and analysis. Many investors are often disinclined or unable to interpret the data and perform analysis on their own even when they can avail themselves of the benefits of increased availability of certain types of information.

b) Issuer review of analyst reports has declined in the past six months. 68% of analysts responding to the AIMR survey and 93% of analysts in the SIA survey have noted the decline. Sell-side analysts are more likely to benefit from the issuer review of reports, although both sell-side and buy-side analysts have seen reduced access on this point.

c) The breadth of analyst coverage does not seem to be heavily impacted at the aggregate. However, small issuers and small firms are more likely to be impacted. In many cases, small firms (buy and sell-side) lack the additional resources required to provide coverage in the post FD environment and so may have to reduce the amount and/or depth of coverage provided. In addition, small regional and independent firms generally cover a disproportionate percentage of small issuers, particularly firms headquartered in the geographic region they serve. These are the issuers most likely to go "silent" since they lack the internal resources to bear the additional costs of compliance with Reg. FD.

d) Analyst conversations with management of issuers have been reduced both with respect to non-material information as well as material information. In response, as expected, analysts rely more heavily on "fundamental" analysis constructed using the "mosaic" approach. However, in analysis of issuers with very complex business models, new companies, new markets/products, the process of relying solely on external views is much more difficult and often results in less than satisfactory results. For example, this occurs in the information and communications technology industries.

e) This is not something we have heavily focused on. However, it would stand to reason if both the quantity and quality of information/analysis declines, so too should the accuracy of the forecasts.

3) Has there been any difference in effect on the buy-side vs. the sell-side?

As we noted above, the sell-side is much more heavily impacted than the buy-side, which still seems to enjoy good access to issuers. However, this appears to be true only with respect to large buy-side firms, which enjoy both the "clout" with issuers and the ability to apply additional resources required to carry out research in the post FD world. Medium and small buy-side firms do not have these additional resources or large staffs, nor do they enjoy the same level of access, either compared to large firms or compared to the pre-Reg. FD environment.

4) Has there been any difference in effect on different industries or types of companies?

Again, as we noted above, industries or companies with complex business models, a rapidly changing business environment/ prospects or with new products/services are more heavily impacted by the Regulation and by the resultant reduced interchange with analysts in the review of business models, testing of assumptions, etc., than companies/industries that confront a more static, stable situation.

5) Has there been any effect on analyst independence?

Limited. By and large, those analysts most disadvantaged by the Regulation are those who were most dependent on past relationships with and access to issuers which no longer exists. However, even good analysts who were not dependent are being disadvantaged to a degree by the general reduction in the quantity and quality of information available. However, this has had no discernible impact on their degree of independence.

6) Has there been any perceived effect on volatility?

Prior to its implementation, it was believed that Reg. FD would increase market volatility. Subsequently, SIA and others posed the question of whether Reg. FD has added to volatility in US equity market and the majority of respondents in each survey believed that it did.

However, whether these perceptions are correct, and if so, how significant is the contribution of Reg. FD to volatility are more difficult questions to answer. Statistical analysis is of little help. There are many factors that have contributed to the rise in volatility in US equity markets that has been sustained at near record high levels for the past two years. During the past six months, the time that Reg. FD has been effective, volatility in US equity markets has increased and has become more broad-based. While the arrival of Reg. FD may be correlated with a pick up in volatility, this does not prove causation. Problems arise both with respect to specification of the model and the length of time involved, with only six months of data to examine in markets undergoing both significant structural change and a market correction. For example, some market participants have pointed to the phased introduction of decimal pricing that occurred during this period as a possible contributor to volatility. Also during this period, the markets experienced record trading volume, accompanying a belated, but still sudden fall in earnings expectations as the US economy slowed and the longest bull market came to an end.

In assessing costs and benefits of the impact of the regulation, it is more valuable to examine how the manner in which additional volatility is generated and transmitted in a post-Reg. FD environment has changed from a pre-Reg. FD world than it is to seek to quantify how much the regulation has contributed to the overall higher volatility. In other words, look at the "how" rather than "how much". Currently, the first arrival of information comes from a company release (either through 8K posting, press release, web-cast, etc.). These releases are now generally devoid of context, additional content and analysis that used to accompany the release in the pre-FD environment. This added value often functioned as a filtering mechanism and included the provision of financial advice to investors on how to respond to the arrival of this information.

The release produces an immediate price impact, which is amplified by the greater uncertainty generated by the absence of context and additional content and the provision of analysis and advice. Somewhat later, analysis provided by the financial media and by sell-side analysts impacts the market, often times moving the market in a different direction than the original company release or statement. The expected net result of the change in the process would be additional volatility.

7) What are the long-term vs. short-term view of the effects: if there have been changes to analyst roles, what does this mean for the market?

With respect to the general effects, it is important to note that the bulk of the costs associated with complying with the Regulation are ongoing costs rather than costs associated with a transition from one regulatory environment to another. The costs associated with issuing 8Ks, preparing press releases, web-casts, etc. and the higher costs associated with conducting research and analysis will persist. These costs (on a per unit basis, but not necessarily in aggregate) may decline (and we assume that they will), as they become "commodities". For example, costs should decline as lawyers and compliance officers become more familiar with the process and the type of "egregious" cases of possible violations that the SEC will target for enforcement. However, these costs will remain significant and other costs such as those associated with volatility and with the separation of information from analysis might not dissipate so easily.

More importantly perhaps, Reg. FD has a number of unintended consequences over the longer term for the marketplace, particularly with respect to changes in analysts roles and how this changes the competitive environment as the Regulation provides advantages for some and disadvantages for others. The group most advantaged by the Regulation is the financial media. Scheduled to appear on the panel today was a representative of Dow Jones, a firm that, prior to adoption of the Regulation, submitted a comment to the SEC arguing that the financial media be excluded from coverage under Reg. FD on First Amendment grounds, in that their would be a "chilling effect" on the media's reporting if they were placed under the Regulation. The financial media was granted this exemption, and so are not subject to the restrictions of Reg. FD. This provides a huge advantage to the financial media and it would be

disingenuous to assert that in the business of provision of financial information and, to a lesser extent, financial analysis, that financial services companies are not in competition with the financial media or that this competition is not likely to grow and intensify in the future.

In that a large number of individual investors turn to the media for investment information, concerns exist over the quality of that information. 48% of individual investors surveyed by SIA rely on the media (some combination of newspaper, television, radio, magazine, etc.), which compares to only 14% that have actively taken advantage of information intended to be made more available to individual investors by Reg. FD (participating in conference calls, viewing web-casts, reading 8-Ks, etc.). The remainder, 38% are investors who rely principally on financial market professionals, are most disadvantaged by the new channels of information dissemination. Investors who rely solely on the media I believe are disadvantaged as the quality of the information provided by the financial media, particularly via television, is poorer due to the relative absence of analysis. Further it could be argued that the need for brevity (the "sound bite" world) and the bent on providing entertainment rather than analysis or financial advice also disadvantages investors who rely on this medium. Greater examination should be made of the impact of the financial media's expanded importance under Reg. FD.

Behaviorists point out that individual investors, already besieged by the ubiquity of information flows, increasingly resort to "mental shortcuts" which tend to accentuate over-reaction and under-reaction to recent price moves and the arrival of new information. To cope with "information overload" investors increasingly respond more to how information is presented or "framed" than to the content or underlying significance of the information itself. Closely related to "framing", is "anchoring", which says that in the absence of better information (e.g., the lag until analysis of the new release arrives) or in the face of too much conflicting information, investors assume current prices are correct. Each new high or new low is "anchored" by its proximity to the last observation and more distant "history" becomes irrelevant. Increasing and disproportionate weight is given to recent moves and extrapolation of recent trends becomes the dominant insight. This could lead to less informed and more superficial investment decisions to the detriment of the very individual investors that Reg. FD was designed to "empower".

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

SELIGMAN ADVISORY COMMITTEE ON MARKET INFORMATION: MEETING FOUR

Note: This meeting overview is not meant to be an actual transcript of the meeting, and therefore does not reflect direct quotes from participants. For background on the formation of this Committee, as well as a short summary from the first, second, and third meetings, please see the Appendix following this article.

Summary of Fourth Meeting

There was one main question on the agenda for the April 12, 2001 meeting at the SEC that had been on the agenda for the third meeting, but for which there was not enough time left to address adequately. The question was, "How should user fees be determined and revenues allocated among plan participants?" This question was to be addressed in the context of reforming the current market data system.

Prior to the discussion of this question, there was a progress report on the work of the subcommittee, whose meetings are not public, by the chair of the subcommittee, Professor Donald Langevoort of the Georgetown University Law Center. The subcommittee is working on exploring the feasibility of a competing consolidators model. Professor Langevoort reported that the technological side of the competing consolidators model is feasible, and indeed would only require a relatively small amount of SEC oversight. It was also agreed, however, that the economics of the question posed more of a problem, in terms of structuring fees and revenues. It was generally agreed that some degree of the Display Rule should be retained in that situation. Moreover, not all members were able to agree on how it would be possible to limit the pricing power of those entities that distribute market data. On the whole, Professor Langevoort reported that the work of the subcommittee is productive and useful.

The rest of the morning session was spent on various factual presentations designed to help the committee answer specific questions. There was a presentation by Tom Haley of the NYSE, the CTA/CQ Plan Administrator, on the role of the Administrator, Network A rates, and Network A Contract Administration. Then Tom Davin of Nasdaq gave a presentation on Nasdaq/UTP Plan Administration, including a discussion on how fees are set, on pilots, on distributor agreements, functions of the Plan Administrator, and contract administration. Finally, there was a presentation by Michael Atkin of the Software and Information Industry Association, a committee member, on general issues of market data management. These issues included problems with contracts, an overview of the FISD database, part of the Market Data Policy Project, which is currently in beta testing, and exchange business practices.

"How should user fees be determined and revenues allocated among plan participants?"

The first issue that Dean Seligman wanted to address with regard to fees and revenues was the question of transparency. There was a discussion of the implications of the following statement:

A. "We would recommend more transparency, or 'sunshine,' with respect to the fee setting process, so that market forces can more effectively act as a check on pricing power of market centers."

The discussion began with the question of whether market data contracts should be made public, and/or filed with the SEC. The comment was made that these contracts are basically available, and that the SEC does already have them. One participant said that people wouldn't gain much by looking at Exhibit As. Another participant thought that the contracts should all be available if the market data was going to continue to be distributed in a non-competitive arena. The comment was made that the real issue at hand was whether or not market data is treated as a shared resource or a product to be licensed. Another offered the opinion that at the very least, the rules governing the contracts should be public and clear. Another said that many firms are not in favor of having the contracts published. Another participant said that if the goal is price efficiency, that transparency per se won't accomplish that, only multiple buyers and sellers will. Seligman took from this discussion that what is already provided and out there is adequate. The next

discussion centered around the following statement:

B. "We would recommend that SROs offer their data on a strictly non-discriminatory basis – in effect, 'most favored nation' pricing – as a way to mitigate perceived pricing abuses."

One participant, a proponent of MFN pricing, said that this is an idea designed to deal with the market power of the NYSE. Another participant said that this may lead to unintended consequences, such as the exchanges refusing to lower fees for one party on the basis of the fact that the fees would have to be lowered for all parties. Another was in favor of simplification of the fees, and that the fees should be channel neutral. One exchange representative said that there are technological reasons why different channels have different fees. Another exchange representative said that changing the tier structure will inevitably produce winners and losers.

Another participant said that given that some exchanges are going to be for-profit monopolies, they must be regulated as such. Annette Nazareth of the SEC wasn't sure that being for-profit per se would make too much of a difference for the market data world. The meeting ended by Dean Seligman saying that it appears that the committee will be making two recommendations, one based on incremental change, and one based on more radical change based on issues explored by the subcommittee with regard to competing consolidators.

Appendix

Background of the Formation of the Committee

On July 25, 2000, the SEC announced the establishment a federal advisory committee to assist it in evaluating issues relating to the public availability of market information in the equities and options markets. The Advisory Committee on Market Information has a broad mandate to explore both fundamental matters, such as the benefits of price transparency and consolidated market information, and practical issues such as the most effective methods of consolidating market data. Joel Seligman, Dean of the Washington University School of Law in St. Louis, chairs the Committee.

Summary of First Meeting

The agenda for the first meeting on October 10, 2000 at the SEC was first to have an overview of the three current market data plans, and then discuss 1) the value of transparency to the markets, and 2) the merits of providing consolidated information. Everyone agreed on the theoretical value of transparency to the markets, but many complained that transparency is poorly defined and means different things to different kinds of market participants. As for consolidation, there was disagreement about whether any information consolidation should be mandated, whether participants should instead compete on that basis, or some combination of the two. There was also disagreement about whether the position of consolidator should be a for-profit or non-profit utility. Many agreed about the necessity of at least displaying last sale information and NBBO.

Summary of Second Meeting

The central question posed for the second meeting on December 14, 2000 at the SEC was, "Should the Committee proceed to attempt to develop an alternative model for disseminating market information, in addition to exploring ways to improve the existing model? Or should we focus solely on improving the existing model?" The plan was to review five alternative models that had been sent to Dean Seligman, have the SEC staff make some general comments about what they are looking for in an ideal model, and then to discuss whether or not to consider alternative models at all. It was decided that alternative models would be considered after ways to fix the current system were considered.

Summary of Third Meeting

There were several questions on the agenda for the March 1, 2001 meeting at the SEC. The first question was, "What market information should vendors and broker/dealers be required to provide to customers?" The second question was, "How should market information be

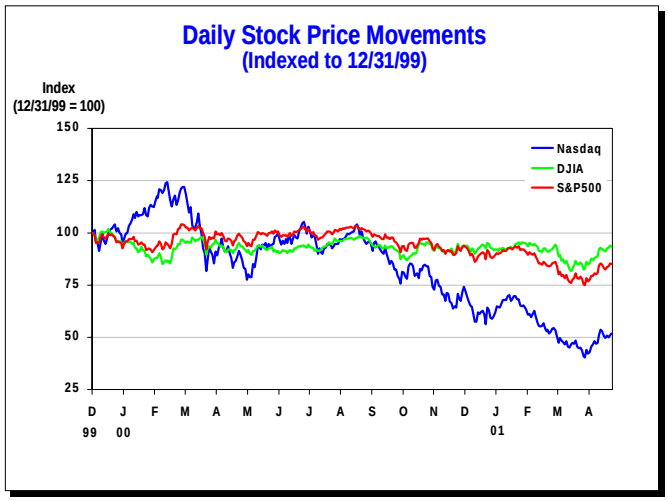
consolidated?" The third question was, "How should the consolidators be governed?" The fourth question was, "How should user fees be determined and revenues allocated among plan participants?" There was not quite enough time left to address the last question fully. This meeting was to be used to discuss reforming the current market data system.

Judith L. Chase
Vice President and Director, Securities Research

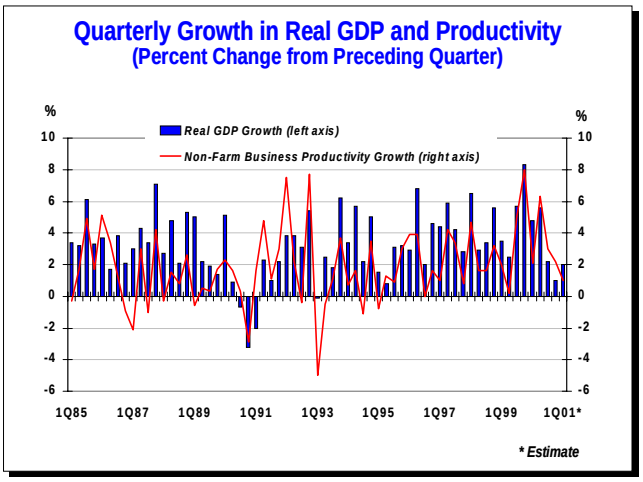
MONTHLY STATISTICAL REVIEW

U.S. Equity Market Activity

Stock Prices – As the economy slowed in late 2000 in response to higher interest rates, so did earnings growth. Overly optimistic assumptions about future profits and an uninterrupted economic expansion began to evaporate, as did consumer and investor confidence, and stock prices began a broadening retreat. What had been confined to a sharp downturn in tech stocks became less concentrated, and a "rolling, rotational" bear market began to emerge, before the market correction became broadly based in 1Q 2001.

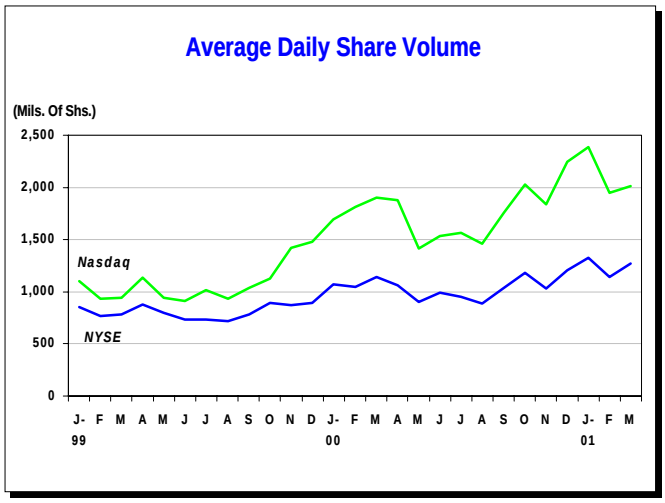


Announcement of poorer Q4 2000 results were accompanied by sharp cuts in expectations of earnings growth in 1Q 2001, which tumbled into negative territory by mid-quarter. In March, profit concerns extended further, particularly for major technology companies, which left the Nasdaq Composite with a 14.5% loss for the month, while both the Dow Jones Industrial Average and S&P 500 lost roughly 6%. For the 1Q 2001, the Nasdaq Composite plummeted 25.5%, its worst first quarter ever in percentage terms and its fourth straight losing quarter. The S&P 500 also suffered its fourth sequential quarterly decline and ended 1Q 2001 with a loss of 12.1%, its steepest decline since 3Q 1990. During the same time frame, the DJIA declined 8.4%, its worst first quarter showing since 1978.

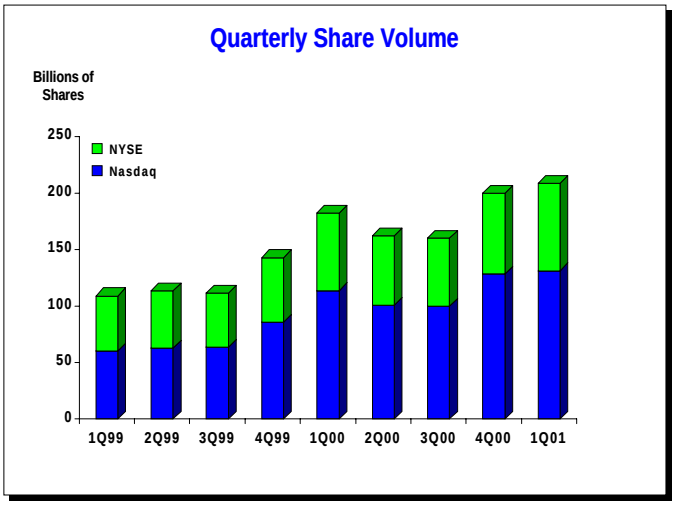


At the first quarter's close, the Nasdaq Composite stood at 1,840.26, down 3,208.36 points, or 64%, from its March 2000 peak of 5,048.62. The S&P 500 dropped into bear territory, as it was down 24% from its all-time high set on March 24, 2000. Meanwhile, the DJIA, which closed below the 10,000 mark, was off 16% from its January 2000 record.

The market staged a strong recovery during the last three weeks of April, as investors have grown more confident that the U.S. economy will avoid recession. A surprise half-point interest-rate cut by the Fed, and better-than-expected first-quarter GDP data helped fuel the rally. For the month of April, the Nasdaq Composite soared 15%; however, the Nasdaq index is still down 14% from the start of the year. The Dow advanced 8.7% in April, and is now down only 0.5% so far this year. Meanwhile, the S&P 500 rose 7.7% during April, and is down 5% year-to-date.

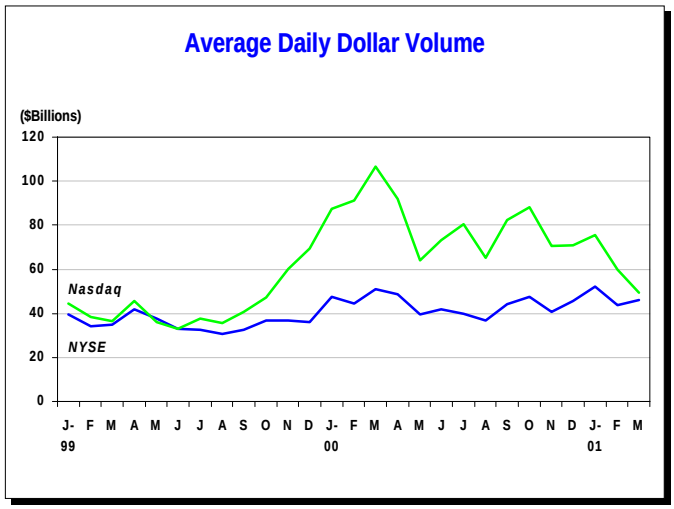


Trading Volume – After surging in December and January, trading activity slowed somewhat, but continued to be strong throughout 1Q 2001. During January, strong institutional activity produced a record month for the number of trades the securities industry processed. This was due to several factors: the deployment of high cash levels (5.9% of equity fund portfolios, up from 4.6% a year earlier); the so-called "January effect"; and the impact of decimalization. More price points and narrower spreads encouraged specialists and market makers activity. Required price improvement being now only a penny, spurred "stepping ahead" or "pennying", which contributed to a record number of trades.

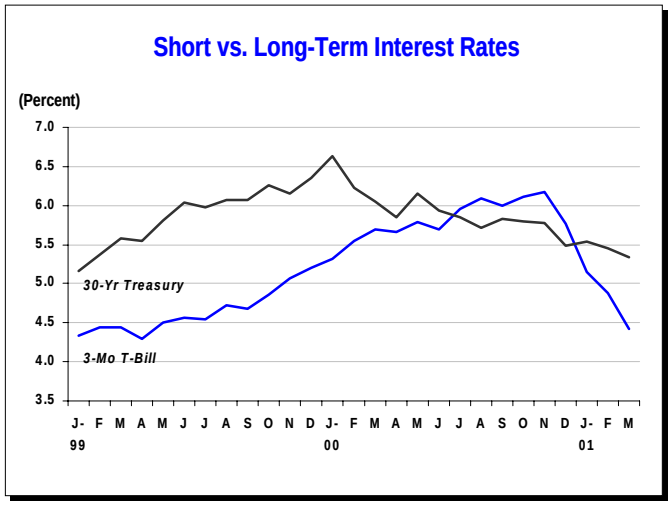


Share Volume – Activity remained strong through March, resulting in record quarterly volume on both the NYSE and the Nasdaq. NYSE share volume averaged a record 1.25 billion shares daily during 1Q 2001, up 15% from 1Q 2000 and 20% higher than 2000's volume of 1.04 billion shares per day. On Nasdaq, daily volume jumped 17% to a record 2.12 billion daily in 1Q 2001 from last year's comparable period, and was 20% above 2000's 1.78 billion daily average.

Dollar Volume – Despite the heady trading activity throughout this year's first three months, the carnage in the technology sector dragged down the dollar value of trading on Nasdaq. Nasdaq's average daily dollar volume sank monthly to $49.5 billion in March, less than half the record $106.4 billion daily average reached last March. The decline pushed down the 1Q 2001 average to its lowest level since 4Q 1999. At $61.5 billion daily in 1Q 2001, the daily value of trading in Nasdaq stocks was 36% below 1Q 2000's record daily average of $95.6 billion and 24% lower than last year's $80.9 billion daily average.



On the NYSE, although 1Q 2001's dollar value of trading was down slightly from 1Q 2000's record level, it has managed to remain ahead of the average for all of last year. After reaching a monthly record $52.0 billion traded daily in January, NYSE dollar volume fell back to $45.9 billion in March, which brought the 1Q 2001 average to $47.3 billion, or just shy of the record $47.8 billion daily average set in the same, year earlier period. Even so, this year's first quarter dollar volume in NYSE stocks remained 8% above 2000's $43.9 billion daily average.

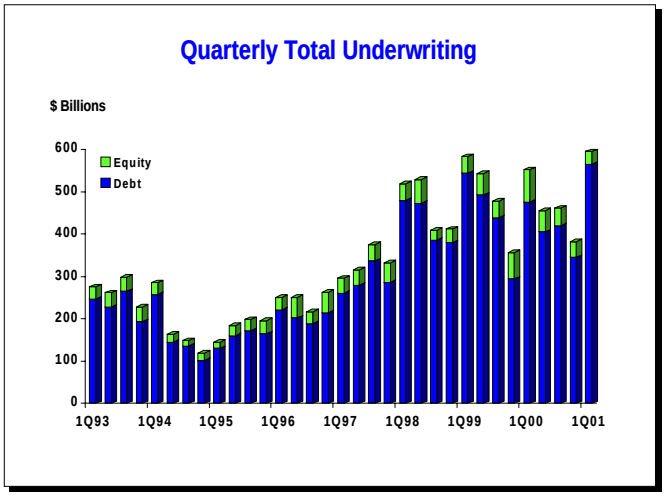


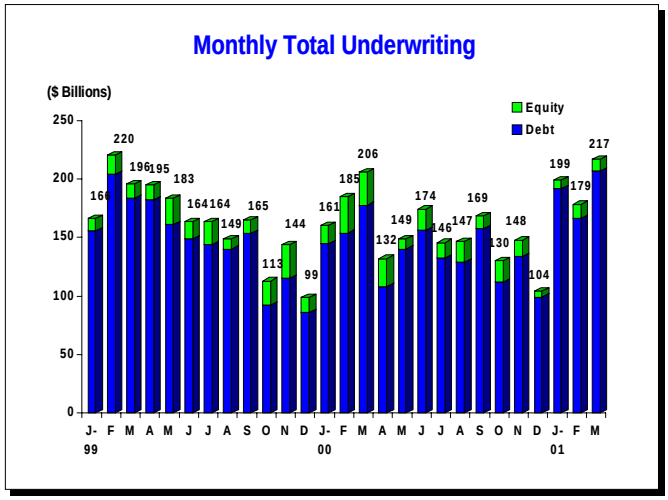
Interest Rates – The Federal Reserve lowered its benchmark Fed Fund rate by 0.5% on March 20 – the third such decrease this year – in an effort to bolster the slumping economy. This helped drive down yields on 3-month T bills, which slid 135 basis points since December 2000 to 4.42% in March. Over the same time span, the yield on 30-year Treasuries fell 15 basis points to 5.34% in March 2001. Thus, the spread between the 3-month and the 30-year Treasury widened to 92 basis points, the largest in 14 months.

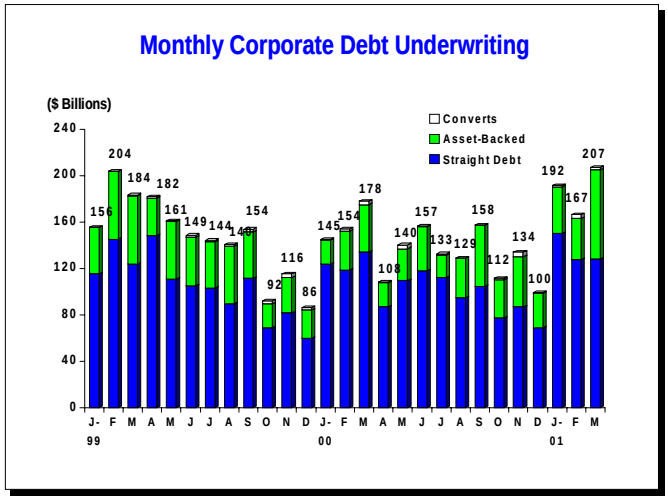
U.S. Underwriting Activity

Total Underwriting – Corporate bond issuance set a record during 1Q 2001 as issuers sought to lock in lower interest rates, and dazed stock investors retreated to the relative safety of bonds. Dollar proceeds jumped 19% this quarter to $565.4 billion from $476.6 billion in the first quarter of 2000 and represented a 64% increase over the $345.3 billion raised in the fourth quarter of last year. In stark contrast, equity underwriting sank 61% to $29.5 billion (its lowest level since 3Q 1998) from 1Q 2000's record $75.4 billion and fell 21% below 4Q 2000's dismal $37.2 billion. As a result, due to the surge in corporate bond issuance, overall volume of stock and bond underwriting in the U.S. market during 1Q 2001 hit a record $594.9 billion, up 8% from $552.0 billion in last year's comparable period and 56% above 4Q 2000's total of $382.5 billion.

Debt Offerings – The corporate bond market got off to a strong start in 2001. After sinking to a 12-month low of $68.8 billion last December, new issuance of straight corporate debt reached a monthly record $150.1 billion in January before easing somewhat in February and March. For the first quarter of 2001 overall, dollar proceeds totaled $565.4 billion, up 19% from $476.6 billion in 1Q 2000 and 64% higher than the $345.3 billion raised in the fourth quarter of last year. Several jumbo deals by global telecom companies led the surge in new offerings. However, record US issuance totals included only the US portion of overseas deals, like France Telecom's $16 billion global bond issue, which was the largest corporate bond offering in history. During this quarter, proceeds from asset-backed securities and convertible debt offerings surged 61% and 33%, respectively, when compared to the same period last year.





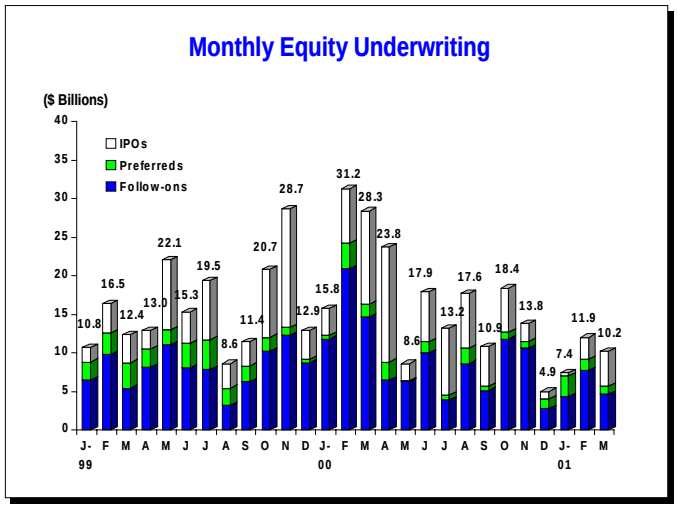


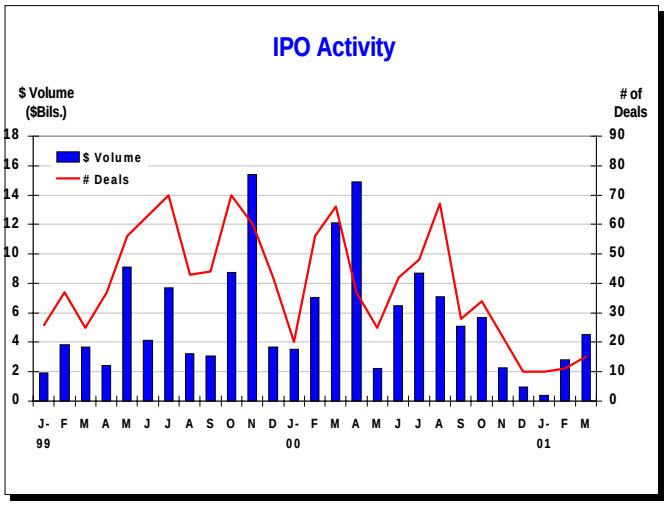
Equity Underwriting – A completely different picture emerged on the equity side. The IPO market virtually ground to a halt in this year's first quarter. Only 36 deals were completed, the lowest quarterly total in 10 years. Two mega-deals alone, KPMG Consulting's $2.0 billion offering in February, and Agere Systems' $3.6 billion deal ($3.0 billion US portion) in March, accounted for 65% of the total amount raised in all of 1Q 2001.

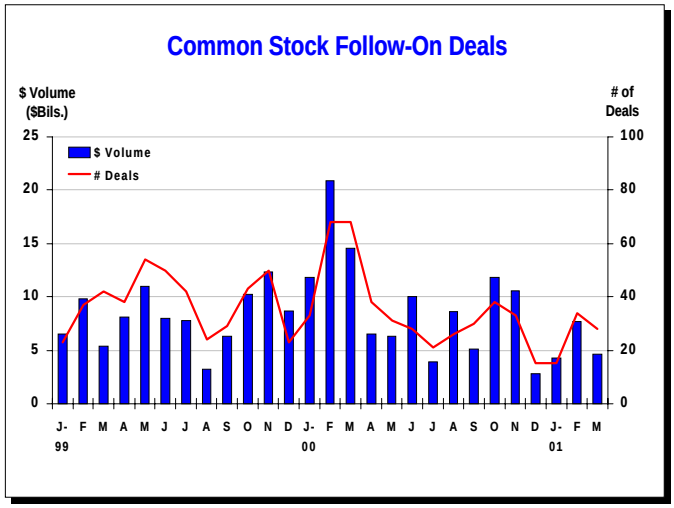
At $7.7 billion, IPO volume was down a whopping 66% compared with $22.7 billion in 1Q 2000. The "pop" or surge in price immediately after issuance, once so prevalent is now largely absent this year. Most 2001 IPOs are trading below their initial offering price. Not surprisingly, the first quarter 2001 tally was the lowest quarterly result since the $6.2 billion recorded in 3Q 1998. The outlook for this market remains bleak, as the number of postponed and/or canceled deals continue to grow in early April.

Follow-on deal volume was also curtailed in this year's first quarter. The amount raised via follow-on offerings skidded 65% to $16.6 billion from the record $47.3 billion raised in 1Q 2000. Although the number of follow-on deals is expected to rise in 2Q 2001, the resulting higher dollar value raised will have little impact on market or aggregate industry totals.

Grace Toto
Assistant Vice President and Director, Statistics







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