

STATE STREET WHITE PAPER ■ DECEMBER 2001

Securities Lending, Liquidity and Capital Market-Based Finance



STATE STREET
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A STATE STREET WHITE PAPER

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Executive Summary

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Today, more and more governments, multinational agencies and scholars recognize that capital markets play an indispensable role in economic development, and that securities lending enables these markets to work much better and to evolve. Many nations have been moving in recent years to remove legal and regulatory obstacles to securities lending and to actively encourage more participation in the practice as a way to spur the growth of their domestic capital markets.

With increasing momentum in the years leading to the turn of the 21st century, global capital markets have been displacing traditional banking systems as the leading sources of corporate and even personal finance. In the most developed economies, this transition is far advanced, with capital market assets in the U.S. and the U.K., for example, now significantly larger than the total holdings of these nations' banking systems.

This "securitization of finance" is further enhanced by the fact that some of the most dynamic growth areas for traditional banks involve the conversion of traditional lending products such as mortgages or credit-card receivables into tradable securities that further fuel capital markets' growth.

As the advantages that deep, liquid capital markets offer to national economies—most notably, enhanced capacity for economic growth—become more evident, policymakers in nations around the world are seeking ways to foster capital market growth. Their goal is to enhance national competitiveness.

Capital markets encourage entrepreneurship, innovation and more rapid economic growth by "splitting the atom" of risk. Initially, they do this by dividing shares in the equity ownership or portions of the debt involved in financing enterprises into stocks and bonds that can be much more widely dispersed among investors than traditional bank loans.

As capital markets evolve, they divide risk even more finely—by evolving new financial instruments such as options and futures (derivatives), and new investment vehicles and strategies such as mutual funds and hedged investments. These provide investors with new ways to increase returns and to manage the risks they undertake. In the world's most developed capital markets, this process, which some analysts have dubbed "financial intensification," has already led to a vast proliferation of new financial instruments and to dramatic rises in trading volumes as investors engage these new instruments and strategies.

While dispersion of equity ownership and debt to an ever-growing investor base can create economic benefits, it may introduce aspects that are detrimental to long-term growth. One of the primary assumptions of fundamental capital market theory is that investors will act in a rational manner. Empirical evidence, however, has shown financial markets to exhibit booms and busts that do not appear to be generated by rational behaviors.

Further, due to the efficiencies and liquidity of capital markets, participants are able to implement changes in a very rapid fashion. The ability of capital market participants to react "irrationally" and to shift capital quickly can lead to market inefficiencies in the long-term.

These effects can be witnessed at both macroeconomic and microeconomic levels. From a macroeconomic perspective, the recent Internet stock bubble within the U.S. market is one such case in point. Market participants provided capital to firms with ill-thought business plans and little hope for long-term profits. Many investors were focused on making "fast money" and on investing with little review of company financial strength. After this bubble burst, investor and venture capital funding in large part was not investing in new enterprises. A lack of available capital was available to be funneled to well-planned companies with creative new products, and market participants had become apathetic towards companies with limited operating history.

At the microeconomic level, individual companies tend to focus on short-term performance, potentially at the cost of long-term opportunities, as capital markets will punish those companies that under perform or miss expectations for even one quarter.

Even with the potential for market bubbles, and "irrational exuberance" on the part of investors, capital markets remain a key component in economic development.

The single most important quality that securities markets need to function successfully and to grow is liquidity—the ability to buy or sell substantial investment positions quickly, smoothly and with minimal market impact. One of the most important factors in fostering liquidity is the evolution of a broad array of securities borrowing and lending functions. The ability to borrow securities is, in fact, a key element in the development of advanced capital markets. Wherever securities lending has not yet become accepted practice, the evolution of national or regional capital markets is stunted—limiting their ability to allocate capital more efficiently to economic development.

Today, more and more governments, multinational agencies and scholars recognize that capital markets play an indispensable role in economic development, and that securities lending enables these markets to evolve and advance. Many nations have been moving in recent years to remove legal and regulatory obstacles to securities lending and to actively encourage more participation in the practice as a way to spur the growth of their domestic capital markets.

The decade of the 1990s was bracketed by two major policy reports that resoundingly endorsed the role of securities lending in capital market development—and urged nations to do more to encourage it. The first was a 1989 report by the Group of 30 on clearing and settlement systems. One of the report's recommendations urged governments and regulators to facilitate securities lending in order to reduce the high rates of trading "fails" that were discouraging cross-border investors and rendering domestic capital markets illiquid and prone to paralysis.¹

The G-30's call to take down regulatory and taxation barriers that inhibit securities lending received increasingly positive response through the 1990s. Japan, Australia, the U.K., Switzerland, Italy, France and other nations have acted in recent years to remove legal and regulatory obstacles to securities lending and to actively encourage more participation in lending, swaps and securities "sell-buy-back" agreements by both domestic and foreign entities.²

At the same time, in the form of repurchase agreements, securities lending has become a vital tool of modern monetary policy through the activity of central banks themselves in government securities markets. Leading central banks all now use an active repo trading strategy to add liquidity to their sovereign debt markets, to stabilize their currencies and to attract foreign investment.

Data from primary dealers in the United States which report to the Federal Reserve Bank of New York show that the average daily volume of total outstanding repo agreements alone was USD 2.53 trillion in 2000, an increase of 4.2% from 1999. In Europe, total repo and securities lending transactions settled on one settlement platform (Euroclear) amounted to EUR 95 trillion for the year 2000.³

¹ "Clearance and Settlement in the World's Securities Markets," Group of Thirty, March 1989.

² "Securities Lending Transactions: Market Development and Implications," Technical Committee of the International Organization of Securities Commissions (IOSCO), Bank for International Settlements (BIS) Committee on Payment and Settlement Systems (CPSS), July 1999.

³ Bond Market Association, Comment letter to Basel Committee on Banking Supervision, May 30, 2001.

As the table below indicates, nations which have significant percentages (at least 20%) of total government securities issued on loan or repo include the U.S., Germany, the U.K., France, the Netherlands, Belgium, Sweden, Switzerland, Mexico, Japan and Spain.

Scale of Activity in the Government Securities Loan and Repo Markets

(USD in millions)

Country	Total Value of Government Securities Issued	Percentage of total outstandings on Loan or Repo	Reporting Date
United States ^A	3,355,500	55.3	February 1999
Germany ^B	295,491	54.8	March 1999
United Kingdom	482,662	37.2	June 1998
France	704,486	36.8	March 1999
Netherlands ^B	194,303	32.2	September 1998
Belgium	252,769	29.3	June 1998
Sweden ^C	127,644	28.9	December 1998
Switzerland	41,001	27.8	December 1998
Mexico	33,631	25.5	December 1998
Japan ^D	2,422,362	23.8	February 1999
Spain	201,217	23.1	February 1999
Italy	1,062,578	9.5	May 1998

Source: IOSCO Report, Bank for International Settlements

A. Figures reflect the activity of 35 primary U.S. government securities dealers and 19 bank lenders.

B. These figures are obtained by market estimations.

C. These figures are rough estimates by the central bank.

D. Financing bills are excluded.

Amid the explosive growth of global capital markets—and the increasing use of securities lending and hedging techniques by central banks and governments—the decade of the 1990s closed with this conclusion from a joint study by BIS and IOSCO, the most authoritative analysis of global securities lending to date: “Securities lending has become a central part of securities market activity in recent years, to the point where the daily volume of securities transactions for financing purposes considerably exceeds that of outright purchase and sale transactions.”⁴

In November 2001, BIS and IOSCO jointly published recommendations for securities settlement systems, which encouraged securities lending. “Liquid securities lending markets are therefore to be encouraged... Impediments to the development and functioning of securities lending markets should, as far as possible, be removed.”⁵

The growing official consensus in favor of capital markets and the increased recognition by policymakers of securities lending’s function as an important market “lubricant” will ensure that securities lending remains a central element in 21st century capital markets. This key lesson is simple, and it applies to securities markets worldwide at the turn of the 21st century: *Securities lending and capital markets evolve in tandem.*

⁴ IOSCO / BIS Report, July 1999.

⁵ “Recommendations for Securities Settlement Systems,” Committee on Payment and Settlement Systems, Technical Committee of the International Organization of Securities Commissions, November 2001.

The Great Transition: The Rise of Capital Market-Based Finance

The financial history of the world's most developed economies through the 20th century centers on a single theme—the “securitization of finance”—as capital markets grow to supplement, even to displace, traditional banks as the prime intermediaries between borrowers and lenders of capital.⁶

The last decades of the 20th century saw capital markets in the most developed nations come to eclipse traditional, bank-dominated financial systems. Fueled by a multi-trillion dollar wave of pension and retirement savings, capital markets in the U.S., the U.K. and other leading economies have grown well past the scale of the total holdings of their national banking systems.

Capital markets in these nations have, in fact, replaced banks as the dominant source of corporate finance. In the U.S., for example, this process of “disintermediation” is so far advanced that less than 30% of corporate finance now comes from traditional commercial banks. Some of the most dynamic growth areas in these nations' banking industries now center on the transformation of traditional bank products such as mortgages or credit-card debt into “securitized” products that can be traded on the capital markets.

The forces driving the rise of capital markets remain strong. These range from the aging of the global population, the attendant multi-trillion dollar rise in retirement savings, the continuing triumph of capitalism itself, progress in the applications of raw computing power and quantitative strategies to investing, the explosive growth of derivatives and hedge funds, and today, with the Internet, the ubiquitous availability of information to guide and execute investment and trading strategies on a global basis.

A capital markets-based financial system can systematically provide seed capital to entirely new high-tech industries. It is almost inconceivable, for example, that the Internet, biotechnology and other “new economy” industries now rising in the U.S. and elsewhere could have been financed so rapidly or on today's scale through traditional lending by an “old economy” banking-dominated financial system.

⁶Chernow, Ron, *The Death of the Banker: The Decline and Fall of the Greatest Financial Dynasties and the Triumph of the Small Investor*, Vintage Books, Random House, 1997.

To the contrary, a growing number of economists and policymakers, backed up by day-to-day experience, now share a new consensus: that robust capital markets, which offer a full array of modern financial products and practices, contribute to long-term national economic growth by encouraging entrepreneurship and innovation, even given periodic market corrections.⁷

Capital markets can finance economic growth more efficiently than traditional bank lending systems that depend on making a “spread” of interest rate revenue over the banks’ costs of funds. Capital markets can more easily diversify and distribute risk by dividing shares in the equity ownership or portions of the debt involved in financing enterprises into stocks and bonds, which in turn can be much more widely dispersed among investors than traditional bank loans.

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The availability of active markets for shares in new enterprises then enables venture capitalists to make a range of investments in a variety of high-risk ventures – with the hope that one or more successful IPOs will more than make up for other ventures’ failures and losses. Traditional commercial banks, by contrast, can’t risk lending to an array of unproven start-ups – however promising – because banks can’t earn enough additional interest on those new firms that succeed to make up for capital they are likely to lose when other, unproven borrowers fail.

What’s more, as capital markets evolve further, they can “split the atom” of risk even more finely – by creating new financial instruments such as options and futures and new investment vehicles and strategies such as mutual funds, exchange traded funds and hedged investments. These provide investors new ways to increase returns and manage risks, and to do so more cost effectively.

Given these dynamic, growth-fostering advantages, it is no surprise that both developed and emerging nations are actively seeking to follow the same process of financial evolution so evident in the U.S., the U.K. and other capital market leaders.

The movement away from communist economic regimes in the 1980s and 1990s has spawned a huge expansion in the number of global stock markets that money managers and institutional investors have to consider – from fewer than 80 in the early 1980s to more than 160 by the turn of the 21st century.

Nearly USD 600 billion of formerly state-run enterprises have been privatized through these capital markets in the 1990s. And well over USD 1 trillion more in state-company equity could come to market in the new century’s first decade.⁸

In the course of the 1990s, total global securities market capitalization grew at a compound rate of nearly 11% a year to well over USD 60 trillion worth of stocks and bonds by century’s end – nearly twice the total of global GDP.

Much of that growth has been concentrated among the world’s most advanced securities markets – notably New York and London – where market capitalization on the leading exchanges multiplied tenfold in the 1990s.

⁷ *Levine, Ross and Zervos, Sara, “Stock Markets, Banks, and Economic Growth,” IFC, World Bank, 1999.*

⁸ *Hale, David, “Stock Market Growth and Privatization in Developing Countries,” UN Conference on Privatization and Regulation, February 16, 1999.*

As the strategic growth advantage that developed capital markets offer to national economies becomes more evident, policymakers in many nations are coming to view capital market development as imperative to their nations' futures, to their ability to finance new high-tech industries and to their competitiveness in a globalizing economy.

With much of the financial world thus playing "catch-up" with U.S. and U.K. levels of securities market capitalization, total global capitalization for stocks and bonds could surpass USD 100 trillion by 2005 – even at much more conservative growth rates than the 11% per year increase in total global market capitalization seen in the 1990s.

Total Global Securities Market Capitalization
(USD in trillions)



Sources: OECD, World Bank.

Over and above their "growth advantage" the development of deep, liquid capital markets offers nations the benefit of greater financial system stability. As Federal Reserve Board Chairman Alan Greenspan has noted, the existence of strong capital markets alongside well-regulated banking systems may help insulate a nation's whole financial system from systemic risk, by providing alternate sources of liquidity and financing that can be tapped when either banking systems or securities markets are in short-term crisis.⁹

⁹ Greenspan, Alan, "Remarks before the World Bank Group and the International Monetary Fund, Program of Seminars," Washington, D.C., September 27, 1999.

This is not to suggest that capital markets represent some magic elixir for economic growth, or that traditional banks are moribund. Even when accompanied by well-developed rule of law, advanced accounting standards and free flow of information, capital markets can, at times, over-inflate or depress underlying economic value creating "bubbles" and "panics." As the Fed Chairman noted, the central banks' ability to inject liquidity into the financial system through banks was essential in containing the financial "contagion" that had frozen many securities markets in the wake of the 1997-98 Asian financial crisis.

The key point is that having both advanced capital markets and strong banking systems gives nations greater competition in the provision of capital (and the possibility of turning to complementary financing systems), and eliminates the need to simply rely on one or the other. The "securitization" of the U.S.-based mortgage industry, for example, helped keep housing finance flowing, which limited the depth of the 1990-91 U.S. recession precisely because banks could repackage and sell their mortgage loans into capital markets.

Financial Complexity and "Intensification"

Besides their sheer scale, the world's most developed capital markets have become vastly more complex and transnational in scope. Companies doing business in and serving these capital markets—both buy-side institutional investors and sell-side brokerage firms—have expanded their horizons from national to global markets as they seek to manage the largest pools of long-term investment capital in history.

Investors have also changed their own investment and trading habits in a process that some analysts have dubbed "financial intensification." This refers to both the vast proliferation of new financial instruments—mainly options, futures and other derivatives that investors use to manage and mitigate risk—and to the dramatic rises in trading volumes as investors engage these new instruments to conduct trading and investment strategies that often produce vastly higher turnover.

The impact of these changes in investor behavior manifests itself most clearly in the rise of trading volume on the New York Stock Exchange, which rose from 11 billion shares a year in 1980 to well over 200 billion in 2000. Similarly, the notional value of interest-rate and currency swaps outstanding has also soared—from an estimated USD 3 trillion in 1990 to well over USD 45 trillion in 1999—roughly equal to the market value of all publicly traded stocks and bonds worldwide.

Taken together, the rise of cross-border investing and the proliferation of financial instruments that serve to arbitrage differences between national capital markets, point to the emergence of a single truly global capital market which is subject to the "law of one price" as domestic price and regulatory differences erode.¹⁰ Individual nations' markets, then, become nodes in this emerging global network, and their success depends on the extent that nations' policies make their markets attractive to domestic and foreign investors.

¹⁰Bryan, Lowell and Farrell, Diana, "Market Unbound: Unleashing Global Capitalism," John Wiley, 1996.

Those markets that attract foreign as well as domestic investors, and that encourage the listing of non-domestic companies are well-positioned to gain a greater share of capital. From 1999 to 2000, for example, the number of new foreign companies listing on the New York Stock Exchange and the London Stock Exchange increased 113% and 27% respectively. Similar statistics illustrate participants leaving domestic markets to participate on the larger, international scene. The number of domestic participants listed on the Brussels and Amsterdam stock exchanges declined by 58.8% and 47.1% respectively from 1999 to 2000. These markets have seen their overall size, liquidity, turnover, and price levels fall as companies have left in order to seek more attractive listing elsewhere.¹¹

While spectators and investors may be the first to exit markets that do not support cross-border flows of capital and do not have the depth and liquidity, eventually issuers will follow suit. When issuers can realize better prices for their issues outside their domestic market, they will eventually leave that market. This in turn leads more investors to exit the market, and the shrinking of the market continues. The message is clear – no market can assume that it will retain even its core domestic business, and only markets which offer adequate liquidity will continue to attract and retain business, either from issuers or investors.

Clearly, what capital markets need above all to grow, to become liquid, and to sustain increasing volumes of transactions is capital – preferably sustainable flows of long-term, “patient” investment. The prime source for funding the rise of late 20th century capital markets has been domestic pension savings and the evolution of collective investment vehicles. It is no coincidence that the nations with the highest ratios of equity market capitalization to GDP – Switzerland, the U.K., the Netherlands, and U.S., for example – also have the most well-developed systems of pension, collective fund and personal retirement savings.

Global Ratios of Equity Market Capitalization to GDP, 2000

Switzerland	289%	Canada	116%	Spain	78%
United Kingdom	206%	France	114%	Germany	76%
The Netherlands	189%	Australia	108%	Italy	68%
United States	168%	Japan	98%	Korea	32%
Sweden	163%	Belgium	81%	Mexico	22%

Sources: OECD, World Bank

While domestic pension savings have been a prime fuel for their growth, the most advanced capital markets also benefit from their openness to cross-border investing, which grew explosively in the 1990s.

For nations whose capital markets are less developed, one clear lesson is that the removal of obstacles to foreign investment is itself a prerequisite for the development of attractive, and hence, effective capital markets.¹² Improving regulatory transparency is also necessary to boost foreign investment. Transparency leads to business predictability for foreign entities that are expanding to new markets and taking the risk of dealing with many uncertainties. In turn, the ability of a given national or regional securities market to attract capital – whether from domestic savings and pension funds or from offshore investors – depends critically on the creation of efficient, well-regulated mechanisms for handling rising transaction flows, settling trades and mitigating risk.

¹¹ FIBV.

¹² “Opening Markets in Financial Services and the Role of the GATS,” World Trade Organization, September 22, 1997.

The Central Role of Liquidity

“Market liquidity is a precondition for the smooth pursuit of all financial activities, including the pricing of financial products, the risk management of financial institutions, and the conduct of monetary policy.”¹³

The single most important quality that successful securities markets must foster is *liquidity*—the ability to buy or sell substantial investment positions quickly, smoothly and with minimal market impact.

There is, of course, a notorious circularity in analyzing the root sources of liquidity, because it is, to a large degree, a self-fulfilling phenomenon. Investor confidence spurs a general willingness to trade; the participation of many transactors deepens markets and smoothes trading; and these qualities of a market further raise investors' confidence. Liquidity is, or can be, the function of such a "virtuous circle."

Definitions of liquidity range beyond the ability to deploy capital into and out of a market in an "efficient" way—that is, without excessive transaction costs or impacts on securities prices. Micro-analysis of a given market measures its liquidity in at least three dimensions:

- **Tightness**—how far transaction prices diverge from mid-market prices—a metric generally visible in the size of bid-asked spreads;
- **Depth**—how large a volume of trades can be processed without significantly affecting prevailing market prices or the amount of orders on market-makers' books in a given time-frame, and;
- **Resiliency**—how quickly price fluctuations resulting from trade are dissipated and/or how quickly imbalances in order flows are adjusted and price recovery occurs.¹⁴

¹³ "Improving Counterparty Risk Management Practices," Counterparty Risk Management Policy Group, June 1999.

¹⁴ "Market Liquidity: Research Findings and Selected Policy Implications," BIS-CGFS, May 1999.

In a somewhat broader sense, liquidity includes the ability of market participants to make money by trading when a market is moving downward as well when that market is trending upwards. Liquidity also relies on efficient price information and settlement systems, low transactions pricing and spreads, and low infrastructure and tax costs.

These overall features of a market's efficiency, all of which contribute liquidity to traders and investors in a market, are continually evolving. National laws and regulations, systems for trade settlements and record-keeping, provisions for the security of investors' own data and for greater transparency of financial information provided to the market—these elements can all contribute to enhance liquidity if they are well designed and implemented. Alternatively, regulatory restrictions on short-selling or hedge funds and other, even more inhibiting measures—such as capital controls or transaction taxes—can discourage investors and erode liquidity.

Ultimately, liquidity is a function of investors' confidence that they will be able to buy and sell their investments when they want to do so in markets that may fluctuate but which will not stall or fail.

Clearly investor confidence—or its withdrawal—has a self-reinforcing impact on any market's liquidity. Fostering such confidence, then, has to be a central aim for national authorities intent on developing their capital markets.

One way that governments and central banks foster liquidity directly is through implicit assurances that they will provide market participants with funds to keep orderly trading underway and mitigate trading freeze-ups or panicky sell-offs if market crises do occur, as in September 2001.

Offering a specific asset class—such as long-term government bonds—with specific policy assurances that the government will keep the market liquid, can also be a useful way to maintain stability in some markets. This is accomplished by ensuring that a benchmark asset that the rest of the market relies on to price other risks and values will continue trading freely until confidence generally can be restored.¹⁵

Another way to encourage liquidity is for national regulatory authorities to allow and encourage more market participants to engage in lending and borrowing securities already outstanding in the nations' equity and bond markets. (Such permission, even encouragement, is already common in most markets for government bonds, because most central banks are themselves major "players" in these markets). Regulators can further assist by understanding the use of swaps, options and other derivatives, and by ensuring that their market rules and supervisory oversight are free of any obstacles to the further growth of the derivatives sector.

¹⁵ *BIS-CGFS, May 1999.*

Securities Lending: Key to Market Liquidity

A look back over the past decade discloses that the development of a sophisticated securities lending industry has, in fact, played a central role in enhancing the liquidity of those markets that have managed to successfully “leap” to maturity. Indeed, market “maturity” may best be defined as the level of liquidity that can attract significant investment from large global investors.

The development of a broad array of securities lending activities can provide a very significant source of liquidity to any well-developed capital market. (See Appendix B: The Evolution of the U.S. Securities Lending Market).

In mobilizing the securities already outstanding in a market, securities lending has the effect of increasing the total supply of assets available to support trading and settlement. This enables the outstanding stock of assets, in effect, to do “double duty” in the service of market liquidity by converting otherwise sterile holdings into a dynamic, internally-generated source of finance that can support higher trading volumes and more sophisticated trading strategies.

By turning existing stocks and bonds into financing sources for further transactions, a well-developed securities lending business can minimize trading friction, improve efficiency, reduce settlement fails and lower transaction costs across an entire capital market. The benefits are multiple. Risk mitigation is made easier by the options that securities lending provides to investors wanting to balance “long” positions with off-setting “short” positions. Indeed, all market participants benefit – not just those who engage in securities lending or borrowing.

In country after country through the 1980s and 1990s, new or revitalized capital markets began their economic “take-offs” by first attracting increased attention from domestic investors and from the most venturesome of foreign investors. Almost by definition, it is this first wave of inward investment that makes an emerging market actually “emerge.” To continue growing, a capital market needs to draw investment that is more stable and longer-term – from larger investors who are typically much more risk-averse than the pioneers.

This has required capital marketplaces around the world to improve and automate their settlement processes, to establish central securities depositories (where they did not yet exist) and to "decertify" securities ownership and unclog paper flows.

As these changes take hold and investment in a given market rises, further pressures build – for better data, for greater transparency, and for the creation of risk mitigating products that increasingly larger investors need to hedge their investment exposures. The demand for means to hedge exposures is particularly acute among global pension funds – which are estimated to manage upwards of USD 13 trillion worldwide as of 2001 – where asset allocation strategies are typically quite rigid.

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Bound by fiduciary standards of prudence, many institutional investors are virtually obliged to use derivatives, repos and other instruments to manage their investment exposures. The rise of markets in derivatives instruments depends on the ability of players in the real or "underlying" securities markets to engage in hedging and securities lending, which in turn sustains liquidity amid rising transaction volumes.

In markets where securities lending is underdeveloped – or explicitly discouraged by regulatory or cultural barriers – evolution to a world-class level is simply stunted, at least until these barriers are removed.

As this market development pattern has replayed time after time over the past 20 years, more and more governments, multilateral agencies like the World Bank and economists have come to acknowledge the catalytic role of capital markets in economic development. Institutions like the Bank for International Settlements are also now acknowledging the role of securities lending in helping securities markets to function well.

A new consensus is emerging: the ability to borrow securities is an indispensable element in the development of advanced, effective capital markets.¹⁶

Indeed, the greater the turnover in a market, the more important securities lending becomes. Securities lending, in short, is no longer an ad hoc, back-office operation that enables borrowers to trade on securities they currently don't own. Nor is securities lending merely a low-risk way for institutional investor lenders to earn a few more basis points or cut their custody fees on their holdings. Securities lending as an industry has, in fact, matured to become a major source of internal financing that any capital market needs to achieve world-class, 21st century practice.

Little wonder that a report by the Bank for International Settlements and the International Organization of Securities Commissions concluded that "*Securities lending markets are a vital component of domestic and international finance markets, providing liquidity and greater flexibility to securities, cash, and derivatives markets. . . . Securities lending activity will continue to increase and become an even more integral component of financial markets in the future.*"¹⁷

¹⁶ IOSCO / BIS Report, July 1999.

¹⁷ *Ibid.*

Sophisticated regulators and policymakers in many nations now recognize that securities lending provides the liquidity that lubricates their capital market engines. As a 1998 report by the Committee on the Global Financial System notes: *“Investors are more willing to transact and take positions in markets where they expect liquidity to continue at a high level for the foreseeable future ... and market liquidity tends to be enhanced when instruments can be substituted for one another, since the market for each of them will be less fragmented.”*¹⁸

This growing recognition by governments and regulators of the value of securities lending should not be surprising. It stems, in large part, from central banks' and monetary authorities' own reliance on the closely-related practice of using repurchase agreements (repos) in their government debt markets as a key element in monetary policy – a development we now turn to in more depth.

¹⁸ “A Review of Financial Market Events in Autumn 1998,” BIS-CGFS, October 1999.

Repo and Securities Lending

Repo and securities lending are related transactions with related functions. They are linked by their similarities in providing a supply of securities, increasing trading volumes, diversifying risk, and helping to keep financial markets running smoothly.

Securities lending and the market in repurchase agreements (repos) have similar characteristics but with different legal structures. They both follow the same transaction structure whereby a security is transferred vs. a collateral obligation. Repo transactions are outright sales of a security accompanied by an agreement to buy the security back at a specified price on a specified date – sometimes as soon as the next day. Thus they can be used as either a securities borrowing or cash borrowing vehicle. In effect, the repo seller lends the security against cash collateral, while the repo buyer lends cash against the security as collateral.

By the 1970s, the repo market was quite sophisticated. As the July 1999 IOSCO/BIS report described it: *“In the U.S. Treasury repo market, brokers began to run portfolios to provide liquidity to their customers and to use the repo market to take positions on the short end of the yield curve. For example, a broker might lend securities on repo for one month and finance them for one week, in the expectation that repo financing rates would fall. Thus repo grew beyond a straightforward financing market to become a money market instrument in its own right, as an alternative to interbank deposit and bill/CD markets.”*¹⁹

¹⁹ IOSCO / BIS Report, July 1999.

Perhaps most significant, repo has evolved to be an important tool in managing monetary policy for a number of central banks around the world. As noted by the Committee on the Global Financial System in its report on "Implications of the Repo Market for Central Banks", *"For the central banks that use them, repos have often become the most important monetary policy instrument. In a number of G-10 central banks, the proportion of repos used in the refinancing of the domestic financial sector is over 70%."*²⁰ (As measured by outstanding amounts.)

Repo and securities lending are related transactions with related functions. They are linked by their similarities in providing a supply of securities, increasing trading volumes, and helping to keep financial markets running smoothly. Securities loans and repos may have the effect of bringing divergent prices back into line, of lowering the cost of financing and trading strategies, and of "splitting the atom of risk." These very similar practices are, in fact, linked across markets. As the Committee of the Global Financial System notes, *"In some instances, the supply of securities in repo markets can be increased by stock-lending agreements . . . (such agreements) allow institutions that hold securities but do not want to (or are not allowed to) participate in the repo markets to earn a higher return . . . Since repo markets support securities markets, securities issuers sometimes take steps to promote them."*²¹

In addition to the increased liquidity that loans of securities inject into a capital market by directly facilitating various trading strategies, the collateral that is posted against borrowed securities also benefits the markets. When cash is pledged as collateral, the general practice is to reinvest it in short-term, money-market instruments, because securities lenders have to price, purchase, sell and settle on a daily basis and holding any illiquid instrument in a short-term fund would be excessively risky.

Additionally, the need to invest such collateral, in turn generates substantial, continuing demand from securities lenders for reliable money-market investments – adding breadth and depth to markets for supranational, corporate and securitized short-term debt. Where non-cash collateral is accepted, lenders will generally approve only issues that can readily be priced, traded and liquidated for a cash position in order to protect securities loans.

²⁰ *"Implications of Repo Markets for Central Banks," BIS-CGFS, March 1999.*

²¹ *Ibid.*

The Emerging Official Consensus: Fostering Capital Markets and Securities Lending

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As governments, multinational agencies and scholars recognize both the catalytic role of capital markets in economic development and the ways that securities lending keeps markets liquid, a growing number of nations are removing legal and regulatory obstacles to securities lending. Some are actively encouraging more controlled participation in the practice by both domestic and foreign entities.

Recent developments around the globe indicate that nations are continuing to recognize the merits of securities lending and to encourage the practice through reforms. For example, Canada enacted regulations allowing Canadian mutual funds to enter into securities lending agreements, repurchase and reverse purchase transactions. Taiwan's Securities and Futures Commission has announced plans to pare down the minimum value of guarantee funds needed for short selling, which will allow for more hedging and will in turn encourage securities lending.

Official support is particularly notable in the closely-related arena of repo transactions in government securities markets—which have become central to the operations of the largest and most powerful monetary authorities in the world. As Peter R. Fisher, formerly of the Federal Reserve Bank of New York, now Under Secretary of the Treasury for Domestic Finance, stated in a 1997 speech: *“The market for repurchase agreements on U.S. Government securities is of vital importance to the New York Fed, and the whole Federal Reserve System, because it is where virtually all of our monetary policy operations are conducted. The depth, liquidity and efficiency of this market matters to us, not just because we like efficient markets as a general public policy goal, but because we operate in this market. The greater the depth and liquidity of the repo market, the greater is our flexibility in conducting operations on behalf of the Federal Open Market Committee.”*²²

²² Fisher, Peter, “Remarks before PSA's Second Annual Repo and Securities Lending Conference,” January 15, 1997.

If the 1990s saw the rise of capital markets as the prime vehicles for financing the most dynamic economies in the world—the first decade of the 21st century will see these markets truly come of age. Growing awareness of the powerful competitive advantages that well-developed capital markets bring to national economies will spur their further development worldwide.

The continued global movement towards pension and savings reforms will provide trillions of dollars in mass-based investment capital to help world securities markets grow. By 2000, total holdings of pension funds, collective investment funds and insurance companies had already reached USD 36.5 trillion. They are projected to grow to over USD 60 trillion by year-end 2004. At current growth rates, total global capitalization of stock and bond markets will pass USD 100 trillion by that date.

Nations that want to harness these vast, stable flows of long-term funds to spur their capital markets will, in turn, need to open themselves to the full array of legal, regulatory and transaction mechanisms that make securities markets work. Derivatives, hedging, risk arbitrage and securities lending are among the key elements that any market will need to make available to attract investors and grow.

The increased official recognition by policymakers and central banks that they need to stimulate securities lending in general and repo markets in particular promises to make securities lending a central element in the growth of 21st century capital markets. This implies that as astonishing as the rise of securities lending has been over the past 20 years, given the growth projections for investors in capital markets—the industry's best days are yet to come.

For securities lending to continue to play a central role in keeping financial markets liquid and dynamic, policymakers, regulators and market participants around the world will have to address a variety of issues. These range from the positive role that long-short strategies can play in market liquidity, to the need for developing better mechanisms for market players to measure value at risk more accurately across whole portfolios.

Appendices

APPENDIX A: How Securities Lending Finances Liquidity

To better understand how securities lending concretely contributes to market liquidity, it helps to consider the structure of a specific equity lending transaction in its simplest form.

Basic Equity Lending

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A counterparty borrows stocks against a collateral obligation. The borrowed shares are cycled back into the trading market and the collateral (if cash) is used to purchase additional instruments, generally short-term money market or other fixed-income instruments. Both components of the transaction—the lent securities and the reinvested collateral—inject additional securities or cash into capital markets, enhancing liquidity both directly and indirectly.

The increased supply of assets that lending makes available to support transactions in a given market facilitates that market's efficiency in the pricing and settlement of transactions, which helps the market's trading flow move more smoothly and with less market impact. This is virtually a dictionary definition of what liquidity means.

But securities lending also enhances liquidity indirectly. That is because the smoother transaction flows that lending facilitates contribute to investors' confidence that they will be able to trade with less risk of "fails" or market freeze-ups. This holds true not only for the simple example cited above—but for the whole array of complex trading strategies that have evolved over recent decades—all of which depend on a robust securities lending market for their execution.

As a market grows in value and trading volume, market participants create new derivative instruments and trading strategies (such as basket swaps) that increase demand for borrowed securities. Securities lending itself thus evolves from a settlement and back office function to the supplying of securities to support global trading strategies.

By re-introducing shares, bonds or other financial instruments back into the market on a cost-efficient and timely basis, securities lending enables market participants to use these assets in ways that rebalance prices, diversify risk, minimize trade and settlement "fails" and allow positions to be exchanged even when parties to a trade don't own the securities being traded.

Herewith a further example from the world of arbitrage, one of the heavy generators of demand for securities lending in today's marketplace:

Arbitrage trading

Arbitrage trading, where the aim is to capture differences in prices for the same security or its equivalent in different markets, generates continual demand for securities borrowing as arbitrageurs seek to exploit often minimal and transitory price differences between securities that they may not own.

The arbitrageur's profit is often minuscule. But he repeats this strategy all day long, whenever the price spread gets out of line on either the high or low side. That makes him an omnipresent "rebalancer" of prices – and an incessant contributor to liquidity on both sides of the market.

Although arbitrageurs seek profit from inefficient pricing, it is their trading, often supported by borrowed securities, which keeps bringing prices back in line and makes overall markets more efficient.

In **ADR arbitrage**, for instance, the arbitrageur will trade back and forth between a depositary receipt traded in the U.S. and the actual shares traded in, say, Frankfurt, capturing price discrepancies as they arise. The arbitrageur borrows securities as needed to execute his trade – and in the process deepens trading volume, and pushes the prices back in line. Similarly, index arbitrage keeps pricing in line between a basket of shares and an index futures contract.

The more complex strategy of **"risk arbitrage"** in corporate merger and acquisition deals also rebalances and adds liquidity to securities markets.

When one company offers its shares to buy another company, the arbitrage strategy is often to purchase the target company's shares, borrow shares of the acquiring company and sell them short to capture the premium, often 20% or more, that the acquirer is offering as an incentive to the target company's shareholders. When, or if, the deal goes through, the arbitrageur can capture the premium by delivering his shares in the target company in exchange for the acquiring company's shares, which he then returns to the securities lender.

Target companies sometimes object to risk arbitrage activity, on grounds that a large proportion of its shares in arbitrageurs' hands will swing a shareholder vote in favor of the deal. But risk arbitrage – and the securities lending that makes it possible – benefits the market by absorbing a large portion of the acquisition risks, bringing pricing in line with those risks, and adding trading liquidity that permits shareholders in the target company to sell their shares and capture a portion of the premium before the deal goes through.

APPENDIX B: The Evolution of the U.S. Securities Lending Market

A brief review of how securities lending has evolved in U.S. markets – the world's deepest and most liquid securities investment and trading arena – can help illustrate the critical role that securities lending practices play in providing liquidity to increasingly vast capital markets which are executing increasingly complex trading strategies on behalf of institutional investors.

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Historically, the earliest evidence of securities lending in the U.S. can be traced back to the market for U.S. government war debt following the Declaration of Independence in 1776. But a considerably more robust market for private securities lending in both the American and British stock and bond markets developed throughout the 1800s.

From those centuries-old origins well into the mid-20th century, the lending and borrowing of securities evolved as a private, ad hoc practice usually done directly between investors or broker/dealers. It was not until the 1960s, in the U.S., that securities lending began to develop as a substantial day-to-day market of its own served by specialized institutions and practitioners.

The most important factor driving the emergence of the modern securities lending industry was the revival of interest in stock market investing brought about in the 1960s by the U.S. economy's booming growth. Many of the leading firms on Wall Street not only notched record profits, but also drew a level of individual and institutional investment not seen since before the "Crash" of 1929 and the subsequent Great Depression.

As rapid economic growth fueled a booming equity market on Wall Street, first individuals and increasingly, pension funds, rushed to invest. Many corporations also took advantage of rising share prices to issue equity-related hybrid securities convertible into common stock. Other companies used their rising stock as "currency" to take part in a wave of corporate takeovers and restructurings.

Both of these developments opened new opportunities for professional traders to "arbitrage" between common stock and hybrids – or between the stocks of acquiring or "target" firms engaged in take-over battles. The bull market also revived interest in American Depositary Receipts (ADRs), an instrument developed in the late 1920s to represent foreign shares traded in markets in other countries.

By the early 1970s, both stock exchanges and securities firms were struggling to cope with the huge upsurge of trading brought on by these overlapping waves of change. The result was a series of major "back office" snarls, some severe enough to lead to the collapse of major Wall Street trading firms and an explosion in settlement failures. These symptoms of operational dysfunction – and classic market "illiquidity" – were eased in the course of the 1970s by two developments.

First, the trade settlement process was increasingly automated and the back office “paper jams” eased. Second, a true securities lending “industry” began to emerge which was able to reduce trade “fails” substantially by providing borrowed assets to arbitrageurs, short-sellers and other traders who needed securities that they did not own to conduct their investment strategies.

The growth of institutionalized securities lending was a timely development for U.S. markets since it paralleled a further surge in the demand-side of the securities lending equation. This was brought about by the boom in option trading and other derivatives in the mid-1970s set off by the application to capital markets of the Black-Scholes option pricing model.

This analytical tool provided traders with a more reliable formula for gauging the value of put and call options on stocks – which give investors the right to either sell (“put”) or buy (“call”) shares at specific pre-set prices, such as USD 25 a share. With a reliable metric for measuring values in the options markets, volume exploded. And trading strategies based on options required the borrowing and lending of shares for hedging as well as for arbitrage and risk management.

As the so-called “derivatives revolution” rolled on, the investment strategies born of the Black-Scholes model laid the groundwork for a fresh wave of financial innovation centered on new derivatives, index arbitrage, and other complex investment and trading strategies throughout the 1980s and 1990s – all of which drove demand from dealers and investors for borrowed securities to execute their trades and hedge their market risks.

On the supply side, U.S. custodian banks moved to meet demand for borrowed securities in the 1970s by devising lending services for such institutional clients as insurance companies, corporate investment portfolios, and college endowment funds. Legislation soon permitted pension funds to join the quest for enhanced returns by engaging in securities lending. By the mid-1980s, the majority of institutional investors in the U.S. were using securities lending routinely – and securities lending in the U.S. had itself become a thoroughly institutionalized industry, which benefitted both the markets and the institutions.

APPENDIX C: Supplemental Statistical Tables

Table 1: Equity Market Capitalization to GDP

(USD in billions)

Market	Market Capitalization 2000	GDP 2000	Market Cap / GDP
Australia	428	396	108%
Austria	33	190	17%
Belgium	185	228	81%
Canada	801	689	116%
France	1,475	1,294	114%
Germany	1,432	1,880	76%
Italy	728	1,063	68%
Japan	4,547	4,628	98%
Korea	149	465	32%
Mexico	125	575	22%
Netherlands	695	367	189%
Switzerland	693	240	289%
Spain	432	557	78%
Sweden	373	229	163%
United Kingdom	2,933	1,421	206%
United States	16,635	9,927	168%

Sources: World Bank, OECD.

Table 2: Total Value of Share Trading (domestic and foreign, including investment funds) 1990–2000

(USD in billions)

Time zone	Exchange	1990	1992	1994	1996	1998	2000
NORTH AMERICA							
	Nasdaq (REV)	452.4	891.1	1,449.3	3,301.8	5,518.9	19,798.8
	NYSE (TSV)	1,325.3	1,745.5	2,454.2	4,063.7	7,317.9	11,060.0
	Amex (TSV)	37.7	42.2	58.5	91.3	287.9	945.4
	Mexico (REV)	12.2	51.4	86.3	43.6	31.2	45.8
SOUTH AMERICA							
	Buenos Aires (TSV)	0.8	15.8	112.9	31.3	26.1	9.7
	Sao Paulo (TSV)	3.9	14.8	66.3	97.5	139.6	101.5
EUROPE, AFRICA, MIDDLE EAST							
	London (REV)	543.4	662.9	1,029.3	1,413.2	2,887.9	4,558.6
	Deutsche Börse (REV)	508.7	454.2	592.1	811.6	1,491.8	2,119.8
	Amsterdam (REV)	40.8	45.7	85.3	191.1	409.5	678.8
	Brussels (TSV)	9.1	9.8	16.1	25.4	60.9	43.8
	Copenhagen (REV)	11.3	22.4	27.4	36.4	64.9	102.6
	Helsinki (TSV)	3.9	2.1	13.3	21.9	61.1	208.3
	Italy (TSV)	42.2	27.7	119.4	102.6	486.5	1,019.6
	Madrid (TSV)	35.9	34.6	54.9	79.9	N/A	N/A
	Madrid (REV)	N/A	N/A	N/A	238.4	640.3	985.4
	Paris (TSV)	121.1	124.9	202.1	282.0	587.9	1,064.9
	Paris (REV)	N/A	N/A	628.6	982.2	2,053.3	3,988.7
	Stockholm (REV)	15.7	28.7	86.1	136.7	229.9	485.3
	Switzerland (REV)	N/A	117.8	261.6	443.0	689.2	638.7
ASIA, PACIFIC							
	Tokyo (TSV)	1,287.7	476.9	859.9	938.8	750.8	2,315.5
	Hong Kong (TSV)	34.7	78.6	126.1	166.4	206.2	376.7
	Australian (TSV)	40.2	45.6	94.9	146.2	161.0	226.5
	Korea (TSV)	75.6	116.1	286.8	177.5	145.1	556.2
	Kuala Lumpur (TSV)	10.7	19.7	120.9	178.0	26.8	52.9
	Singapore (TSV)	21.1	18.9	84.8	60.3	58.5	95.2
	Taiwan (TSV)	711.7	250.3	736.7	478.4	895.9	986.3

Following the classification adopted by the European Federation of Stock Exchanges, the FIBV has split its members among two main groups: those adopting the Trading System View (TSV) and those adopting the Regulated Environment View (REV). TSV exchanges count as turnover only those transactions which pass through their trading systems or which take place on the exchange's trading floor. REV exchanges include in their turnover figures all transactions subject to supervision by the market authority (transactions by member firms, and sometimes non-members, with no distinction between on- and off-market and transactions made into foreign markets reported on the national market). Therefore, direct comparisons are not valid between stock exchanges belonging to different groups.

Source: FIBV

APPENDIX D: The Scope of Securities Lending Activity by Market

Data from July 1999 IOSCO, BIS Committee on Payment and Settlement Systems, "Securities Lending Transactions: Market Development and Implications"

Australia

Size of Market

- Australia 1998 daily turnover in the fixed income market (repo dominated) estimated at AUD 4 billion.
- 1998 estimates of trading volume done onshore vary between 50% (general custodial market) and 90% (interbank market).
- Daily turnover of equity market estimated at AUD 550 million with onshore trading activity between 50%–90%.

Growth Rate: Annual growth rate of fixed income segment was 30% between 1997 and 1998, which is the estimated annual growth rate over the next 3 years.

Belgium

Size of Market

- Almost no fixed income securities lending in the early 1990s.
- Turnover of fixed income rose to more than BEF 78,000 billion in 1998.
- Use of equities in securities lending is deemed to be very low for fiscal reasons, but here, no reliable figures can be collected.

Growth Rate: Fixed income annual growth rate was more than 13% in 1998.

Canada

Size of Market

- No complete compilation of quantitative information on securities lending.
- Securities dealers, banks and insurance companies transact in securities lending markets on a regular basis. The vast majority of repo and securities lending transactions involve securities issued by the Government of Canada.
- No overall figure is available, either for securities, loans, or for sell-buyback transactions.

Growth Rate: n.a.

Germany

Size of Market

- Overall lending and repo market is estimated to be DEM 300 billion.
- After minimum reserve requirements were lifted in 1997, the repo business showed a dramatic rise.
- The number of participating banks active on both sides of the repo market (reverse repo and repo) doubled to 30 institutions between March 1996–April 1998.

Growth Rate: Current growth rate of securities lending is 20%. Lending is expected to continue to grow at 20–30% per year over the next few years.

Hong Kong

Size of Market

- Prior to 1994, there was very little equity lending due to exchange rules constraining short selling and restrictions imposed by the Stamp Duty Ordinance.
- Since relaxation of the Stamp Duty Ordinance for borrowers in July of 1994, equity lending has grown substantially.
- Inland Revenues' semi-annual reports show:
 - Number of participants: 112 in 1994 to 845 in June 1997.
 - Number of transactions: 1,235 in 1994 to 12,025 in June 1997.
 - Daily average amount of outstanding securities lent by the HKMA through securities repo was approximately HKD 70 billion (USD 9 billion) in February 1998.

Growth Rate: n.a.

Italy

Size of Market

- Italian banks are estimated to deal with ITL 7,700 billion per day, which represents 15% of the estimated global volume (about ITL 50,000 billion).
- Fixed Income:
 - MTS-PCT, a regulated screen based market (for Government bonds), launched in December 1997, showed a large increase in volumes of transactions whose daily average value was equal to ITL 40 thousand billion in the first quarter of 1999.
 - In the first 5 months of 1998, the outstanding end-of-month average amount of Government bonds lent (through buy-sell backs) by Italian banks was approximately ITL 220 trillion, Government bonds borrowed by Italian banks equal about ITL 110 trillion.
 - Government bonds lent, non-resident counterparties account for 15% of the total, while Government bonds borrower non-resident counterparties account for 70% of the total.

Growth Rate: Value of equity lending transactions has experienced an annual increase of over 100% and intermediaries estimate that the market will continue to grow annually by 30% for the next 3 years.

Fixed Income: annual growth rate of buy-sell back activity for 1997 was 30-40% and an average annual growth of approximately 5-10% is expected over the next three years.

Japan

Size of Market

- As of February 1999, JGB lending transactions outstanding totaled JPY 57.2 trillion, a 310% increase over February 1997 levels.
- Japanese market participants have indicated that the offshore market can be as large as the domestic market.
- Due to recent changes in stock trading (large-value trading, basket trading, stock option transactions, arbitrage, and deregulation) the stock lending market is steadily growing and attracting new participants.
- Market participants estimate the current outstanding levels at more than JPY 5 trillion, domestic markets account for 20-30%.

Growth Rate: Annual growth rate of 50% over the last two years—expected to double over the next few years.

Malaysia

Size of Market

- Official market information is either very limited or not available—principally due to impact of currency controls on the market.
- End of June 1997, only four market participants had conducted transactions.
- Total value traded amounted to around MYR 260 million (about USD 100 million).

Growth Rate: n.a.

Mexico

Size of Market

- Mexican electronic equity borrowing/lending system is called INDEVAL, run by the Mexican CSD and started in 1997.
- Daily average is USD 5-10 million.
- Average daily aggregate of repo and reverse repo are USD 9 billion.

Growth Rate: Average growth rate is expected to be 100%. Average growth rate of repo and reverse repo is expected to be 15%.

Netherlands

Size of Market

- No official data available on market size. However, it is understood that the securities lending market has shown steady growth over the past few years for the following reasons:
 - Introduction of a "securities lending pool" (the free delivery facility) for the Stock Exchange.
 - Strong growth of derivatives trading.
 - Introduction of a fixed settlement period.
 - Expansion of short selling transactions.

Growth Rate: n.a.

Spain

Size of Market

- Equity bilateral loans, as of March 1999, reported an outstanding balance of EUR 9.4 billion, which represents 947.2% over the daily average trading on Equities and 3% of the market.
- At the end of February 1999, the total value of Government bonds on repo was EUR 42,193 million, which represents 23% of the total value of Government bonds Issued.

Growth Rate: n.a.

Sweden

Size of Market

- Turnover of the Swedish repo market has increased from SEK 6,000 million in 1993 to SEK 32,000 billion in 1998, which is an annual increase of 40%.
- Statistics are not available for the equity lending markets. Market participants' very rough estimates of the outstanding amount of equities on loan were on average around USD 5 billion in May 1997.

Growth Rate: Annual increase of repo market from 1993 to 1998 was 40%.

Switzerland

Size of Market

- End of 1998, Swiss banks had CHF 158.6 billion in total securities loans on their balance sheets.
- Securities borrowing: CHF 264.5 billion outstanding at the end of 1998.
- Swiss repo market was introduced in 1998.

Growth Rate: Since 1998, securities lending and borrowing levels have grown by 470% and 611% respectively.

United Kingdom

Size of Market

- Prior to the establishment of the open gilt repo market in January 1996, securities loans of gilts typically ran at a level of GBP 10-15 billion outstanding. Subsequently, securities loan volumes have grown to GBP 20-30 billion. Gilt repo has developed rapidly, growing to over GBP 70 billion by the end of 1998.
- Outstanding stock borrowing in the equities market is currently around GBP 12 billion.

Growth Rate: n.a.

United States

Size of Market

- Largest securities lending market in the world.
- Repo market is at least USD 3.2 trillion.
- 33 primary dealers alone average USD 2.5 trillion in weekly outstanding repo and reverse repo agreements in Government issued debt, and U.S. banks had USD 782 billion in total outstanding repos and reverse repos as of 30 September 1998.
- Size of the securities lending market close to USD 1 trillion.

Growth Rate: n.a.

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