

Changes in Japan's Financial Structure since the Later Half of the 1990s: the Supply of Risk Capital and Major Market Reforms

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Market Review

Japan's financial structure has changed since the later half of the 1990s. The results of the Japanese "Big Bang" initiative have gradually manifested themselves in the domestic financial structure. The key factor here was the financial crisis of 1997-1998. Throughout the 1990s, the household sector has shown a stronger preference for deposits, and the public sector has, in effect, assumed the risk of losses in channeling such funds into the corporate sector as risk capital. Meanwhile, efforts to improve the Japanese government securities (JGS) market over the past few years have effectively enhanced market liquidity. Japanese equity markets attracted risk capital from abroad as financial markets were deregulated. Nevertheless, it will be essential to further develop market channels for the provision of risk capital to support Japan's future economic growth, and to step up efforts to enhance the functioning of financial markets.

Preface

In the 1990s, Japan's financial structure changed amid economic stagnation after the collapse of the bubble economy, and reflecting changes in the flow of funds and progress in market reforms. During this decade, much attention was paid to the negative aspects of the Japanese financial system, including NPLs (Non-Performing Loans) in the banking system, depressed stock prices reflecting poor corporate profitability, the downward revisions of JGS ratings, and the increased dependence on public financing channels. Nevertheless, as noted by Allen and Gale, "In each country we see that market failures have shaped the evolution of financial systems."¹ The bitter experience of the financial crisis of 1997-1998 has prompted changes in Japan's financial structure, including the increasing importance of direct financing such as corporate bonds and CPs.

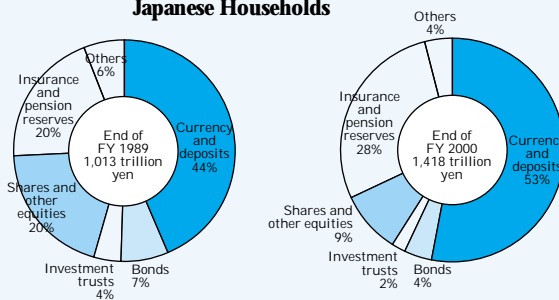
Changes in the financial structure and the enhanced market functioning are, in effect, two sides of the same coin. The improved functioning of markets is essential for structural changes to be effected in a desirable direction. Market functioning cannot be enhanced solely by deregulation, which increases the efficiency of markets. It is also important to achieve the upgrading of market infrastructure, including trading practices and settlement systems, to make Japan's markets more user-friendly. Since the mid-1990s, the "Big Bang" initiative has promoted improvements in systems, as well as in the user-friendliness of market infrastructure (see Box 1). Yet there are several remaining issues, including the expansion of direct financing through markets and the internationalization of the JGS market.

In this article, we begin by summarizing the flow of funds from the early 1990s, just before the collapse of the bubble economy, up until recently. We pay special attention to two distinctive characteristics: (1) the funds of the household sector have been channeled by banks and other financial institutions to meet the financing needs of the public sector, and (2) the overseas sector and the public sector have served as the main sources of risk capital. We then move on to how efforts to enhance market functioning have contributed to the smoother flow of funds, with a particular emphasis on the developments in the JGS market associated with the characteristic (1) above.

From Households to Banks, and then on to the JGS

Comparing the financial asset allocation of the household sector between the end of FY 1989 and the end of FY 2000, the shares of bonds and stocks declined, whereas the shares of currency and deposits, and insurance and pension reserves rose (Figure 1)³. These developments in the Japanese household sector are especially noteworthy when compared with those in overseas household sectors during the same period.³ Looking at the ex post risk-return profile of each asset class over this period, this behavior of the Japanese household sector may be regarded as rational.

Figure 1: Changes in Financial Asset Composition of Japanese Households

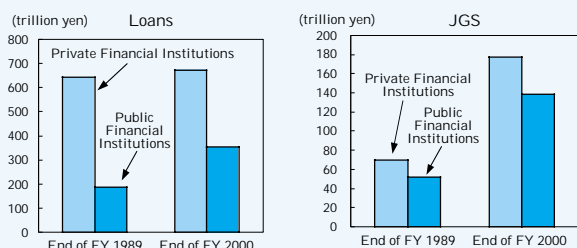


Source: Bank of Japan, "Flow of Funds Accounts."

The financial intermediary sector absorbed the funds from the household sector as deposits, and invested them in loans and JGS. In effect, the household sector --via banking channels-- financed the government debt, which reached 691 trillion yen (135% of nominal GDP and the highest level among all G7 nations) at the end of FY 2000, as measured by the gross liability of the general government sector. Funds provided by the household sector via postal savings system channels were also utilized as a funding source for public financial institutions.

Looking at the shares of public and private institutions in the financial intermediary sector⁴, the share of financial assets held by public financial institutions rose from 24% to 37% between the end of FY 1989 and the end of FY 2000. Meanwhile, the asset breakdowns show that, at private financial institutions, JGS holdings greatly increased while loans remained almost level. At public financial institutions, loans and JGS holdings both increased (Figure 2). Factors influencing the growth of loans by public financial institutions include the expanding role of

Figure 2: Loans Outstanding and JGS Held by Financial Institutions



Source: Bank of Japan, "Flow of Funds Accounts."

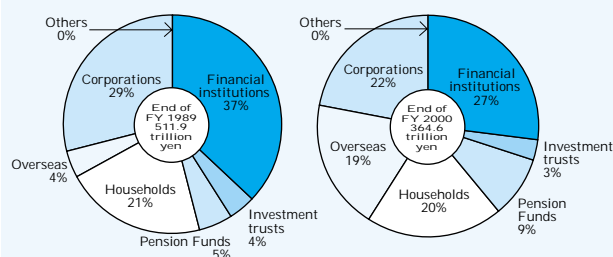
the public sector in providing risk capital, particularly to small and medium enterprises, in response to the diminished risk-taking capacity of private financial institutions suffering the NPL problem, and the active utilization of Fiscal Investment and Loans Program as part of successive economic stimulus packages.

Risk Capital Provided by the Overseas Sector and the Public Sector

While the household sector and private financial institutions strengthened their preference for relatively safe assets, it was the overseas sector and the public sector that provided funds to the corporate sector, taking risks by extending loans and increasing shareholdings.

Looking at the changes in the flow of funds surrounding corporate activities, for the equity markets, the share of firms in aggregate market capitalization decreased remarkably during the 10-year period (Figure 3). This was largely because firms increased their risk-sensitivity toward holding equities from the later half of 1990s as their capital efficiency markedly declined, accelerating the ongoing trend toward dissolving cross-shareholdings.^{5,6} In fact, from FY 1989 through FY 2000,

Figure 3: Changes in Shareholder Composition by Sector

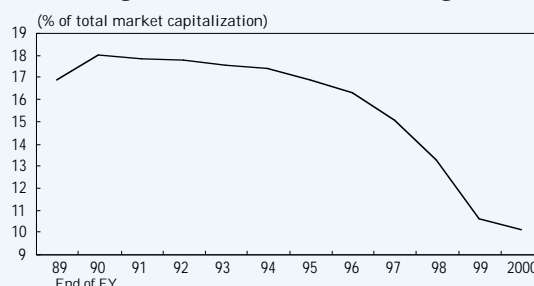


* Financial institutions are defined as those covered by Flow of Funds Accounts, minus investment trusts and pension funds.

** Excludes "Other equities."

Source: Bank of Japan, "Flow of Funds Accounts."

Figure 4: Share of Cross-shareholdings



* Source: NLI Research Institute, "The Present Status of Unwinding of Cross-Shareholding: The Fiscal 2000 Survey of Cross-Shareholding."

the share of cross-shareholdings declined by approximately 7% points (Figure 4).

In contrast, the share of the overseas sector in Japanese market capitalization has substantially increased

Box 1: Summary of Japanese Financial Market Reforms

A series of deregulation measures and infrastructural reforms have been implemented since the mid-1990s under the Japanese "Big Bang" initiative. They cover issues such as restrictions on the business scope and organizational format of financial institutions, new market entry into the financial industry, and products and services offered by financial institutions.

(1) Revising Regulations on the Business Scope and Organizational Format of Financial Institutions

- Removal of the ban on mutual entry among the banking, trust and securities industries (from April 1993). 12 new securities company subsidiaries and 18 new trust banking subsidiaries were established (as of the end of October 2001).
- Recognition of the financial holding company structure (March 1998). Establishment of a system for the exchange and transfer of shares for corporate reorganizations (October 1999). 8 holding companies were established (as of the end of October 2001).

(2) Easing Entry Barriers to the Financial Industry

- Setting standards for granting bank licenses to the firms in other industries.
- Switch from a licensing system to a registration system for securities companies (December 1998). 64 companies entered the industry (as of the end of October 2001).

(3) Deregulation on Products and Services

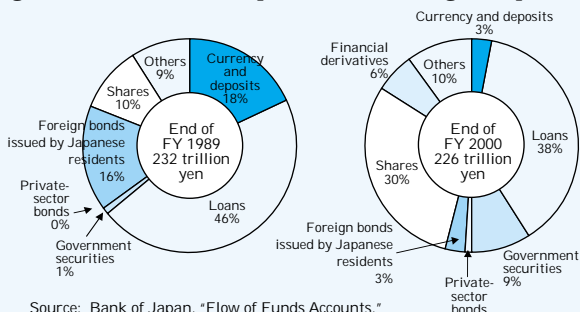
- Commencing the sales of investment trusts by banks at their branches. (December 1998).
- Removal of the ban on bank issuance of CPs and corporate bonds (CPs: June 1998, corporate bonds: October 1999).
- Abolition of eligibility standards for the issuance of corporate bonds and financial restrictions on uncollateralized corporate bonds (January 1996).
- Liberalization of equity transaction commissions (for transactions of at least 1 billion yen in April 1994; for transactions of at least 50 million yen in April 1998; complete liberalization from October 1999).
- Abolition of securities transaction taxes and bourse taxes (April 1994).
- Revision of the Foreign Exchange Law (April 1998). Abolition of the requirement to transact through foreign exchange banks; liberalization of cross-border capital transactions; etc.

(4) Improving Market Infrastructure

- Adoption of public auctions for FB issuance (April 1999). Introduction of re-opening for interest bearing government securities (March 2001). Integration of mid-term government securities into five-year interest bearing bonds (April 2001).
- Establishment of a repo market (April 1996). Introduction of new repo trading in accordance with global standards (April 2001).
- Preparation of a loan trading market (establishment of the Japan Syndication and Loan-trading Association [JSLA] in January 2001).
- Introduction of real time gross settlement (RTGS) in BOJ-NET (January 2001).

(Figure 3). Looking at the asset composition of the overseas sector's holdings of Japanese financial assets, the share of equities has sharply increased (Figure 5). This growing presence of overseas investors in Japan's equity markets can also be observed in trading activities. For shares listed on the First Section of the Tokyo Stock Exchange, overseas investors accounted for 53% of annual turnover on a value basis (excluding securities firms), increasing from 13% 11 years ago. The liberalization of commission levels for large-lot stock transactions and other deregulation efforts from the mid-1990s promoted this trend.⁷

Figure 5: Overseas Sector Japanese Asset Holdings Composition

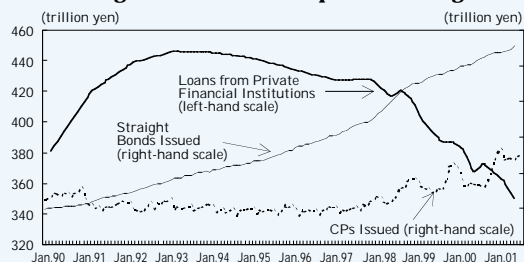


Turning to the credit market (loans, corporate bonds and CPs), data reveals that while corporate loans by private financial institutions decreased, (1) loans by public financial institutions increased, and (2) direct financing from markets by issuing straight bonds and CPs expanded.

The corporate borrowings outstanding from private financial institutions (on a flow of funds basis) declined from 381 trillion yen at the end of FY 1989 to 361 trillion yen at the end of FY 2000. During the same period, corporate borrowings outstanding from public financial institutions rose from 80 trillion yen to 123 trillion yen. This confirms the expanding presence of the public sector in corporate borrowings. When the interest rates offered by the public financial institutions are lower than prevailing market rates, the pricing of credit risk may be distorted. It is one of the future tasks to assess the influences of such expansion of public financing on market functioning, and to devise measures to minimize any adverse effects arising therefrom.

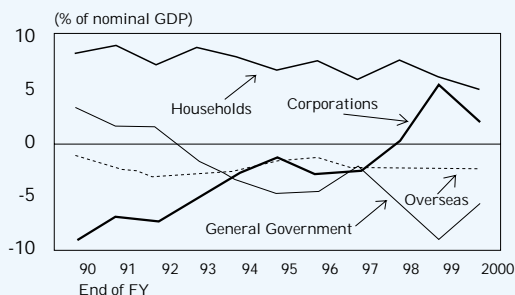
Another noteworthy development is the acceleration in the growth of the straight bond and CP markets (Figure 6) from FY 1998, when the corporate sector shifted to a funds surplus (Figure 7⁸). Apparently it complemented a distinctive declining trend in the corporate borrowings from private financial institutions. This development seems to have been advanced by the deregulation in the corporate bond and CP markets from the early 1990s through the mid-1990s.⁹ One possible interpretation is that, the credit crunch accompanying the financial crisis of 1997-1998 promoted greater use of market channels for raising funds.

Figure 6: Trends in Corporate Funding



* Loans from private financial institutions data are taken from the liabilities figures for non-financial corporations in the Flow of Funds Accounts, and plotted at the end of each fiscal year or quarter.
 ** All figures are on an outstanding basis.
 Source: Bank of Japan, "Flow of Funds Accounts."
 Japan Securities Dealers Association, "Securities Industry Information."

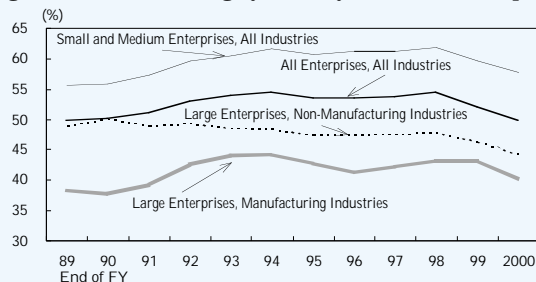
Figure 7: Financial Surplus or Deficit by Sector



Source: Bank of Japan, "Flow of Funds Accounts."
 Cabinet Office, "National Income Statistics."

As a result, corporations' reliance on borrowings has been on a declining trend since 1999, regardless of business lines or scale (Figure 8). Nevertheless, the straight bond and CP markets are primarily used for financing by larger corporations. Enhancing market-based financing channels for small and medium firms remains a future issue.

Figure 8: Bank Borrowing by Industry and Size of Enterprises



* (long-term borrowings + short-term borrowings) / total debt.
 ** Large Enterprises = enterprises capitalized at a least 1 billion yen.
 Small and Medium Enterprises = enterprises capitalized at less than 1 billion yen.
 Source: Ministry of Finance, "Financial Statements Statistics of Corporations by Industry Annual."

Enhancing Liquidity in the Japanese JGS Market

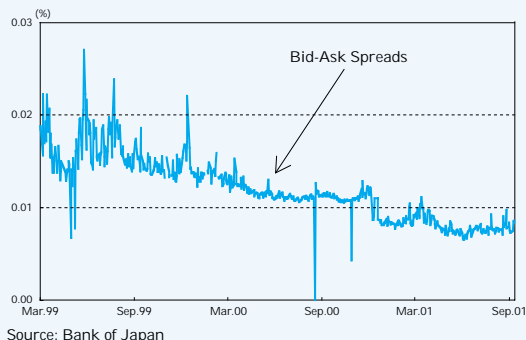
The increased volumes of JGS issues were effectively absorbed by financial institutions utilizing deposits from the household sector. The reasons why private financial institutions exhibited a strong preference for JGS as investment assets included their expectations of lower interest rates and diminished risk-taking capacity, both of which were due to the stagnant economy. Private institutions judged that the expected risk-return profile on JGS was favorable compared with their other investment options. In making such investment judgments, a high level of market liquidity is preferable, especially for assets that are highly likely to be traded over a short time horizon. As demonstrated below, in part, the efforts to enhance market functioning made from the late 1990s contributed to a steady increase in the market liquidity of the JGS market. Apparently, this increased market liquidity enabled market participants, including private financial institutions, to fully absorb the increased JGS issuance volumes.

According to a survey on government securities market liquidity conducted by the BIS Committee on the Global Financial System in 1999, the liquidity in the JGS market was the lowest among the G7 nations.¹⁰ In particular, this report noted that liquidity in the JGS market was constrained by the fact that the ten-year government bond was the only key maturity issue, which attracted substantial market activities. The report also noted the small size per issue as another restricting factor.

Measures taken toward alleviating these problems have included (1) the formation of a key maturity in the medium-term zone by increasing the issuance volume, as well as integrating the medium-term securities into five-year

bonds [see Box 2]; and (2) the introduction of a re-opening system (the integration of issues with equivalent coupons and maturity dates [see Box 3]). These efforts resulted in a gradual improvement in liquidity in the secondary markets. In fact, the bid-ask spread for JGS futures, one of the main indicators for market liquidity, is on a clear declining trend (Figure 9).

Figure 9: Improvement of the JGS Liquidity Index

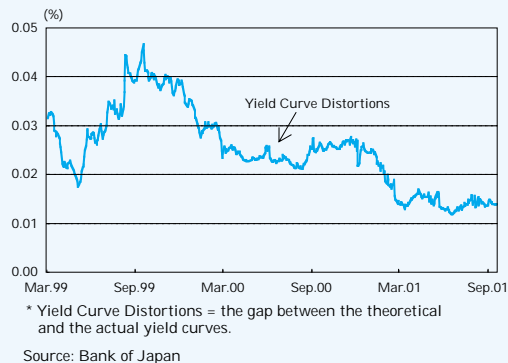


Theoretically, if the liquidity in the JGS market can be sufficiently enhanced, the degree to which prices of individual issues reflect supply-demand distortions should be lower. It results in a diminishing deviations in market prices from theoretically calculated prices. The increasing efficiency in pricing JGSs was confirmed by the narrowing gap between the theoretical yield curve and the actual yield curve since the end of FY 1999, and by the increasing smoothness of the overall yield curve (Figure 10).

Global Expansion of the JGS and Equity Markets

Another distinctive feature in the flow of funds is the increased flow of foreign risk capital into Japan's equity markets. The progress of deregulation from the mid-1990s

Figure 10: Increasing Smoothness of the JGS Yield Curve



apparently reduced frictions accompanying these capital flows.

Comparing the cross-border ownership structure of JGS and Japanese equities, on a market value basis, overseas holdings account for 19% of Japanese equities in contrast to 5% of JGS (both as of the end of FY 2000; Figure 3 for Japanese equities; Figure 11 for JGS). Comparison with the ownership structure data for U.S. and German equities and government securities reveals that the globalization of the JGS market is not yet substantial (Figure 12).

Breaking down the overseas ownership of Japanese equities by industry reveals a sharpening contrast (Figure 13). While the overseas ownership of equities has increased in the manufacturing, IT and other industries that are comparatively globalized, the overseas ownership is on a declining trend for non-manufacturing equities. Overseas investors appear to be making investment decisions with a stronger emphasis on the global business activities of Japanese firms than on the nation's overall productivity, which is approximately reflected in the returns on government securities. In other words,

Box 2: Expansion of the Medium-term Government Securities Market

The issuance of medium-term government securities has increased since 1999 and its share in the amount outstanding of total interest-bearing government securities reached 27% at the end of September 2001 (Figure B-1). Particularly, with the abolition of four- and six-year government bonds and the integration of all medium-term government securities into five-year issues from FY 2001, the medium-term government securities market has developed as a key maturity. The effects of the expanding issuance of medium-term government securities can be confirmed by transaction volumes: the spot-market turnover of medium-term government securities has rapidly increased since 2000. It averaged 24 million yen per month between February 2000 and September 2001, equivalent to roughly 30% of the turnover of long-term government securities (including super long-term issues). This steady expansion of the medium-term government securities market is apparently due not only to the steady increase in medium-term government securities issuance, but also to the improvements in the secondary market, including the wider acceptance of electronic trading systems.

Figure B-1: Amount Outstanding of Government Securities

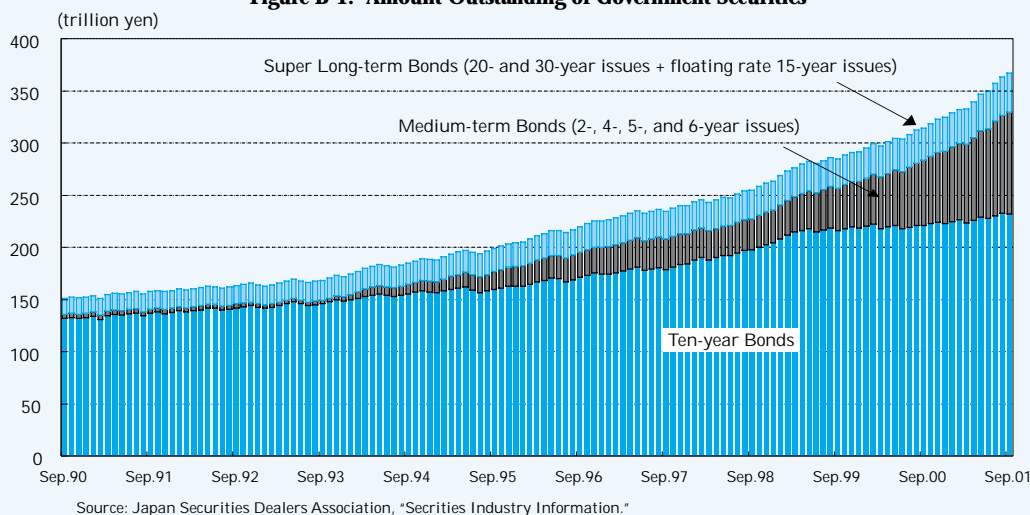
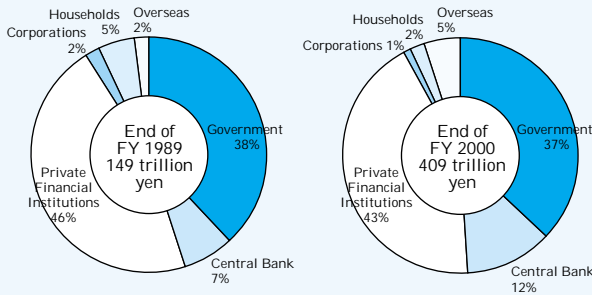
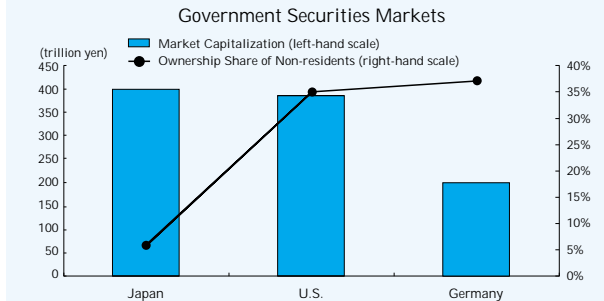
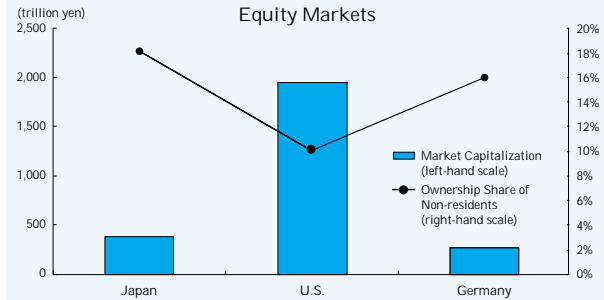


Figure 11: Changes in JGS Ownership Composition



Source: Bank of Japan, "Flow of Funds Accounts."

Figure 12: Market Scale and Share of Foreign Ownership



Note: Japanese and U.S. figures are as of the end of CY 2000. German figures are as of the end of CY 1999. Source: Flow of Funds Accounts by the central bank of each nation.

global asset allocation is greatly influenced by the macroeconomic and overall financial environment and the progress of structural reforms, as well as the development of market infrastructure.

Conclusion

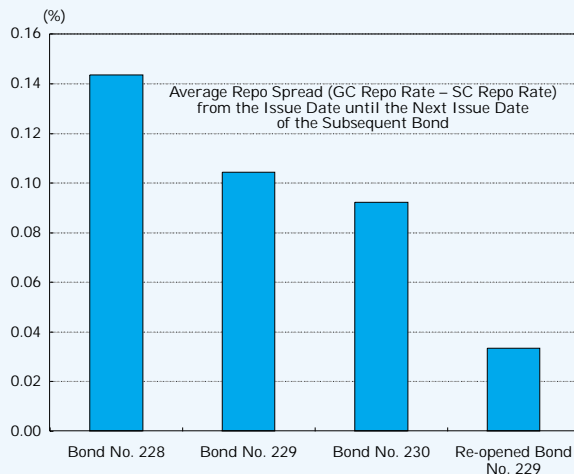
As reviewed in this article, since the mid-1990s, market participants and public authorities have worked together to advance deregulation and market infrastructure improvements, which supported the changes in the flow of funds in the late 1990s. This experience demonstrates the importance of stepping up efforts towards deregulation and market infrastructure improvements, with a view to promoting the enhanced supply of risk capital, particularly

Box 3: Influence of the Re-opening System on Market Liquidity

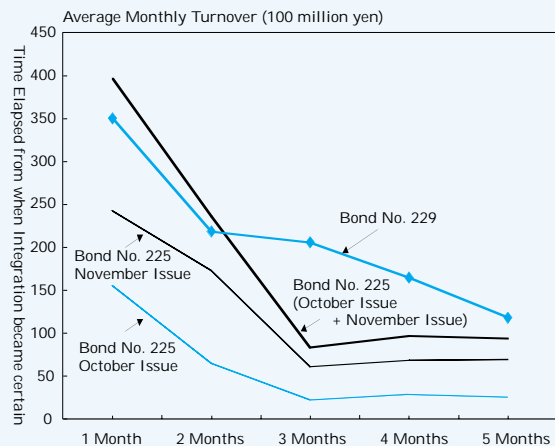
The JGS market had benefited from the Issue Integration System, whereby two issues could be integrated into a single issue anytime after the first interest payment date (4 to 11 months after the issuance date). Nevertheless, the issues eligible for integration were still formally handled as separate issues up until formal integration. From March 2001, this system was improved into the "Re-opening System," whereby two issues can be integrated at an earlier date (right from the date of issuance). This Re-opening System has been particularly effective in enhancing the market liquidity of bonds immediately after issuance, which are the most actively traded issues.

To investigate the effects of re-opening system on the liquidity of bonds immediately after issuance, we compared the issues under the former Issue Integration System with those of the bond issue No.229 (the first re-opened issue). Transaction volumes and the repo spread may be regarded as liquidity indices. The repo spread is defined as the differential between the GC repo rate, whereby funds are borrowed against any issue as collateral, and the SC repo rate, whereby funds are borrowed against a specific issue as collateral. It reflects the supply-demand balance for that specific issue. A large repo spread indicates a tight supply-demand balance for the given issue. The repo spread for the re-opened issue declined considerably, clearly showing an easing of the supply-demand balance (Figure B-2; left-hand side). Comparing the average monthly turnover of issue No. 225, which was integrated under the former system, with that of the first re-opened issue (No. 229), the transaction volume data shows that the re-opened issue maintained relatively high market turnover for an extended time period in comparison with Bond No. 225 (Figure B-2; right-hand side). While these findings are only based on a limited sample, they indicate that the introduction of re-opening has effectively enhanced government securities post-issuance market liquidity.

Figure B-2: Influence of the Introduction of the Re-opening System



Source: Bank of Japan



Source: Bank of Japan

Figure 13: Foreign Ownership of Japanese Equities by Industry

Rank	End of FY 1990		End of FY 2000	
	Industry	Foreign Ownership Percentage	Industry	Foreign Ownership Percentage
1	Electric and Electronic Devices	21.4	Electric and Electronic Devices	25.5
2	Transportation Equipment	7.5	Transportation Equipment	10.3
3	Banking	7.3	Telecommunications	8.9
4	Construction	6.5	Pharmaceuticals	7.3
5	Petroleum and Coal Products	5.0	Services	6.7
6	Retail	4.8	Chemicals	5.3
7	Pharmaceuticals	4.7	Equities and Commodities Trading	4.0
8	Chemicals	4.3	Retail	3.3
9	Machinery	4.2	Banking	2.8
10	Wholesale	3.9	Other Financial Services	2.8

Source: Eitaro Nakagawa, "Foreign Investors and Japanese Stock Transactions." Tokyo Stock Exchange Nationwide Stock Market Committee, "Market Price Stock Ownership Conditions Survey."

under the current tough economic and financial conditions.

Among the most significant challenges that remains is to change the channels for the provision of risk capital -- from public financing mechanisms (supplying funds from the household sector), to channels better reflecting market forces. Also important is to improve the channels for small and medium firms and start-up companies to access capital markets. To expand these capital flows through financial markets, two complementary efforts will be essential: quantitatively verifying the appropriateness of credit risk evaluation in markets, and improving the infrastructure of capital markets to better take account of credit risks.

In exploring the direction for enhancing the functioning of JGS and equity markets, it may well prove effective to pay attention to trends in global asset allocation practices. What factors led to the increase in overseas sector ownership of Japanese equities from the later half of 1990s, and how is this influencing the functioning of Japanese equity markets? Why has the enhanced liquidity of the JGS market not necessarily led to a further globalization of JGS ownership? Are there, from a global perspective, idiosyncrasies in the asset allocation behavior of domestic investors and domestic financial institutions? Addressing these questions by identifying underlying factors behind the changes in the flow of funds enables us to enrich our understanding on how we should improve market functioning in a practical sense.

¹ Franklin Allen and Douglas Gale [2000] *Comparing Financial Systems*, The MIT Press.

² To gauge the effects of the changes in the value of each asset on the shares, we computed the theoretically-implied share of each asset class under the assumption that no substitutions between asset classes took place from the end of FY 1989 through the end of FY 2000. If the portfolio had remained the same since the end of FY 1989, the share of currency and deposits at the end of FY 2000 would have been 41% compared with the actual figure of 53%, suggesting that the household sector increased its allocation to currency and deposits by more than 10%. Similarly, the share of bonds would have been 11%, well above the actual figure of 4%, suggesting that households intentionally reduced their bond holdings. The share of stocks and other equity would have been 11%, slightly above the actual figure of 9%, implying that households slightly reduced their equity holdings. For this computation, the Morgan Stanley Capital International and the Salomon Smith Barney World Government Bond Index were used as the stock price index and the bond price index, respectively. The IMF International Financial Statistics deposit rate was used for the currency and deposits calculations, assuming compound interest.

³ For example, in the U.S., the share of stock holdings remained at a high level of over 30% throughout this period, and in Germany the share increased from about 10% to over 15%.

⁴ The definitions of public and private financial institutions are as follows: public financial institutions are defined as the total of postal

savings, postal insurance, trust fund bureau, and government financial institutions (covered by the Flow of Funds Accounts); while private financial institutions are defined as all financial institutions minus public financial institutions defined above and the central bank. The loan ratios are net-based in the sense that loans transactions within the same sector are netted out.

⁵ According to Fair Trade Commission [2001] "Survey Report on the Actual Conditions of Large-scale Businesses and Group Management", 61.5% of those firms that eliminated or decreased their cross-shareholdings cited the "risk of holding stocks" as a reason for their actions.

⁶ The market value of shares held by corporations declined by 70 trillion yen from the end of FY 1989 through the end of FY 2000. 16 trillion yen of this decline was due to stock sales, and the remaining 54 trillion yen was due to declines in market prices (calculated from the financial transaction and adjustment tables for each year in Flow of Funds Accounts).

⁷ For example, the value of overseas investors' acquisition and disposal of Japanese stocks (as calculated by Ministry of Finance outward and inward securities investment statistics) drastically increased (from less than 20 trillion yen) in the 2nd quarter of 1999. This may be attributed to various deregulation measures implemented during 1998 and 1999 including the revision of the Foreign Exchange Law, the abolition of securities transaction taxes and the complete liberalization of stock transaction commissions. Even following the decline in stock prices from the 2nd quarter of 2000, this figure has remained almost level at around 40 trillion yen.

⁸ The statistics in this figure are adjusted for the transfer of the outstanding debts of the Japan National Railway Settlement Corp. and the National Forestry Special Account to the general account (which accounted for approximately 27 trillion yen in central government funds shortage and non-financial corporation funds surplus in FY 1998).

⁹ In the corporate bond market, the eligibility standards were replaced by an indicative standards system. In the CP market, the regulations on issuance amounts and periods were also eased.

¹⁰ BIS Committee on the Global Financial System [1999] "Market Liquidity: Research Findings and Selected Policy Implications."

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