Conference on Public Pension and Sovereign Funds

Inaugural conference of CJEB's Program on Public Pension and Sovereign Funds

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The Italian Academy, Columbia University

This conference was held on background according to the Chatham House Rule; the following summary is primarily without attribution

Hugh Patrick, director of the Center on Japanese Economy and Business (CJEB) at Columbia Business School, opened the inaugural conference of CJEB's Program on Public Pension and Sovereign Funds (PPPSF) with a description of the Program. The aim of the PPPSF is to conduct extensive research on how public pension funds and sovereign wealth funds should be structured, both in portfolio and governance. He then introduced Professor Takatoshi Ito, professor at the School of International and Public Affairs (SIPA) at Columbia University and director of the PPPSF. Professor Ito went into some more detail about the program and its findings thus far, describing some reform progress by funds, and advised the audience about two papers that have been written for the PPPSF's Working Paper series on public sector investment funds and public pension fund governance and investment (available on CJEB's website). He then introduced the first of three panels.

Hugh Patrick *Takatoshi Ito*

Panel I – "Investment Challenges in an Environment of Secular Stagnation"

The first panel was moderated by Lawrence Summers, Charles W. Eliot University Professor at Harvard University. Panelists included Kevin Bong, senior vice president of economics and investment strategy at GIC; Joyce Chang, global head of research at JP Morgan Chase & Co.; Richard Clarida, C. Lowell Harriss Professor of Economics and International Affairs at SIPA and global strategic advisor at PIMCO; and Geoffrey Rubin, managing director and head of portfolio construction and research at the Canada Pension Plan Investment Board. Professor Summers made four major points about the current investment environment.

First, there is something slightly odd about the concept of good investment theory. A successful investment, almost by definition, is contrarian; one does not succeed by following other investors. So the idea of learning from one another and then following a best practice is problematic. The most important thing to understand about alpha is that for every bit of positive alpha, there is going to be negative alpha. There need to be theories about both positive alpha and negative alpha.

Second, the most important financial development of the last generation has been the apparent secular decline in the level of long-term safe real interest rates. 10-year Treasury Inflation-Protection Securities (TIPS) were at a yield of 3.5 percent in 1999, while they are now trading at 40 basis points (bps). There is a similar trajectory in U.S. Treasury bill rates, and for other countries. If you follow this trend of safe real interest rates until 2007 and extrapolate it to the present, you can track where safe real interest rates are today. The decline in safe real interest rates is not a phenomenon of the great financial crisis, nor is it a development that is expected to end anytime soon. TIPS are trading at less than one percent, at higher real rates than comparable countries. The most straightforward theory is that lower safe rates do not come with changes in risk premiums. Currently, the extent of decline has not been accounted for in the calculations of pension funds, endowments, and sovereign wealth funds around the world.

The third point is to question whether or not the assumption of constant risk premiums is correct. Many portfolios are not invested in TIPS or not 100 percent invested in bonds. In order to reach the conclusion that the payout ratio should decline by 300+ bps, one would need to assume the constancy of risk premiums. This is a reasonable assumption, but it can be challenged in both directions. It can be argued that matters are even worse than suggested. If lower returns have led to increased risk-taking, chasing yields and searching for returns would lead to the bidding up of risk assets and bidding down of risk premiums. If one looks at the greater diversification relative to what was previously seen in Central Bank reserve holdings, there is more competition in range arbitrage and liquidity provision activities than was the case 10-20 years ago. It was far easier to collect liquidity premiums by investing in private equity than is the case today. Hedge fund returns have become more difficult as well. Generally, the risk premium that large institutional portfolios can expect to receive has gone down, so the safe rate is an underestimate.

Lawrence Summers

On the other side, as people manufactured synthetic AAA assets, central banks absorbed more of the long-term debt, leading to a shortage of safe assets, which contributed to the financial crisis. These safe assets sell at a premium or provide an insufficient yield, leading to the widening of risk premiums. There are staggering amounts of debt creation by governments as their deficits have widened enormously. If there were such a shortage of government debt, one would expect the government debt to be selling at a large premium, and therefore swap spreads would be unusually positive. However, today the swap spreads are unusually negative, contradicting the government debt hypotheses. While it is very difficult to measure equity risk premiums, it seems that equities are valued more fully than they have historically been on average, suggesting there has been no increase in risk premiums. A similar view could be supported with respect to debt spreads. These various factors offset each other; risk premiums have not seen major structural changes, and therefore changes in expected returns, which roughly track movements in safe interest rates.

Fourth, what is to be done about this environment? There is not a systematic reason why the rational response to lower returns is to increase risk-taking. There is a case that many sovereign wealth funds and institutional portfolios take too little risk, however. Their principal comparative advantage is their capacity for long-term investing; they don't have to worry about going broke before they're proven right or wrong. Therefore, they should explore investment strategies that are long-term contrarian.

One panelist remarked that the world currently has a low equilibrium of risk-free rates. One of the important developments of the last several years is that central banks have belatedly acknowledged this reality. In the United States, people tend to think that everything rises and falls with U.S. Federal Reserve ("The Fed") decisions, but in reality there are powerful global forces that are as much driving what The Fed is doing, as the opposite. The Fed acknowledges the reality of low rates, which has complicated its communication. In Europe, where there are negative rates, this creates even more long-term challenges. Another related feature is that, coincident with low equilibrium real rates, the real world suffered a true shock. As a result, central banks are struggling with unconventional policies: Quantitative Easing (QE) and negative rates are the two most prominent ones. These lead to biases and distortions in financial markets. The world is currently entering into a public discussion of acknowledging diminishing returns, but the outcome of unconventional policy is quite uncertain. Even though The Fed is gradually raising interest rates,

Left to right: Lawrence Summers, Richard Clarida, Joyce Chang, Geoffrey Rubin, Kevin Bong

the world will have inflated balance sheets and negative interest rates for a while. Furthermore, policy tools available for the next downturn may be more limited with debt levels double than they were before, interest rates at zero percent or negative, and so on.

The panel then provided some numbers for these macro issues. The current asset allocation strategies of pension funds and sovereign wealth funds don't seem to indicate major structural shifts, but there is a debate in the marketplace going on right now. People are asking: will pension funds and sovereign wealth funds shift their allocations to equities as bond yields move lower? What increase in bond yields and equity market returns are necessary to close pension deficits? And how is putting money into more aggressive alternative strategies such as private equity, infrastructure, and private credit going to meet yield targets? There is currently a negative yield monitor at JP Morgan. Almost 40 percent of JP Morgan's global government bond index had a negative yield in July, while this figure is at 18 percent now. People are asking if there is light at the end of the tunnel, and whether there should be a shift in asset allocation strategies.

Almost $30 trillion was invested in pension vehicles from OECD countries in 2015, and $1.3 trillion from non-OECD countries. Pension funds are the major investors in assets worldwide – bigger than banks, insurance companies, investment companies, and employers through their book reserves. G4 pension funds and insurance companies invested about 48 percent of their assets in bonds in 2016. The remaining 52 percent was split between equities (29%), alternatives (19%), and cash (4%). U.S. corporate-defined pension plans established significantly less risky investments in the last couple of years as QE continued. Within the 100 largest plans, the equity share has fallen below 47 percent and bonds have risen to about 48 percent. Today, bond yields are rising, but what increase in bond yield and equity returns would be needed to close pension deficits? Even with the increase in the United States as the Fed raises rates, the U.S. pension fund deficit is $30 billion worse than it was at the beginning of 2016. The UK, with even lower rates, is ₤104 billion worse. In 2013, the UK deficit was practically zero, but it now has a deficit of almost ₤300 billion. In order to close the deficit, the AA corporate bond yield would have to rise by 200 bps. To close the equity market deficit, a one percent change would lower the U.S. pension fund deficit by $2.9 billion and in the UK, a similar one percent change would lower the UK deficit by ₤2.5 billion. It is very difficult to see how to close these gaps. With negative yields, the problem is with us for a long time.

The panelists examined what to do about this situation. The United States is the only country that has a 30-year yield at the 2.9 percent level. De-risking is advised at a 4.1 percent yield. Earlier this year, Norges Bank recommended raising the equity asset allocation of its sovereign wealth fund from 60 percent to 75 percent. CIC, the Middle Eastern sovereign wealth fund, has 47 percent equity asset allocation with long-term asset allocations in private equity. Assuming half of this is in private equity and half is in other allocations, the total equity allocation would rise to about 60 percent. Looking at Japan's Government Pension

Richard Clarida

Investment Fund (GPIF), their domestic bond allocation has actually gone down from 40 to 36 percent. So we are seeing a desire to take on more risk to try to meet those yield returns.

The panel then addressed sovereign wealth funds. There are over 70 funds globally with $7 trillion in assets under management (AUM). They have been making aggressive allocations in multi-asset portfolios and alternative investments such as private credit, private equity, real estate, and infrastructure, and these transactions are expected to increase. Most of the activity is on the real estate side, as sovereign wealth funds play a major role in replacing banks after they have been abandoning certain lending activities, and are providing capital to governments that are looking to monetize their infrastructure assets.

One panelist discussed diminished return expectations. The response that funds are going to take to this environment depends wholly on their governance construct and expectations for their investment funds, which varies substantially.

There is one major difference between the Canadian pension plan and the U.S. Social Security system. The Canadians, rather than just having a pay-as-you-go plan in which contemporaneous contributions are paid out for benefits, and any difference flows to the general political fund, also save and invest a part of the benefits on behalf of future beneficiaries in a way that politicians cannot get their hands on the money. In the United States, the investment board is charged with managing the funds, very explicitly, to maximize returns without taking undue risk. For the Canadians, return targeting is a much more salient feature of their governance and expectations. There is a very strong framework to contend with in terms of diminished return expectations. This might result in lower level of returns over longer periods of time.

The notion of secular decline of the risk-free rate is one that is broadly agreed with, but primarily focused on developed markets. Arguably the G7 funding universe is offering less safe government bonds in which to invest. As global investors, they look to add emerging markets as much as developed markets to their portfolios; certain labor productivity trends, GDP growth trends, and levels of risk-free rates are very different than in developed markets. There is an opportunity to use prudent levels of leverage. It is very useful to employ a highly diversified lower-risk, lower-return portfolio and modestly lever up to the target level of risk that is established.

Another panelist outlined his fund's objectives. Its role is to preserve and enhance the purchasing power of the reserves entrusted to it. This is done by seeking stable and positive returns over and above global inflation. Unlike a pension fund, it does not have explicit liabilities, since its clients bear them. Up to 50 percent of net investment returns flows back into the budget of the government this fund works for. With the client's support, the fund explicitly targets a real return over a 20-year horizon.

Conceptually, there are two main challenges with portfolio management. One is finding good risk-adjusted return streams, and another is allocating among those return streams. High valuations and regrowth make these two problems a little harder. There are three specific challenges to think about portfolio management in the alpha/beta space.

The first challenge is earning beta, or passive systematic returns. As others have discussed, expected returns are low, and uncertainty is high. The reward for risk-taking is lower than it was before. In a stagnant growth environment, real investment returns don't exist in meaningful amounts, so investors must search harder and tease out growth accruals. At the same time, financial investment returns are thin and downside asymmetry is high. Investors must rely increasingly on sophisticated techniques to avoid undesired risk premiums and other risks.

Joyce Chang

The second challenge of alpha, or active idiosyncratic returns, is not really a problem unique to secular stagnation, but investors are currently in an environment that makes alpha generation harder. Access to information, affordable technology, and highly qualified personnel on the board are necessary to have an investment edge. What was once alternative is now mainstream, and becomes mainstream faster.

The third challenge is one of optimizing return strategies and return streams. Low expected returns and the low volatility in those returns would make it easy to dip into negative returns. There are quite serious consequences with this. With high valuations, it is arguably harder to make up for lost ground given that there is limited upside volatility. Historical diversification among asset classes is less dependable. If carry is poor, even conventionally inexpensive protection may become relatively expensive and any hedging becomes a larger proportion of expected returns.

Investors must think about potential outcomes. Navigating the volatility of the environment landscape is challenging. There is the ever-present risk of policy missteps such as premature tightening leading to recession. If growth remains weak and inflation returns in a meaningful way, this means stagflation.

One speaker highlighted implicit ideas about stagflation. One is ironic, in that the expectation of lower expected returns produces substantial positive returns. Imagine that the discount rate falls, so asset prices rise. When asset prices are at their highest, expected returns are at their lowest. Alternatively, a stock can go up because the numerator of the valuation formula has risen. If this was the reason, there may not be a strong implication one way or another for subsequent returns. Alternatively, an asset can go up because the denominator of the formula has declined. If this is the case, expected future returns are low. Precisely when it's most important to factor low expected returns, it's likely in recent history to see substantial positive returns.

One panelist interjected that this is a real dynamic, and is a big challenge in stakeholder management. Past returns may presage some diminution of returns in the future, but this is a difficult message to convey. Again, thinking about governance construct is key to managing cyclical changes in the difference between realized and ex ante returns. The panelist maintained the view that assumed real rates of return 15 years ago is the right range to be thinking of today.

One speaker asked what would be a high-end estimate of an industrial country's ideal percentage exposure to emerging markets, and what would be a high-end estimate of the premium that emerging markets might command in terms of real returns. This panelist's answer is 30 percent and 200 bps, which gets to about 60 bps of the 300 bps that could be fixed by moving to emerging markets.

Another panelist responded that the investments in emerging markets by pension funds is tiny, at only two to five percent. There are a couple of considerations for emerging markets, such as credit rating or currency constraints. If the fund is constrained by the credit rating, a number of emerging markets cannot be considered. A lot of countries are left out if the investor is really trying to invest in the best assets. For hard currency debt, there is not much of a premium over U.S. assets. The question is whether one will buy local-currency instruments in emerging markets. The local yield for emerging markets is much higher right now. Would investors be willing to turn on the FX (foreign exchange) risk or stay in currencies that are investment-grade rated? If there is FX volatility with a lot of emerging markets FX weakness, AUM tracking this has gone down.

Geoffrey Rubin

Many investors have talked about going to private equity, infrastructure-type investments and taking a look into the alternative space. Currently, emerging markets are quite underinvested. There is a relative value argument that owning emerging markets makes more sense in the current cycle, but investors may still not be comfortable with currency risk.

Another panelist said that the upper end of portfolios invested in emerging markets might mimic that of GDP weights, in which emerging markets might get as high as 40 percent - which is the absolute maximum. No large international institution is anywhere close to this level. With regard to the premiums in emerging markets, one must look at the diversification of exposures and see if they provide more approachable risk-returns. This panelist allocated 15 percent to emerging markets.

Another panelist's fund has been involved in emerging markets for 15 years. Evaluating risk premiums in emerging markets is really difficult. They are not constant, and in fact vary substantially over time. A belief inherent in the allocation of 15-20 percent in emerging markets equities is that there are risk premiums, but one needs to be as nimble as possible. They used to invest in an emerging markets index, but there are challenges to this. It is important to think whether old evaluations hold true for certain countries.

One panelist asked if anything can be done in governance to facilitate the idea of being a long-term liquidity provider at moments when markets seem out of joint. Are there things that can be done to take advantage of these opportunities? One panelist answered that they are well-positioned to dynamically adjust the deployment of capital, yet find it very difficult to do so. There is a carry cost that needs to be compensated for from incremental returns from strategic tilting. In the long term, of course, they want to be deployed accurately. A lot of the work that has been done suggests that the calm before the storm is more like the calm before the calm. As a long horizon investor, it has been and will continue to be an effective strategy if you can persevere through losses, and still be paid while doing so.

Another panelist talked about being cognizant of institutional advantages that the panelist's fund enjoys working with their particular client. Communication with stakeholders is an important governance tool, and it is important to formulate a game plan ahead of time in order to give a level of confidence and trust when there is a crisis.

Another panelist pointed out that the roles of banks made it much harder to keep inventory and much harder to be a shock absorber; they had to make more systematic trading strategies. This led to a greater correlation in the market place in relation to position. There is significant change in market structure and it is much harder to address who's going to be a liquidity provider.

Kevin Bong

Question and Answer session

The first question was, “What are the challenges of portfolio construction, and when a fund is significantly underfunded, what can be done, especially if there is a liquidity problem as well in relation to decreasing cash levels?”

The second question was, “How do long-term uncertainties have an effect on the real rates of interest in the short run?”

The third question was, “What do you think is the role of real estate in strategic allocation? And has this changed post-crisis?”

Finally, the last question was, “How do you suggest reconciling long-term holdings with the more frequent need for transparency in reporting the value of the portfolio? The volatility of the assets may be more than what any sponsor can afford.”

One panelist focused on challenges in portfolio construction when people are significantly underfunded. One way to approach the situation is to take on more risk in order to make up for the shortfall, but this presents its own challenges. It really depends on the level of confidence one has on the returns and the ability of the teams to execute them. However, pension management is not necessarily a closed system. If a fund is severely underfunded, it may be necessary to change contributions and/or the level of benefits given to members. It is important to have conversations with stakeholders.

Regarding real estate, over the long term, there is an inflation hedge and an inflation-protecting component of the portfolio. The panelist’s fund typically invests in strong income-generating parts of the portfolio through brick and mortar or through certain parts of the real estate equity and debt markets. They consider real estate as a core part of the portfolio. The targeted allocation within the portfolio is close to 10-15 percent.

Regarding long-term comparative advantage, all funds face the same challenges of increased frequency for reporting and transparency requirements. Most of the challenges come from communication with stakeholders, particularly in educating about risks versus rewards.

Another panelist said it is very difficult to invest your way out of portfolio shortfalls by adjusting your portfolio; you need contributions. Regarding transparency, there is a governance aspect to this in terms of building resiliency and resolve. There is also an ironic problem that for many illiquid and private assets calculated on an accounting basis, they will actually look smoother and less volatile than they actually are.

Another panelist believed that there is a real case for investing in emerging markets. International funds seem to have larger allocations of emerging markets than U.S. funds. Is it possible to buy investment-grade assets in emerging markets? Are many of the issuers in emerging markets sovereign or quasi-sovereign entities, so there is a lower default rate than with U.S. assets?

Another speaker stated that one underappreciated fact of being in a low-return world is that there is asymmetry. In the 1990s, fixed income used to be a nice diversifier for the industry, but this asymmetry was removed when interest rates became close to zero.

Finally, panelists discussed various things that people are doing that are wrong. The most egregious and most common mistake is to confuse the lack of transparency with a lack of volatility. Illiquid investments seem more attractive for this reason. Investments by sovereign wealth funds seem similarly attractive. This may be a systematic error pattern. Finally, contrary to conventional wisdom, the speaker believed that the next half dozen years will be met with stagflation more than deflation.

Panel II – "Best Practices: The Case of GPIF"

Left to right: Takatoshi Ito, Norihiro Takahashi, Sadayuki Horie, Andrew Rozanov, and Fiona Stewart

The second panel was moderated by Professor Ito. Sadayuki Horie, senior researcher at Nomura Research Institute, Andrew Rozanov, associate fellow at Chatham House, Fiona Stewart, lead financial sector specialist in finance and markets at the World Bank, and Norihiro Takahashi, president of the Government Pension Investment Fund, served as panelists.

The panel discussed the Government Pension Investment Fund (GPIF) of Japan, which is the largest of its kind in the world, with the equivalent of $1.2 trillion invested. Decisions are made by one person – Mr. Takahashi – though this will change in October. When Prime Minister Abe came into power in 2013, he wanted to change public pension funds to give better prospects for the future generations and to vitalize the capital markets in Japan. The Prime Minister asked Professor Ito to chair an experts' commission to come up with reform and radical ideas for pension funds. Accordingly, the commission wrote a report that recommended drastic changes in the portfolio and a change in governance. Four years later, the vision is being completed. GPIF is looking to catch up to best practices around the world but could be modeled for latecomers.

One panelist stated that there have been three main reforms: the recent reform of GPIF, including strategic investments and governance; increasing environmental, social, and corporate governance (ESG) investments; and commencing alternative investments.

Takatoshi Ito

GPIF reform is important because all Japanese must participate in the public pension system. GPIF manages a reserve fund for the pensioners. Historically, it has been very conservative in its portfolio management, investing heavily in Japanese Government Bonds (JGBs). Its governance structure was very strict where the president could make all decisions formally. But GPIF has an investment advisory committee, and from October 2017, GPIF will have a management committee that will decide important issues. Now, it has a benchmark portfolio where 50 percent is in equities and 50 percent in fixed income.

There are a large amount of equities in Japan, and GPIF holds stocks of 4,700 companies from all around the world. To improve transparency, GPIF began disclosing individual investments. GPIF does not have in-house equity investment capabilities; they outsource 100 percent of their equity investments to external managers.

Norihiro Takahashi

With regard to ESG activities, GPIF receives money from employees and employers and subsequently invests back to those companies via external managers. It is important to optimize this investment chain and to understand that GPIF is not competing with asset managers and corporations. GPIF also demands that external managers conduct best practices because they believe that long-term investment returns are achieved through enhancing sustainable corporate value and capital market efficiency.

GPIF recently ran a survey of 400 listed Japanese companies to review external manager engagements. The survey results that were released were well appreciated by both asset managers and Japanese corporate executives. GPIF is a textbook example of owners with a very long-term investment horizon. They genuinely believe that ESG investments are crucial; that they will reduce investment risks and enhance risk adjusted returns for long-term investors. GPIF signed up to the United Nations Principles of Responsible Investment (UNPRI) in 2015, and they recently requested an appraisal of ESG indices of Japanese stocks; there were 27 entries.

There has also been an increased focus on alternative investments. Alternatives are suitable for pension funds like GPIF for their long investment horizon and their acceptance of low investment liquidity. GPIF's alternative investments only started in 2014, and will be growing steadily. Ultimately, the panelist would like GPIF to have a culture of sophisticated investing.

Another panelist discussed the equity investment reforms in GPIF. GPIF has two unique objectives. Its AUM of equities are around $300 billion which can impact the behavior of Japanese companies' top management. The goal is to enhance beta, not just alpha. Also, it is important to change the benchmark slightly from TOPIX. If GPIF insists on only using TOPIX, every company can be bought by GPIF, which is not a good signal for top management. This is why GPIF is changing from TOPIX to the JPX Nikkei 400 and the ESG benchmark. Additionally, GPIF is looking at changing its manager selection process to focus on engagement activities. This is also a good signal to portfolio managers to improve their long-term corporate value.

On the alpha side, one challenge in adding value for the GPIF is the adoption of smart beta. The goal is to replace active management with much cheaper methods of management while adding slightly better returns to cap-weighted benchmarks. They have also revised their manager selection system.

The PPPSF commissioned two papers: "Public Sector Investment Funds: How the Best-in-Breed Evolved" by Andrew Rozanov and "Public Pension Fund Governance and Investment: Update and Critique Comparing Japan's GPIF with Foreign Peers" by Sadayuki Horie. They evaluate similar issues, but from two different angles, mainly focusing on the best practices that can be distilled.

The first paper evaluated 10 diverse funds, from sovereign funds to pure pension plans with different liabilities, including the Norway model, Yale's endowment or the Australia future fund model, and the Canada model. Interestingly, there was a lot of similarity on how they are governed. Nine of the funds had independent boards at arm's length from the government. All 10 funds had a sizeable allocation of risky assets, from 60 to 90 percent. Most had sizeable allocations of illiquid assets traded on private markets, ranging somewhere between 20-40 percent. Norway was the outlier, with a small allocation to illiquid assets. Apart from Australia, all of the funds preferred internal management, with 80-90 percent of funds managed

Sadayuki Horie

internally. New Zealand managed 40-60 percent internally, but is moving towards the Canadian model. So, in the case of a large institutional investor, again the Canada model proved to be the best one.

The second paper compared the management of Japan's public pension fund with other public pension funds, focusing on institutional design, governance, and investment. Among the two main models of public pension finance – prefunding and pay-as-you-go – Japan has adopted a predominantly pay-as-you-go model, where current labor force participants essentially fund retirees' pension benefits. However, in anticipation of changing demographics, namely the change in the elderly dependency ratio, Japanese public pension plans have prefunded reserves to cover benefit payments in excess of contributions. Pension financing models differ internationally, reflecting differences in individual countries' attributes such as population composition, social solidarity and national attitudes toward risk-sharing, social insurance programs, and entitlement to retirement income.

One panelist focused on work done by the World Bank, which is currently working with large pension funds that have not yet started their reform processes. The Bank wants to give them the ammunition to move forward with reforms. It looked at the funds' transparency, including the investment returns and board selection processes. The Bank then ranked the pension funds in the developed and developing worlds; Canada, New Zealand, and South Africa performed well. The GPIF performed poorly, but it is moving in the right direction. This was encouraging; better-run funds with more diversified portfolios had better returns.

Some people believe that equities are risky and bonds are safe. However, currently bonds may be risky. So diversification is the key. If GPIF sells bonds, it will disturb the market. One panelist recalled that employers said that going to equities is fine, but there should be no active investments because this would entail choosing good companies from bad. Then the state would be meddling in private sector, which is not good, they argued. Next was the governance issue. GPIF will expand from one to seven board members – but how independent should they be, and how should they be selected? GPIF was not able to emulate the Canadian model since the selection will be done by the Ministry; it is semi-independent. Whenever GPIF discloses a loss, politicians get angry, despite the fact that it often recovers soon. Ultimately, there should be a system built to protect GPIF from short-term interests.

Professor Ito then asked the panelists, "What would be the wish-list of GPIF committee members, and how would their independence be preserved?"

One panel member replied that the committee members should have diversified experiences, and a curiosity in finance. Sometimes bonds become risky with more stable stocks, especially in negative interest rate environments. People also worry about high fee levels, but it is important to balance fee level and performance. There should also be a balance between passive and active style management. Finally, education is very important. Japanese people tend to look only at the price level of equities; GPIF needs to explain the difference between portfolio result and portfolio efficiency.

The next question was about the relationship of GPIF active portfolio management and the influence on capital markets or corporate governance. It is a duty for the GPIF to make good investments, but big businesses resist these active behaviors. How do you explain to them that these behaviors would be good for them?

A panelist said that, at another conference, there was an argument of whether or not the National Pension Service (NPS) of Korea should invest in alternatives. The labor unions argued that there was no trust in NPS, so it should not invest in alternatives. The GPIF has two options to influence companies' choice of top managers: changing their benchmarks, or influencing corporate values to achieve beta enhancements.

Currently, GPIF has three types of investments. The first is purely passive, simply tracking the index; the second is "proactive-passive," which is essentially passive but with some engagement activities; and the last is purely active. Even if GPIF remains passive, including proactive passive, it can have a good influence on top management for better corporate value improvement. But ultimately, the argument should focus on how GPIF can influence the top management of top companies in Japan.

Andrew Rozanov

Another panelist said that the Canada Pension Plan Investment Board (CPPIB) was set up in 1997 and was primarily invested passively. Since 2005, it began to change and gave very impressive results. The panelist also mentioned the contrasts between the Norway Pension Fund model and the Yale University endowment model. The Yale model is an independent board operating at arm's length from the government. In contrast, Norway opted for the most political governance structure possible. Yale's model puts emphasis on less liquid assets to find more alpha, while Norway focuses on the most liquid assets. Yale has a small internal team which selects fund managers on the core assets of their portfolios; everything else is done by external managers. Norway has 96 percent of their assets managed in-house. The Canadian model borrowed ideas from both models. GPIF has taken a political governance structure and a preference for liquid assets, but they are using a small-team, fully-outsourced model. This panelist favors the Canadian model.

Professor Ito then asked how GPIF can move up to the middle of the spectrum of different countries. How could this be used as a model for developing counties?

One panelist said it was necessary to make steps methodically, building consensus around the reform, with a specific end goal.

Another asked how to overcome struggles to set up a pure independent board of trustees at GPIF, since they must also set up nomination committee?

In response, a panelist said that when people see the diversification of the portfolio and the returns that tend to follow, this brings more confidence. So documenting the results of the funds is important.

Question and Answer session

Question 1: What would the criteria be for GPIF?

Question 2: How does the huge size of GPIF affect its strategy?

Question 3: How do you reconcile liabilities that are domiciled in the home currency? What about FX hedging and the volatility of dollar and yen in the last decade?

Question 4: Given the competition from the Bank of Japan (BOJ), how does GPIF intend to manage government impact?

Question 5: How do funds incorporate a strategy to leverage external managers to help them arrive at some type of evolutionary governance?

Regarding diversification, one panelist said that the investors must be in their own countries, and diversifying out of bonds. They must think more cleverly about whether it is the size of the pension funds versus domestic assets and if there is a more logical increase of overseas investment. On the in-house question, most of the money is managed in-house; often there is no transparency or governance, and it goes

Fiona Stewart

directly into investments. You could provide more structure and oversight by creating instruments in between such as SPVs or other intermediaries.

Another panelist believes that size, the nature of liabilities, and political constraints all answer question 1 and 2. Not being able to pay up for fees is a political constraint. In terms of size, the Yale model does not fit GPIF, since it's not scale-able. There is only so much capacity that top decile managers can do. Therefore, the choice is between the Norway model and a variation of the Canada model. The top 10 core representatives of the Canada model represent about $1 trillion. Over time, a range of 20-40 percent of less liquid assets is possible. With the Canada model, GPIF is not constrained by time horizons of its funds.

The next panelist focused on fund size, and doesn't like the discussion around benchmarks. He felt that there should be more inflation-linked returns for beneficiaries. There are better ways to utilize size, and it is not a good idea to separate the $1.2 trillion into 5-6 different funds.

The last panelist stated that, because of the size of the funds, there are several questions and concerns about size, risk management, and currency risk. So, one must consider stress testing, just like the banking sector does. Both the BOJ and GPIF have a huge amount of stocks, but have different goals; the BOJ aims to purchase stocks to boost economic growth and people's expectations, while the GPIF holds stocks to gain profits for pensioners.

While the BOJ and the GPIF have a significant presence in the equity market, one solution is for the indices to only include good companies like the JPX 400 index with high ROEs. So, if someone develops a JPX 100 or JPX ESG which will distinguish themselves, then BOJ and GPIF can become more passive investors. The FX volatility is a risk in the short run, but in the long run, they are waves. One can imagine using options or derivatives to hedge the extreme tails with options. Increasing alternatives and foreign bonds may help avoid size effects. Lastly, the GPIF minimizes risk to achieve its targets, but perhaps it should follow Canada's model of maximizing returns with controlling risk returns, which is the opposite.

Panel III – "Seeking Alpha - The Role of Alternatives in Asset Allocation"

Left to right: Hilda Ochoa-Brillembourg, Scott Evans, John Gandolfo, William Kinlaw, Bob Prince, Chris Schindler

Hilda Ochoa-Brillembourg

The last session was moderated by Hilda Ochoa-Brillembourg, founder and chairman of Strategic Investment Group. She discussed alternatives with panelists Scott Evans, deputy comptroller for asset management and chief investment officer of New York City Retirement Systems; John Gandolfo, chief investment officer at the World Bank Group Staff Retirement and Benefit Plans; William Kinlaw, senior managing director and global head at State Street Associates; Bob Prince, co-chief investment officer at Bridgewater Associates; and Chris Schindler, managing director of portfolio management and asset allocation at Ontario Teachers' Pension Plan.

After a brief introduction of the panelists, Ochoa-Brillembourg asked them to give a definition for alternatives. One panelist said a simple answer is that alternatives are anything that are not publicly-traded stocks and bonds. This includes hedge funds, private equity, venture capital, commodities, emerging markets, and other funds. Each provides a different risk profile than stocks and bonds, and typically come with a high level of illiquidity.

Another answered that they are simply "re-engineered cashflows." In other words, everyone has the same cashflow, but people can convert this into something else, and that is what an alternative is. A simple example would be taking a corporate bond that has two risks, treasury risk and credit spread, which are not well balanced. One can buy a corporate bond, or buy a treasury bond and put a credit default swap (CDS) on top of that, and you would have created an alternative investment. However, once the credit spread is balanced with treasury risk, you have a much more diversified asset that has 100 bps more return with the same risk.

A third answer is that alternatives should be evaluated by looking at different sources of returns and risks that make them different from stocks and bonds. Alternatives must also have alternative sources of risks. Investing in these is understanding the art of finding them, modeling them, and understanding their underlying return drivers.

Another answer is that alternatives are anything that are optional. Elements of this optional component can reduce risk, improve return, or a combination of both. Alternatives are important in diversifying risk. One must look at liquidity issues, opacity, and the notion that the investment is non-standard, which requires an extra degree of due diligence to identify strong alternatives.

Ms. Ochoa-Brillembourg then asked the panelists to identify the optimal non-LDI (liability-driven investment) asset mix.

Scott Evans

One panelist encouraged everyone to look at research done looking at efficient frontiers built around optimal portfolios that have minimum constraints and the ability to rebalance. These portfolios look at the last 45 years of data, split into nine five-year blocks. The data reveal that the asset mix of any one of the non-overlapping portfolios is very enlightening. One would not have held international equities for the last 20 years, and one would not hold any hedge funds, unless one is extracting alphas from the hedge funds. If one were just buying the indices – supposedly investable indices that are offered as benchmarks for hedge funds – one would not have held any hedge funds despite their diversification qualities. One would have ended up with a lot of private equities in the last 10-15 years. The portfolio would also generally have had a lot of high-yield bonds, emerging market equities, and private equity, and would have delivered wonderful returns with perfect foresight.

John Gandolfo

The lesson here is that in order to improve returns, one has to be open to incorporating new asset classes that are being securitized and build off of one's competitive advantage, but refrain from investing in areas where a competitive advantage has not yet been developed. One should start slowly on hedge funds until the investor knows how to deliver pure alpha from portfolios.

However, returns are noisy, and trying to predict the future is really hard. One panelist focused on imagining four assets that are uncorrelated with each other and which has a Sharpe ratio of .5. A time traveler could come from the future and tell you which of these assets would be the winner, but if you simply build the best diversified portfolio around these 4 assets instead, this would beat the winner 97 percent of the time by about 15-20 percent. So building the best diversified portfolio possible is actually better than the power of perfect foresight. Leverage is one of the best things invented to amplify alpha, not necessarily beta. And that is one of the most underutilized tools in the management of institutional portfolios.

The next panelist, when discussing the optimal asset mix as a long-term investor, believes that one must think about proper governance. There is much uncertainty; witness how the markets traded quite differently immediately after Brexit or the U.S. elections. There are a lot of geopolitical risks and elections coming up, so it is important to find a diversified asset portfolio that meets your risk tolerance and run it through rigorous stress tests.

Another panelist focused on the time frame. You can make a reliable assessment of the future at a maximum of 6 months. Alpha would be that 6-month view. One does not know what's going to happen a year from now, but one can structure a portfolio that will have good returns in 2027. One should think about cash flows, the price of the present value of the cash flows, diversifiable risks, and non-diversifiable risks. The diversifiable risks are the conditions and microenvironment that drive deviations in cash-flows.

Ms. Ochoa-Brillembourg then asked how this type of portfolio would respond to today's environment.

One panelist responded that this doesn't matter because one is trying to understand the excess returns relative to cash. This is the same whether it's a 14 percent bond with 12 percent cash or a zero percent yield with minus-two percent cash. The excess return of bonds is historically independent from the level of bond yields. Yield curves are roughly average around the world now. Five years ago the Treasury bond yield was 1.5 percent, while today it is 2.5 percent. But its excess returns are at six percent a year, the same as the long-term average, even though bond yields are low. Bond yields rose because the cash yield stayed low relative to the bond yield. There were relatively normal excess returns of bonds versus cash. The reason that assets have a lower return today is because the cash return is lower and all assets are adjusting to that level. The key is understanding the excess return of bonds and the

John Gandolfo, William Kinlaw

total return of bonds. Every person that runs a portfolio should have a line item that separates the excess return of bonds from the total return of bonds. The excess return will be uncorrelated with the bond yield.

Bob Prince

Another panelist said that discount rate moves are a real risk to portfolios right now. This is potentially a role of liquid alternatives. If you have a set of processes that are long-short in an asset class such as equities that are well constructed, there's a fighting chance that the long-short process and these liquid alternatives might be there under that framework. Long-short alternatives may be protecting you when risk premiums widen.

Regarding optimal portfolios, one panelist noted that they need to be managed differently depending on who you are. There are things that some funds can do that others cannot, and different optimal portfolios for different funds. It is necessary to avoid allocations that cannot be sustained. The goal is to try to spread the risk as much as possible and to find independent sources of risk premium that the boards can handle and stay invested in. Managers should also include assets that will be protected against deflation and inflation, and most importantly hold a sustainable allocation and be able to rebalance it.

The last panelist shifted the focus of estimating future returns to highlighting risk and correlation inputs. This issue is particularly relevant for alternatives. When looking at dispersion in equity returns over a shorter period of time, they are largely driven by changes in discount rates; but over a longer period of time, they are driven by changes in earnings. One should look at different intervals because they could impact the probability of underperforming the benchmark. For example, the correlation between U.S. equities and emerging market equities over the past 20 years is approximately 70 percent based on monthly return intervals, 35 percent based on annual intervals, and nearly zero based on three-year intervals. Diversification properties of asset classes are dependent on time horizon. Many portfolios are now copying the Yale model, to the point that endowments over $1 billion have 57 percent of their assets in illiquid assets. It is unclear how these endowments will manage a crash.

Defined benefit corporate plans and federal and state government plans seem to have similar asset mixes. They have similar low allocations to alternatives at around 15 percent. However, there is a huge difference; many corporate plans are closing them and freezing them, while federal plans are open. There is no way that the federal plans can become fully funded until they start closing.

This problem depends on the promises that have been made. Some U.S. state funds are underfunded because the state is unwilling to add funds to offset liabilities. Other municipalities make contributions to offset the shortfall in the fund. It depends on how the sponsor reacts and the beneficiaries respond.

Another panelist concurred that, if people contributed more to the fund, the world would be in a better state. The main argument lies in the discount rate. This is a flawed way to look at it. Looking at payments that are made every year and with assets falling in value, that year's payments are a higher percentage of one's assets. When the market recovers, there is less money invested to experience that recovery. The idea of the discount rate is both confusing and hides the risk. If one knows the future payments needed, and the assets needed today, one can simply calculate the required returns that are needed to make the payments. One needs to identify the difference between required and achievable return. When it is kept below two percent, you can be sustainable for a long period of time. If not, you can

Chris Schindler

calculate the probability of default. But this also allows for a contingency plan to come back into the two percent range.

Ms. Ochoa-Brillembourg then asked about each panelist's view on alternatives.

One panelist stated that their portfolio had more than 50 percent in alternatives, much of which is in internal liquid alternatives. The problem is that there are many different pressure points that all fight for liquidity, especially during a crisis. You need to look at the returns that are needed, and then increase your investment in that space. Hedge funds are providing the returns that are sought out.

Another panelist said that the basic principle is to look for cheap beta and good alpha. There is a lot of expensive beta in the hedge fund world, but that doesn't mean there's not good alpha. One should diversify between the two, and then pay for value added.

Another panelist focused on the importance of the different kinds of alternatives. The last few years saw a peak in exit-driven distribution to investors in private equity. This fell by 13 percent in 2015 and another 21 percent in 2016, and will probably continue declining. Capital calls were the second lowest in 2016 since the global financial crisis.

Another panelist has illiquid private equity real assets of about 28 percent and then some in hedge funds. Hedge funds are used only as alpha generators, not as beta plus alpha. It is really important to be quite clear on the objective for the portfolio. While you can do almost anything you like, you need to be very clear about why and how an investor is using them. Infrastructure equity and infrastructure debt are going to grow significantly in the coming years. Up until now, the focus has been more on OECD markets; clearly, there is a huge need to invest in emerging markets, and there are challenges from the FX risks.

The final panelist has about 25 percent of his portfolio in five different systems. He is involved in the growth of the risk premium business: private equity opportunities, real estate opportunities, and fixed income opportunities, but does not engage in venture capital or frontier investments. Additionally, for inflation protection, they are involved in core real estate and infrastructure. Their fund uses all outside managers and pays a lot of attention to risk premiums in various areas like private equity. These investments must continue because all these assets are not things you can dart in and out on a tactical basis, particularly with their governance structure. These funds charge a lot of money for this. Nevertheless, they are comfortable with the 20-25 percent allocations.

Professor Ito then thanked the panelists and audience for their participation, reflecting on the importance and success of the PPPSF's inaugural conference.

Front row, left to right: Hugh Patrick, Takatoshi Ito. Second row: PPPSF advisor Don Allison, Kevin Bong, Richard Clarida, John Gandolfo, Joyce Chang, Fiona Stewart, Sadayuki Horie, Hilda Ochoa-Brillembourg, Bob Prince. Back row: Geoffrey Rubin, Andrew Rozanov, Norihiro Takahashi, Chris Schindler, William Kinlaw.