Summaries

Approaching Japan's Public Pension System from a Management Standpoint - Methods and Perspectives -

Aishi Imafuku

Up until now, the public pension system has been discussed as an issue of pension fund reserves, in terms of whether a total pay-as-you-go system or a reserve fund system is appropriate. However, regardless of the type of pension system, management of pension funds, including collected pension premiums, is becoming an important issue both in Japan and overseas. This paper clarifies the types of problems that are encountered when the issue of public pensions is approached from the standpoint of management, and considers the types of issues that these pose to Japan's public pension system.

This paper associates the issue of public pension management with five areas: (1) trustee's accountability; (2) fund governance; (3) investment policies; (4) voting; and (5) corporate governance.

Of these issues, those concerning the operation of public pension funds are the most important. Unlike in the United States, where public pension funds are provided through the purchase of government bonds, operation of public pension funds in Canada and Japan is based on capital markets. In such cases, one major problem that arises is conflict between public pension operation and political neutrality - the problem of how to distinguish between public pension investment policies and government policies. How the public pension wields voting rights for the shares it holds is another important issue.

This ultimately also influences the governance of the public pension fund itself and is therefore linked to the issues of who is appointed as trustee of the public pension fund and under what form of governance can the independence of the trustee be guaranteed.

Another important issue is the question of what obligations the government bears with regard to public pension benefits. In Japan, public pension obligations are in no way recognized as obligations in terms of finance because of the pay-as-you-go pension system; however, how this "hidden public pension obligation" should be perceived and allocated on the national balance sheet is one of the most important issues in approaching Japan's public pension system from the standpoint of management.

Management Issues for Government Pension Investment Fund
- An Examination of the Accountability Systems -

Masafumi Fujino

The Japanese public pension fund has been operated since April 2006 by the Government Pension Investment Fund (GPIF), which replaced the previous public organization that had held jurisdiction over this pension fund. This paper, therefore, considers the management issues faced by the GPIF by examining their accountability systems. Through the GPIF becoming an independent administrative corporation, the concept of “management by objectives” based on a PDCA management cycle was introduced into fund operations. In accordance with this concept, the GPIF prepares business reports and other documents detailing mid-term goals, mid-term plans, annual plans, and performance results that are made public. However, careful examination of these documents indicates that various management issues are emerging. These issues include a lack of independence and autonomy, leading to the effective subjection of not only mid-term goals but also mid-term plans to command and control by the government; the bias of quantitative goals towards financial goals and plans, leading to the fear that the corporation will become tied down by pressure to achieve short-term goals; and the setting of goals for annual plans apparently falling behind that for mid-term plans. However, in addition to details of specific business activities, the business reports also detail the quantitative results of business activities and indicate that these results are reflected in the plan for the following year. In future, efforts to further enhance the management cycle through management by objectives, as well as more effectively utilize mid-term goals and plans will be required.

Application of Sweden's Automatic Balance Mechanism in Japan

Masaaki Ono

With aging of their populations, in more and more cases the social security pension systems of developed countries such as Canada, France, Norway, and Ireland are establishing reserve funds in various forms. However, as yet no criteria have been explicitly introduced that indicate appropriate standards for such reserve funds.

The author believes that the “Automatic Balance Mechanism” adopted by Sweden in 2001 as part of pension reforms carried out in 1998 could be a candidate for such a standard. This mechanism is based on the balance sheet used under the pay-as-you-go system, which allocates the unique virtual asset called “Contribution asset”. Contribution asset is taken as “transferable asset” based on the intergenerational solidarity, which is the basis of management under the pay-as-you-go system. The Automatic Balance Mechanism is a mechanism that adjusts liabilities so that, in the case that balance sheets show a deficit, the deficit is resolved.

An examination of the possible effect of applying the Automatic Balance Mechanism to the population projection of Japan under a virtual pension system found that the mechanism would produce certain effects in the operation of the system, but that its performance would not be sufficient to avert exhaustion of the reserve funds.

The main reason for this is the demographic change in which the population continues to shrink due to the low fertility rate. The decrease in the working population, and the increase in liabilities caused by revision of the mortality rates which were not assumed when the balance sheet was prepared, are factors in financial losses. These losses exceed the actuarial gains resulting from the increase in contribution asset caused by the appreciation of premium rate accompanying the real returns on reserve funds, the system must therefore recognize consecutive actuarial losses. Recognition of such trends in fluctuations after the fact leads to the problem of measures being easily forestalled. Moreover, it should be noted that the Automatic Balance Mechanism results in insufficient performance for groups of insured persons that include a prominent population of certain ages, such as the post-war baby-boomer generation.

A significant reason why the social security pension system in Sweden is showing such a positive outlook is that the Swedish population projection does not expect to decrease and so problems related to this are not expected to arise. In the end, these problems can be regarded as indicating a need for controls based on simulations.

An Historical Perspective on the Debate Surrounding the Basic Pension
- Focus on Basic Pension Plans in Germany and Japan -

Harunobu Onagi

In Japan today, the basic pension system is being actively debated. Should the current social insurance formula be maintained, even if this means increasing the burden on the national treasury, or should all funding for the basic pension be provided with taxes under a noncontributory taxation formula? Alternatively, should the earnings-related pension be complemented with a minimum social pension, which has limited income?

However, this debate over the basic pension system is nothing new. Going back historically, there was much debate over a basic pension plan entirely funded by the national treasury when what could be called the original public pension system, Bismarck social insurance, was established.

Moreover, since the pension reforms of 1957, in Germany the basic pension has been completely removed from the public pension system. With the progressive aging of society and decreasing birth rate, however, from the mid-1980s debate over the basic pension has grown active in Germany, too. This paper examines the basic pension models proposed in Germany and how each of these was reflected -or not reflected- in pension reforms, as well as the processes involved in bringing this about.

The paper also examines the basic pension archetype as seen in Bismarck social insurance and the relationship between the Beveridge Plan and the basic pension. By examining these from an historical perspective, the paper seeks to explore the significance and ideal form of basic pension and minimum social pensions.

In Japan, too, welfare and basic pensions financed entirely from tax revenue were proposed when the public pension system was first established and then again in the 1970s. The paper examines the influence of these proposals on today’s basic pension.

Public Pension Reform and Uncertainty

Naomi Miyazato

In 2004 the Ministry of Health, Labor and Welfare announced public pension reform plans recognizing the fact that population aging in Japan is more severe than in most other developed countries. These reforms are beneficial because the intergenerational inequality in tax burdens was corrected with a fixed tax rate (or pension premium rate) that was adjusted to the benefit level of the current labor force. However, further consideration is needed in order to assess whether the replacement ratio of 50% is optimal or not. The purpose of this paper, therefore, is to investigate the optimal level of replacement ratio in Japan by considering not only the risk of fluctuation of return but also of longevity.

Gravity Analysis on Inter-City Air Transportation Volume

Naohiko Ijiri

In large countries, people traveling between two major cities, generally separated in an east-west or north-south direction, must pay relatively much greater travel costs in terms of the time and money required to travel domestically than people in small countries. Of course, people in small countries must also pay travel costs, but both in absolute and relative terms, these costs are small compared with those for large countries. The existence of these costs restricts movement attendant to economic activities. In cases where travel distances are long, or in cases where there are no public means of transport, these travel costs are enormous and not only restrict movement but can also make movement impossible.

This paper aims to analyze the determining factors in inter-city air transportation volume in the United States using the Gravity Model. A comparatively large proportion of previous research analyzing air transportation volume using the Gravity Model has focused on international air transportation. This paper therefore examines the United States, a country with an efficient air transportation system, and analyzes the determining factors in air transportation volume using the Gravity Model. Dividing the economic scale of cities with airports with their population and per capita income, population was found to be positively significant, while per capita income was negatively significant - results that closely support the theory. Moreover, while flight distance was found to be negatively significant overall, looking at samples in which distance was 400 miles or less found flight distance to be positively significant. Inter-city air transportation in the United States operates on a “hub-spoke” transportation network, and so this paper focuses on the most appropriate hub airports from departure airports throughout the United States; it is possible, however, that these airports are not necessarily those located the shortest distance apart. In any case, there is a need to refine in future the theoretical bases, such as distance and per capita income that determine airline passenger numbers and cargo amounts.

An Empirical Analysis of Inter-Firm Rivalry among Japanese LCCs : What is the difference from the US case?

Hideki Murakami

This paper first examines the case of US low-cost carriers (LCCs) and then, empirically analyzes the dynamic change in the inter-firm rivalry between Japanese LCCs and legacy carriers (LCs), by using the same research method: estimating each carrier's conduct parameters. This is followed by a deductive analysis of the dynamic change in consumer surplus occurring after an LCC enters the market in which structural demand and price equations are estimated by using unbalanced carrier-specific panel data of two to four carriers on nine routes for four to eight years (130 samples). Our findings are as follows: (1) the conduct parameters of LCCs and reacting LCs were extraordinarily low, such that the Federal Trade Commission of Japan (FTCJ) was about to intervene; (2) the conduct parameters were restored to or even exceeded the pre-entry level in the third year of LCC entry; (3) LCs, which have large market shares, tend to expel new entrants by cutting down their airfare, whereas LCCs raise their airfares as they gain a larger market share, and (4) gains in total welfare were substantial for Tokyo-Sapporo and Tokyo-Fukuoka routes, but loses were observed in low-density markets. The paper also concludes that most Japanese LCCs gave up competition and agreed on code sharing with LCs around the 3rd year of their entry, and that, unlike in the US case, gains in welfare were diminished by this collusive behavior of LCs and LCCs.

U.S. Airport Credit Rating and Its Methodology

Yoshitaka Kurosawa

Due to relaxation of regulations, the scope of discretion in business management and financial matters of airports in the United States has expanded, but at the same time, the importance of self-responsibility in management and financial differentiation in the market is growing. Most credit ratings for airport revenue bonds issued by Moody's Investors Service and Standard & Poor's are AA or A, and credit risk security is high. The reasons for separating AA and A rankings focus not so much on financial stability and management ability, but rather on elements of the surrounding environment such as the population and the degree of economic concentration in the area surrounding the airport. In future, if the degree of liberalization increases further, rating-determining factors could shift to finance or management skills. In preparation for the liberalization of airport operation in Japan, the rating of airports in the United States should be followed.

Municipal Bond Issues to Finance Airports in the United States

Kazusei Kato

The aim of this paper is to analyze factors related to airport bond issue in the United States. In the United States, 40 percent of the revenue of larger hubs, which serve more than one percent of the total number of passengers in the country, is generated by aeronautical-operation such as landing fees and terminal concession charges. In addition, such airports can levy the passenger facility charge (PFC) of up to 4.5 dollars for the development of the airport. In contrast, smaller airports, including general aviation airports, rely on federal grants which are provided from the Airport and Airway Trust Fund. The Fund's resources come from airport user charges including the passenger ticket tax, passenger flight segments tax, etc.

Large and medium size hubs also issue bonds to finance construction and maintenance of their facilities: runways, taxiways, terminal buildings, etc. The Airport bond comprises 3 percent of the total amount of the state and municipal bond issue. Since 98 percent of airport bonds are revenue bonds, 58 percent of them are not exempted from the federal income tax like other municipal bonds

According to my estimation, the amount of airport bonds can be explained by the number of passengers and the operating ratio (operation expense /operation revenue) of the airport. Moody's, a rating-firm, also includes trends in changes of the number of passengers and the operating ratio as its indexes for bond rating. This means that an efficient and growing airport can issue bonds on conditions better than an inefficient one, regardless of the size of the airport.

The issue of bonds functions as a monitoring variable for the airport management, and rating is sensitive to changes in airport management and other external conditions. That is why counties, cities, and airport authorities have to keep a watchful eye on the changes in the rating of their airports.

Approaches for Verifying Structural Change in Financial Markets Due to Easing/Tightening of Regulations Using ARCH-type Models

Hidetoshi Mitsui

Examination of the influences on spot markets exerted by the introduction of financial derivatives, easing of regulations, and/or tightening of regulations is very important for finance policy officials. Here I assume that financial derivatives mainly refer to futures and options. In futures and options trading, policy changes either easing or tightening regulations occur frequently. These include changes to consignment margins, trading margins, revised price ranges and times, as well as the introduction of circuit breaker systems. In the United States financial market in recent years, “individual futures trading” targeting individual stocks and shares were introduced in 2002, and “Volatility Futures” and “Variance Futures” were introduced in 2004. Futures and options are generally viewed as factors that further destabilize spot markets, but this has not been rigorously examined. This paper therefore focuses in particular on volatility fluctuations during a certain period before and after regulations is introduced/amended.

A survey of methods for verifying the influence of easing/tightening of financial market regulations using ARCH-type models, used frequently in financial time-series analysis, was conducted. Engle (1982) proposed the ARCH (Autoregressive Conditional Heteroskedasticity) Model for demonstratively capturing fluctuations in volatility. Bollerslev (1986) added past volatility values to the explanatory variables, thus expanding ARCH into a general model known as the GARCH (Generalized ARCH).

Furthermore, the relationship between the stock market rate of return and volatility is known to be asymmetrical, with volatility rising in the period following a fall in the rate of return, and conversely falling in the period following a rise in the rate of return. In order to address this empirical truth, Nelson (1991) proposed the EGARCH (Exponential GARCH) Model. This paper explains the approaches to verifying structural changes due to easing or tightening of market regulations that utilize the GARCH and EGARCH models.