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Working Party on Financial Statistics

REPORT ON OECD-ABS Workshop on Pensions
Canberra, 22-24 April 2013

Joint meeting

To be held on 1-2 October 2013
OECD Conference Centre
Beginning at 2:00 a.m. on the first day

This document has been prepared by by Amanda Seneviratne (Australian Bureau of Statistics) and will be presented under item 6 of the draft agenda

The complete document is only available in PDF format

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REPORT ON OECD-ABS Workshop on Pensions

Canberra, 22-24 April 2013

Background

1. The Organisation for Economic Co-operation and Development (OECD), in cooperation with the Australian Bureau of Statistics (ABS), organised a Workshop on Pensions, under the auspices of the OECD Working Party on Financial Statistics (WPFS), in Canberra, Australia, on 22-24 April 2013.

2. The aim of the Workshop was to focus on the measurement of employment-related pension entitlements in the SNA accounts, including the measurement of entitlements that are not recognised as such in the core system of national accounts.

3. The main goals were:

    a) To arrive at a better understanding of the conceptual and measurement issues in relation to the implementation of the 2008 SNA in the area of pension schemes

    b) To define problem areas regarding the interpretation of the 2008 SNA in the area of recording for pension schemes, among which the delineation of pension schemes recorded inside and outside the core system of national accounts

    c) To define (generic) problem areas in relation to the measurement of pension schemes

    d) To possibly arrive at recommendations for the further clarification and interpretation of conceptual problems, including the definition of remaining unresolved issues which may need further work

    e) To possibly arrive at a common methodology for the measurement of pension schemes, including the definition of remaining unresolved issues in agreeing on a common methodology which may need further work

    f) To put forward ideas for future work at the international level

4. Two types of reports were envisaged as outcomes of the Workshop:

   a) A short report with a list of recommendations as well as main issues, both resolved and unresolved, in order to have a presentation of the results of the Workshop at the meeting of the Advisory Expert Group (AEG) on National Accounts (Luxembourg, 28-31 May)

   b) A full report on the outcome of the workshop, including summaries of the presentations and main discussions, to be presented at the 2013 joint WPFS-WPNA meeting, so that Delegates of both groups can discuss and agree on the way forward.

5. Over the three days of the OECD/ABS Workshop, experts from OECD countries, OECD Key Partners and International Organisations exchanged views and best practices on the measurement and reporting of pension entitlements of employment-related pension schemes and social security schemes, covering issues on definitions, concepts, methods and sources. A round table discussion concluded the Workshop and led to a number of outcomes and recommendations agreed by participants.

6. The present document includes

   a. The full report of the Workshop on Pensions. It contains a summary of presentations at the three sessions (General issues, Conceptual and measurement issues, Views of pension industry and regulators), reflects the issues and discussions at the workshop and summarises the outcomes from the round table on the way forward.

   b. The brief summary report of the Workshop (available in the Annex at the end of the document), which was submitted as an issues paper to the Advisory Expert Group on National Accounts (AEG) meeting held on 28-31 May 2013. It highlights the importance of the measurement of pension schemes in the context of an ageing population in all developed countries, the differences across countries when it comes to the organisation of pension schemes and other (financial) arrangements for retirement, and the challenges in collecting and disseminating internationally comparable data. This report included the main outcomes of the Workshop and presented a number of issues, either for immediate consideration by the AEG or for the SNA long-term research agenda. It confirmed the importance that countries and international organisations continue to work on these issues to arrive at a full recording of internationally comparable data on pension entitlements and household resources for retirement.

7.   It also presents, as listed below, the conclusions of the discussions of the AEG. The Expert Group considered the brief summary report that was submitted to him at its meeting of May 2013 and provided guidance on a number of issues.

8.   WPFS and WPNA Delegates are invited to consider the outcomes and recommendations of the Workshop, to take note of the conclusions of the 8th meeting of the AEG, and to provide further advice for the way forward.

Conclusions

8th Meeting of the Advisory Expert Group on National Accounts,

29-31 May 2013, Luxembourg

The Advisory Expert Group on National Accounts:

1.   Complimented the Task Forces and Working Groups for their work to get a better understanding of the issues considered and specifically acknowledged the contribution by countries to testing the impact of different reference rates for the estimation of FISIM and to all other substantial work.

Pension entitlements

2.   Supported the further development of a table on the assets of households specifically related to retirement.

3.   Recognized that further work needs to be done to determine the scope of the assets to be included; and expressed some hesitance to include social assistance schemes in the table.

4.   Requested the group working on the issue of pension entitlements to come up with a proposal on the recording of imputed interest on the assets/liabilities of the sponsor of a pension scheme, related to the over-/underfunding of the relevant pension scheme.

5.   Agreed that the group should draft a more detailed paper to be discussed, in the first instance, at the 2013 OECD Working Parties on Financial Statistics and National Accounts, on the basis of which the ISWGNA would decide on possible follow-up work.

6.   Recalled its conclusion, at its meeting in 2012, that the nature of investment income related to pension funds and investment funds should be further investigated, without addressing the broader issues of income, and requested the ISWGNA to establish the appropriate mechanism for this purpose.

Research agenda

7.   Agreed that the issues related to Pension entitlements (as reflected in paragraphs 19

OECD-ABS Workshop on Pensions

Canberra, 22-24 April 2013

Summary Record

The Organisation for Economic Co-operation and Development (OECD)/Australian Bureau of Statistics (ABS) Workshop on Pensions was held in Canberra, Australia from 22-24 April 2013. Over the three days, discussion covered conceptual, methodological and country experience in the measurement of pension entitlements (including social security) in the full sequence of the SNA accounts and the supplementary SNA table 17.10.

The report contains the detail summary and main discussions of the presentations. Included in the final section of the report is a summary of the outcomes from the workshop.

Introduction

The OECD/ABS workshop on pensions was opened by Mr Michael Smedes, the chair from the ABS, who welcomed delegates to the ABS. Mr Smedes then introduced Mr Michael Davies from the Macroeconomic Statistics Division at the ABS who made the opening address for the workshop.

Mr Davies discussed the importance of pensions within the context of the fully integrated set of articulated macroeconomic accounts. While GDP is arguably the headline measure within these accounts, the associated financial flows and positions; and sectoral breakdown are equally important. He noted that some of the more contentious international debates around conceptual and measurement issues today and going back to the SNA 93 were around definitions of assets, liabilities, valuation (market vs. book value) and associated interest flow (creditor vs. debtor). These same contentious (or debateable) issues are equally valid when we focus on the measurement of pensions. There is international debate around the existence of pension entitlements and their valuation; and the associated income flows which in turn may require imputations. Imputations and the extent of imputations are in general extremely contentious in national accounting.

Mr Davies then touched on the importance of pensions from a policy perspective. Pensions are a challenging, topical and important issue internationally. In most industrial countries of the OECD, the issue of the growing ageing population has put a keen focus on how governments formulate retirement policies (e.g. through tax breaks) to meet the living standard of this cohort. Within this, there is the politically sensitive issue for many governments around the world of government employee pension liabilities, their valuation, and recognition of these liabilities and subsequent impacts on overall government debt measures.

Mr Davies concluded by going through the goals of the workshop, as stated by Mrs Michèle Chavoix-Mannato during the preparatory phase of the Workshop and on which both OECD and ABS agreed:

Goals

- to arrive at a better understanding of the conceptual and measurement issues in relation to the implementation of the 2008 SNA in the area of pension schemes;

- to define problem areas regarding the interpretation of the 2008 SNA in the area of recording for pension schemes, among which the delineation of pension schemes recorded inside and outside the core system of national accounts;

- to define (generic) problem areas in relation to the measurement of pension schemes;

- to possibly arrive at recommendations for the further clarification and interpretation of conceptual problems, including the definition of remaining unresolved issues which may need further work;

- to possibly arrive at a common methodology for the measurement of pension schemes, including the definition of remaining unresolved issues in agreeing on a common methodology which may need further work; and

- to put forward ideas for future work at the international level.

Agenda

Workshop agenda was divided in to four sessions as follows:

Session A- General Issues

Session A of the workshop dealt with general issues of pensions. The session was divided into four separate topics:

- Work carried out at the European level
- System of National Accounts (SNA) concepts of income and saving: Implication for pension measurement –country views
- Feedback from the OECD survey on pensions
- User demands

Session B- Conceptual and Measurement

Session B of the workshop focused on conceptual and measurement issues related to pension schemes. The session was divided into three separate topics:

- Pension systems –country studies
- Defined benefit scheme -OECD survey and country studies
- Country specific case studies highlighting difficulties in compiling and collecting data (not covered elsewhere in the session)

Session C- Views of Pension Industry and Regulators on Measurement Issues

Session C of the workshop had two presentations on measurement issues from other perspectives: one was a view from a representative of the pension industry and the other view was from the perspective of the regulator.

- Industry view - The Association of Superannuation Funds in Australia
- Regulatory view - Australian Prudential Regulation Authority

Session D- Way Forward

Session D of the workshop was a round table discussion of delegates to obtain the agreed outcomes of the workshop. The outcomes were categorised into concepts, methods and sources.

- Concepts
- Methods
- Sources

Session A - General Issues

(I) Work carried out at the European level

(1) *Pensions in the European System of National Accounts (ESA 2010)* – Jens Gruetz (Eurostat)

Mr Jens Gruetz acknowledged the increasing information needs regarding pension entitlements due to an ageing population, and highlighted their equal importance in the context of future benefits that contribute to the net wealth of households and in-turn this wealth impacts on the behaviour of households.

Mr Gruetz then provides a summary of the development in recording of pensions that occurred from 2002 onwards within the SNA framework. He highlighted that the 2008 SNA supplementary table 17.10 includes all funded and unfunded employer schemes, including social security pension schemes. The later inclusion was strongly pushed by countries of the European Union (EU) as many of their government pension schemes are similar to social security schemes. He then touched on core and non-core accounts structure within the supplementary table on social insurance schemes (SNA Table 17.10 and Table 29, ESA 2010). He highlighted the simple rules used by ESA 2010 mainly to enhance comparability between countries, such as in categorising pay as you go (PAYG) schemes of general government to the non-core accounts and recorded only in the supplementary table.

Mr Gruetz discussed the measurement issues for the accrued to date pension entitlements as prescribed by the 2008 SNA/ESA 2010. He touched on the measurement of entitlements for defined benefit schemes where actuarial techniques were required to discount the future benefits of the schemes to present value. Once again, ESA 2010 prescribed the actuarial assumptions for demographic assumption (e.g. life expectancy), wage effects (ABO vs. PBO) and the discount rate, to be used by countries to ease the comparability of data between the reporting countries. He stressed this was not an easy exercise as many countries had different views on what these assumptions should be based on their country experience. The detail recommendations on how to measure pensions is described in the Eurostat/ECB manual *"Technical Compilation Guide for Pension Data in National Accounts.*

In the final part of his presentation, Mr Gruetz discussed the ESA transmission process and some activities already set up to assist countries in reporting accrued-to-date pension entitlements in social insurance (Eurostat/ECB task force; training courses; country visits; first workshop which has been summarised into an electronic book; electronic discussion forum; ECB/Eurostat pension compilation manual; and the work of the Ageing Working Group-AWG) as well as the holding of a Pension Workshop in spring/summer 2014.

Questions were asked regarding the transmission of data in Table 29 of ESA and the assumptions made. Mr Gruetz replied that the mandatory ESA reporting will start in 2017 for the reference year 2015 and the table will have to be filled every three years with a time lag of T+24.. He mentioned that unlike the 2008 SNA, the ESA 2010 is legislated into law for the EU member states. The reporting will include a sensitivity analysis with respect to major actuarial assumptions; this will help promote clear and comprehensive communication on accrued -to-date pension entitlements. Furthermore, these results and the estimates of open system entitlements

will be presented in order to fully reflect outcomes of pension reforms and to allow for a complete interpretation of pension data.

(II) System of National Accounts (SNA) concepts of income and saving: Implication for pension measurement – country views

(1) *Review and issues encountered in the application of SNA concepts of income and savings on pensions fund measurements* - Derick Cullen (Australian Bureau of Statistics).

Mr Derick Cullen first gave an overview of Australia's pension system and the measurement of pensions. Since 1992, Australia has had a mandatory contribution superannuation (pension) regime for all employees. Schemes are mostly funded pension schemes; however there are a diminishing number of public sector schemes that are unfunded. For the last 10 years the ABS has worked in collaboration with regulatory agencies to record and measure pensions in parallel with the SNA basis of measurement.

Two measurement concerns that the 2008 SNA does not conceptually explain satisfactorily were then discussed. The first issue was under what conditions retained earnings are attributed to owners; and the second issue was the degree of imputation of stocks and flows (including pensions) that are included in the core accounts.

Mr Cullen, noted that there were at least three areas in 2008 SNA where retained earnings are recorded as distributed back to owners: retained earnings of direct foreign investment corporations; investment earnings of insurance technical reserve of pension funds and life insurance, and premium supplements contained in non-life insurance technical reserves; and retained earnings of investment funds. He concluded the logic used by SNA to record retained earnings seems to be the significance of control by investors. However, in applying the definition of retained earnings and investment income (excluding capital gains as prescribed by SNA) inconsistent results are obtained, for e.g. retained earnings are calculated for non-resident investors but not for resident investors. These inconsistencies are obtained because the SNA seems to deal with the issue of retained earnings in a piecemeal way by looking at transactions, and not in a complete end-to-end look of all the accounts. He acknowledged that to sort through this inconsistency, the definition of income needs to be looked at from end-to-end way (such as Hicksian view of Income) and be put on the SNA long term research agenda. For example, the recognition of expected capital gains needs to be looked at and the inconsistencies of the retained earning imputations need to be addressed.

The second measurement issue, the degree of imputation of pension stocks and flows that is included in the core accounts was discussed. Mr Cullen said that imputations for unfunded and under-funded pension schemes were a controversial issue (issue of debt) in Australia until accrual accounting for government was introduced in 1998. The ABS introduced these imputations for public sector employee pension schemes when the 1993 SNA was implemented and are attempting to work with the regulator to include these flows for unfunded private sector employee schemes. The ABS accepts the actuarial imputations for the various government jurisdictions and does not calculate any actuarial assumptions.

Mr Cullen then highlighted some puzzles in the SNA that need discussion and clarification. He referred to paragraph 17.18 of the 2008 SNA, where the last sentence seems to indicate that capital gains may be included as income, which is inconsistent with overall SNA treatment. He also highlighted the missing imputation in the SNA for property income flow between the

employer and an autonomous defined benefit fund. Not recognising these flows would impact on the current value of the fund, especially if the employer has an increased payment of obligatory benefits in a period.

Mr Cullen concluded his presentation by highlighting the importance of revaluations and other volume changes for pensions. Retirement income depends not only on transaction flows but these other flows. For example, the Global Financial Crisis and September 11 had an impact on Australian pension funds through the transmission mechanism in the financial markets, particularly through financial derivatives. Mr Cullen said that derivatives are difficult to measure in Australia and many countries, and therefore stressed the importance of improving methodology in the area.

During the discussion of the presentation, it was acknowledged that inconsistencies in definition of income as described in the SNA should be on the long term SNA research agenda. However, the research agenda contains the following topics considered to be of higher priority by AEG: implementation issues of 2008 SNA; globalisation; and to lesser extent, issues related to environmental accounting.

(2) *Comment on the treatment of defined benefit pension plans in the SNA* - Marshall Reinsdorf (US Bureau of Economic Analysis)

Mr Marshall Reinsdorf began by reviewing how a typical defined benefit plan operates. He clarified terminology used by SNA (and the equivalent terminology used in the US and from a pension literature perspective) for: pension entitlements (benefit entitlements/actuarial liability); unfunded actuarial liability; current service increase (service cost/normal cost); ABO and PBO approach; and pension manager (employer/plan sponsor).

Mr Reinsdorf then discussed the accrual-basis recording of the transactions of defined benefit (DB) pension plans as discussed in paragraphs 17.144 -17.186 and illustrated in Table 17.8 of the 2008 SNA. He went through the drivers of change in pension entitlements (service cost, interest payable on pension entitlement, benefits paid). He then explained 2008 SNA view of income and expenditure components from the perspective of the pension schemes and then the components of household total pension contributions (i.e. from a household perspective). Mr Reinsdorf then showed a diagram (last slide in his presentation) which showed the 2008 SNA pension flows presented above. However, the diagram illustrated an extra flow not in the 2008 SNA, "imputed interest cost of plan's funding gap" (unfunded actuarial liability), which he stated was the number one theme of his paper. The rest of his presentation covered the reasoning why the US plans to include the imputed flow from the employer to the pension fund in the upcoming implementation of the 2008 SNA.

The 2008 SNA approach shows savings of defined benefit plans as negative savings. Mr Reinsdorf went through some reasons as to why negative saving may occur. For example, pension managers often invest in assets that are expected to provide investment returns in the form of holding gains, which are not included as property income in the SNA. The dividends and the interest yield on these assets are less than the interest rate assumed in the actuarial calculation of normal cost and the actuarial liability. He also presented some arguments as to why the claim on the on the pension manager as stated by the SNA should be the claim on the employer.

Mr. Reinsdorf went through some reasoning as to why interest ought to be payable on the claim of the underfunded plan of the employer. For example, to enable the plan to pay the promised

benefits, besides making up the missed contribution, the employer must replace the property income that the plan would have been able to earn had the contribution been made on time. Mr. Reinsdorf stated, leaving the flow out makes an unsustainable situation look sustainable, and said this point was quantitatively important. And if this was the way it was presented in the national accounts, we would not be doing our jobs. For overfunded plans, reverse situation would occur, investment income on excess assets will reduce the need for future contributions.

Mr. Reinsdorf explained that the imputed interest income receivable by the pension plan is calculated on the unfunded actuarial liability, and this is equal to the imputed property income receivable by households, and therefore the saving of the pension plan is equal to zero. An advantage of this treatment is that the entrepreneurial income of the financial corporation sector is not distorted by negative saving in the pension plan component of the sector. Basically, zero saving for the plan was enforced by forcing down household income. He stated an alternative way to obtain zero saving for the pension plan would have been to bump up the interest payable by the employer to cover the entire funding gap. However, he did not want to do this treatment as it would overstate the employer pension expense, (as the imputed interest would be the difference between the interest on benefit entitlements and the property income of the plan) and make them more unsustainable. He wanted to give some credit to the employer for the expected holding gains used to pay benefits. Mr Reinsdorf concluded his presentation with a numerical example of the above flows.

During the question time of the presentation, *Mr Reinsdorf acknowledged that the inclusion of holding gains in the income received by households participating in pension plans may be inconsistent with the SNA definition of income if those holding gains are allowed to decrease imputed interest payable by the employer.*

Mr Michael Davies (from the ABS) made the point that even though when you work through the diagram (last slide of presentation) with the pension flows, the right result is achieved, the imputation of interest from the employer to the fund was inconsistent with treatment of imputed contributions which is recorded between the employer and the employee. If the cash settlement falls short of payment, then the employer owes the money to the employee, not the pension plan. Mr Reinsdorf pointed out that in the balance sheet entries when a pension plan is underfunded, the SNA records a claim by the pension plan on the employer (this ensures that the net worth of the fund is zero).

Mr Gruetz stressed that for current service cost the imputed employer contribution fills any period contribution gaps. Further imputations are therefore not necessary.

(III) Feedback from the OECD survey on pensions

(1) *OECD Survey on Pensions: Replies to general questions and data sources* - Michele Chavoix-Mannato (OECD)

Ms Michele Chavoix-Mannato stated the purpose of the survey on pensions (launched prior to workshop) was to collect information on the current situation in OECD and Key Partner countries regarding their recording of pension liabilities. The information would provide a clear picture of the situation in countries and therefore enable country comparisons.

 Information was collected on countries availability/implementation plans of supplementary table SNA 17.10 (ESA Table 29), on the main difficulties encountered to collect and compile pension liabilities, on the distinction between Defined Benefit (DB) and Defined Contribution (DC) plans

and collective and individual products. Countries were also requested to provide some data relating to demographics and macroeconomics indicators (including GDP per capita, legal age for retirement, life expectancy) as well as a description of the structure of their national pension system (three pillars: at the government, occupational and personal levels). Twenty six countries replied to the survey. The presentation was based on the paper which contains the replies to the five general questions of the survey and to one of the specific questions related to data sources. The annex to the paper provides the detailed answers to the general questions.

Ms Chavoix-Mannato went through the five general questions in the survey and provided a summary of the country replies. With regard to the availability of SNA Table 17.10 / ESA Table 29, seven counties have already developed the table and the majority of the remaining countries envisage completing the table at specified dates in the future. The main problems encountered by countries when compiling pensions' liabilities data were numerous, but, among them, the main reasons listed by countries were, (i) lack of data or incomplete data in existing sources, and (ii) inappropriate assumptions or updates or forecasts to calculate liability data. To the question on the ability for countries to split entitlements between defined benefit (DB) and defined contribution (DC) pension schemes, more than half responded that they are (will be) able to make the split. As for their ability to distinguish between pension entitlements within a life insurance company and other life products, twelve countries confirmed that they could distinguish the split while seven indicated they could not. The final general question was the use of specific models in the estimation of pension liabilities; ten countries use models, with three of the countries using very complex models with parameters and demographic assumptions. Remaining countries did not use any models.

Regarding data sources, Ms Chavoix-Mannato firstly went through some of the data sources used according to the type of schemes. For private pension schemes and public DC pension schemes, accounting standards data and regulatory data are used. For general government pension schemes (excluding DC schemes) estimates are partly derived from statistics, with both micro and macro data inputs. Ms Chavoix-Mannato also mentioned that many countries use alternative data such as general government data by economic function and household survey data for pension schemes. For non-general government and general government DB schemes recorded in the core national accounts, sources are mainly annual reports, surveys and supervisory data. For general government DB schemes and Social Security pension schemes not recorded in the core accounts, a large number of data sources are used, including annual reports, reports from ministries and supervisory authorities.

(IV) Use Demands

(1) *Australia's Intergenerational Report: Considering future liabilities of Government in a fiscal context*- Robert Ewing (Australian Federal Treasury)

Robert Ewing was unable to present his presentation, however the slides are available along with all other papers and presentations from the workshop in a separate document.

Session B - Conceptual and Measurement

(I) Pension systems

(1) The pension system in Chile - Claudia Maisto (Central Bank of Chile)

Ms Claudia Maisto began by describing the multi pillar Chilean pension system: these are the Contributive Pillar (a private monetary system for employed workers and are mainly Defined Contribution schemes); the Solidarity Pillar (funded by the State with the aim of preventing poverty in urban population); and the Voluntary Pillar (complementary system to voluntary savings). She mentioned three important milestones of the system: first was the creation of the system in 1981. Originally it was a state run, pay as you go (PAYG) system, but now it has been phased out towards a privatised DC scheme. Original members can stay in the old PAYG scheme or opt into the new scheme; new members can only join DC schemes. Second milestone was that in 2002 there was the adoption of the multi funds (five) schemes; the aim was to increase pension savings. And the final milestone was in 2008 when Chile introduced reforms to the system, which regularly change to ensure social protection of the members.

In December 2012, pension funds represented 61% of the GDP, and 63.3% of the working population contributed to these funds and the diversification of the invested flows are dependent on economic cycles.

Ms Maisto described the contributive pillar of the system: they are DC pension funds; compulsory; for employed workers who contribute 10% of their salaries into individual accounts; and members can choose the administrator and the type of funds. For pension retirement, she described the characteristics of the two modes, the programmed withdrawal and the immediate life annuity mode.

The pension systems are compiled in the Chilean National Accounts on a SNA 93 basis. Ms Maisto illustrated how the pension funds are captured through the allocation of primary income, secondary distribution income, financial and balance sheet accounts, of households and financial sector. She explained that data is sourced from financial statements and compiled in an integrated way. For the PAYG schemes left in the contrubitive pillar, these are DB schemes and are captured in the secondary distribution income account and balance sheets of households and central government. For the members in contributive pillar that opted out to the new DC schemes, the contributions in the old scheme are turned into a debt instrument of the government called "recognition bond", which members claim when they reach retirement. The solidarity pillar (is a form of social security), funded by the state and will not be a part of the pension schemes in the core accounts.

Ms Maisto concluded by touching on the 2008 SNA, and mentioned that the national accounts in Chile for pension funds almost fully compile with the recommendations presented, and for the rest of the recommendations, they could be considered in the 2013 benchmark compilation (expected publication 2016).

(2) Measurement of the social insurance schemes in Mexico, basis on the 2008 SNA - Martha Elena Tovar Soria (National Institute of Statistics and Geography, Mexico)

Ms Martha Tovar, provided the background of the Mexican pension system (National Pension System) within the broad social insurance system. The National Pension System includes a set

of institutions, schemes (defined contribution (DC) and defined benefit (DB) funds, and hybrids) and funds that operate simultaneously. Ms. Tovar then explained the two important reforms in the social security laws in the last 15 years that cover the private and public employee pension schemes, on the bases of these reforms the pension schemes with individual accounts (DC) and private administrations have increased. However, the DB schemes still exist, as the transition of reforms will take significant time to go through the National Pension System.

Within the National Pension System (which was separated from the national social insurance as part of the reforms) Ms. Tovar explained that there are two arms, social security and private social insurance. In social security, the private sector employees have DC schemes and the public sector employees have either DC or DB. In private social insurance, schemes can be either, DC, DB or hybrids: it is dependent on constitutions, ways of operation and the arrangements between employers and employees.

Ms Tovar illustrated that Mexicans contribute nearly 30% of their basic wage to social insurance schemes, approximately the same percentage for both private and public employees. For retirement, the pension contributions are 12% and 13% respectively for public and private employees. Mr Tovar then illustrated the 2008 SNA household secondary distribution account (as % of GDP) for the pension and non-pension social insurance by funded and unfunded schemes. She then explained the concern in Mexico regarding the pressures on the current social security system. In the 4Q 2012, the total population was 115.6 million, the working population was 48.2million, but there were 68.5 million people covered by social security. Of these 68.5 million people, 36% are active employees in schemes, 52% active employees who are beneficiaries and 7% are retired. Of the 7% retired beneficiaries, 99.9% of them are receiving benefits from unfunded DB schemes.

Ms Tovar illustrated how DC schemes operate, and the contribution and investments gains of the schemes (known as resources of the system of saving for retirement-RSSR) from December 2000 to December 2012. Even though the RSSR have had significant gains in the last 12 years, when comparing the amount in RSSR vs. M4 (monetary aggregate), it was 20% to 80%.

Even though reforms have gone through the pension system, with regard to DB schemes, more than half of private schemes are underfunded. For the public schemes, the government liabilities, the actuarial estimations of the future pension obligation report amounts around 104.2% of GDP, for the year 2010.

Within the work in progress that is being developed in the national accounts department in Mexico is the compilation of the supplementary table in pensions. The work is focused on columns D to G, since for the other columns it has been possible to include the information. The work was presented as an example for 2008 as percentages of GDP.

The main problem Mexican national accounts face is data on DC, DB and hybrid schemes being not fully reported. In the private sector the report is voluntary and in the public sector the entities do not submit enough data for auditor purposes. The measurement of pension entitlements for all covered employees in the DB schemes, and the lack of data to apply the actuarial methods are a major issue in for national accountant. Ms. Tovar mentioned that the way forward is to research the entities that sponsor the schemes, and consult the supervisory and auditor entities.

(3) *Pension liabilities in a context of an ageing population: the Portuguese case* - Ana Margarida de Almeida (Banco de Portugal)

Ms Ana Margarida de Almeida began by giving an overview of some worldwide demographic statistics. She highlighted that the 20ᵗʰ century had been the century of population growth (1.6 billion to 6.1 billion) and the 21st century is forecast to be the century of ageing, with people of 60 years increasing from 10% to 25%-45% by 2100. However, she noted that today, the world is divided, in Africa (including the Middle East) the population is still growing, while in Europe, East Asia and North America, the population is ageing rapidly. In the last decade, world population has increased from 6.1 billion to 7.0 billion, but has seen a dramatic drop in annual growth in 2011 to 0.1% growth. By 2050, the world population of those over the age of 60 is projected to triple, reaching 2 billion people. Europe has the highest proportion of older people and this will remain so for decades; more than one third of Europe's population is expected to be over 60 by 2050.

Ms de Almeida then discussed some of the trends and economic impact of ageing in Europe. While the global population is increasing, Europe's population is proportionally diminishing (Increase in life expectancy, decrease of the fertility rate and increasing mobility and immigration). The proportion of older workers will increase (projected for the EU 25 to 59% in 2025) and there will be pressure on government financing due to age related expenditure. The *pay-as-you-go* nature of most pension systems will necessarily limit social security revenues and will increase outlays. Given the public nature of most pension systems, imbalances in the social security are a contingent claim on government revenues, thereby playing a key role on debt sustainability. She noted that the population ageing will be even more important for European Union economies, in particular for those which are subject to a common monetary policy. A coordinated policy response would be key in fostering economic and financial stability in the euro area.

In the final part of the presentation, Ms de Almeida focused on population issues and pension liabilities of Portugal. She illustrated that the Portuguese population is ageing and it is projected to have impacts on the budget deficits (increase age pensions and decrease in the public pension contributions).

She stressed the importance of statistical data in policy making and discussed the *Contact Group (Task Force) on the statistical measurement of the assets and liabilities of pension schemes in general government,* which was established by the Committee of Monetary, Financial and Balance of Payments Statistics (CMFB) in 2008, and in which Portugal was member. An outcome of this group was the development of the ESA Table 29.

For Portugal an outcome to the work on the Contact Group was a joint project between *Banco de Portugal* and the *Research Center for Generational Contracts of the Albert- Ludwigs Universität Freiburg* to evaluate (estimate) and report (completed 2010) the pension entitlements for the Portuguese economy. The model estimates the accrued-to-date liabilities of the base year. Ms de Almeida highlighted the population data used for the estimations, including the type data (e.g. life expectancy) derived from EUROPOP projections. The population contributors and beneficiaries in the model were broken down by type of pension (old age, survivors and disability), which are reported by Social Security (SS) and Civil Servants' pension scheme (CGA). Ms de Almeida then presented some results from the model; the pension profile of SS and CGA, indicated a drop of benefits per participant for people over 65 years in 2011; and at the aggregate

level, Portuguese pension entitlement increased from 2007 to 2010. In 2011, pension entitlements were 326% of GDP and SS represented 70% of total pension liabilities.

Finally, Ms de Almeida discussed some reforms (especially between 2002 and 2006) undertaken by the Portuguese government, such as the inclusion of a sustainability factor to adjust pensions (from 2008 onwards) in accordance with changes in the life expectancy; and indexing rules for pensions are now linked to CPI and to the real GDP growth and not the national median wage. The small decline as percentage of GDP seen between 2010 and 2011 for pension entitlements may be due to the reforms.

(4) *Treatment of general government pension schemes in ABS Government Finance Statistics and the Australian System of National Accounts* - Amanda Seneviratne (Australian Bureau of Statistics)

Ms Amanda Seneviratne began with a background into the measurement of pension schemes in Australia. Australia recognised general government unfunded pension liabilities with the implementation of 1993 SNA and for 2008 SNA there were no major changes implemented for pensions. ABS provided a progress report at the 2010 WPFS/WPNA meeting which illustrated that ABS could not populate substantial number of cells of SNA 2008 Table 17.10. Not much has changed since 2010, but this paper will illustrate that ABS hopes in the next year or so to obtain some data to start populating table 17.10, especially with regard to the general government schemes.

Australian government employers provide defined contribution (DC) schemes, defined benefit (DB) schemes and hybrid schemes, for the past 20 years, the DB schemes have been gradually phased out and replaced by DC schemes. Ms Seneviratne proceeded to describe the role of the entities associated with the operation of general government superannuation schemes, such as the general government employer, superannuation scheme administrative unit; autonomous funds in the financial sector, notional ('non-autonomous) funds.

Ms Seneviratne, then went through the two data sources for general government superannuation estimates, these are Government Finance Statistics (GFS), Australian Prudential Regulatory Authority (APRA) and ABS Survey of Financial Information. She mentioned that the adoption of accrual accounting by the Commonwealth and State Governments in Australia in 1998-99 and the adoption by Australian Accounting Standards Board (AASB) of the Australian Equivalents of International Financial Reporting Standards have assisted the collection of pension data. In future, the work the ABS is undertaking in reviewing the ABS Government Finance Statistics (GFS) in parallel with the International Monetary Fund (IMF) review of their Government Finance Statistics Manual (GFSM), and the ABS submission in 2013 to the APRA superannuation collection review,
will hopefully result in better and more detailed estimates for pension schemes.

For the rest of the presentation, Ms Seneviratne presented some detail regarding the treatment of general government DC, unfunded DB and DB schemes with an autonomous pension fund (employer responsible for liabilities of scheme) in the Australian System of National Accounts (ASNA) and GFS. For each of these schemes, she highlighted the compilation issues encountered and the implication for SNA table 17.10. Finally, she discussed some solutions to the compilation issues, the solutions mainly revolved around consulting with the data providers of the statistics to obtain the detail required.

Presentations on day 1 highlighted a number of issues and discussions, mainly on definitions and concepts, on practices in countries and on the intensive data requirements to reach the goals. Non-EU countries questioned the representative of Eurostat about the key actuarial assumptions made and accepted by the majority of EU countries and the ability to adapt them to a changing reality. Mr Gruetz stated that, while it will be difficult for countries to deviate from the rules and recommendations already prescribed by the Task Force, they have some freedom to use their own rates but with good reasons. Moreover, there will be a regular review of assumptions but there will be no precise figures, e.g. for the discount rate in ESA 2010.

(II) Defined Benefit Schemes

(1) *Estimations of Defined Benefit (DB) Schemes: Main assumptions, and Current practices in countries, based on the OECD survey* - Michèle Chavoix-Mannato and Isabelle Ynesta (OECD)

Ms Isabelle Ynesta presented the key issues and assumptions relating to the measurement of defined benefit (DB) schemes. These include the key assumptions about wage growth, discount rate and demographics but also other assumptions such inflation rate, unemployment rate and future prevalence of disability. She explained the various concepts and highlighted that the choice between different assumptions may have a significant impact on the level of pension entitlements. In particular, the choice of the discount rate is one of the most important assumptions to be made in the modelling pension schemes, since its accumulated impact over many decades can be very large. She presented the recommendations made in 2008 by the Eurostat/ECB Task Force on the statistical measurement of the assets and liabilities of pension schemes in general government. She also discussed the issues related to recording under and overfunding DB schemes.

Ms Michele Chavoix-Mannato went through the specific questions asked on the OECD survey and the 26 country replies with regard to measurement of DB schemes. In particular, countries were asked to specify the assumptions that have been embraced in each country and the reasons why a particular approach has been adopted over another. Below id the information provided respondents:

- Wage growth: Estimating pension liabilities for DB schemes requires assumptions about the salary increases. There are in principle two systems that relate to this item, Accrued Benefit Obligation (ABO) versus Projected Benefit Obligation (PBO). The use of ABO and PBO varied between countries, and between public or private DB schemes. However, the PBO approach is generally used in most EU countries, often because it has been recommended by Eurostat or because it is a requirement of International Accounting Standards (IAS 19).

- Discount rate: The type of discount rate that the OECD countries used to estimate/calculate the current value of future retirement benefits of DB schemes may lead to important variation in measuring their pension obligations. Most countries used long term bond rates for private DC and DB pension schemes, but for government DB schemes, the type of discount rate applied varied according to the country and sometimes to the manager of the schemes (depending on whether it is a financial sector or the government).

- Demographic assumptions: Among the other types of indexation assumptions for pensioners and/or demographic assumptions that might be made in countries the most frequently used are: life expectancy, population, mortality, and fertility, whereas migration is often not taken into account.

- Other indexation assumptions: The main indexation assumptions made in countries to estimate pension liabilities of General Government DB schemes and Social Security schemes refer to the inflation rate.

- Recording under and overfunding DB schemes: For most countries, there are currently no estimates in the core accounts. For some countries however, there is a partial recording under certain conditions.

During the discussions of this presentation, Mr Michael Davies (ABS) commented that the results of the OECD survey seem to imply a large amount of actuarial work being conducted inside national statistical offices (NSO). It is unclear why NSO's would take on this type of complex work when we accept on a regular basis trillions of dollars in assets and liabilities across the whole economy, for example to measure international investment positions. He acknowledged that it is understandable as explained by Eurostat earlier, the need to be prescriptive in regards to the methods for calculating pension entitlements as it is required for comparability and administrative purposes. However it is unclear what motivation exists for any country outside of Europe to take on this type of work. He stated that actuarial work should be left to actuaries to calculate, and the statistical offices should accept these estimates. He also added, that the assumptions currently being discussed (as in the OECD survey) in terms of calculating an actuarial valuation provide only part of the picture. For example one of the most important variables is whether pension entitlements are transferred to a beneficiary, in case of death, which was not mentioned in any of the presentations or discussions at the workshop so far.

Mr Gruetz informed that the entitlements for survivors as well as disability benefits are included in the European supplementary table; as stated in ESA 2010 paragraph 17.123. Furthermore, Mr Gruetz indicated that actuarial data are not available for general government schemes and, as a consequence, they have to be estimated by EU countries in a comparable way.

Mr Marshall Reinsdorf (BEA) agreed in general with the approach of leaving the actuarial work to the actuaries. However there is a need to exercise caution if accepting the actuarial valuation provided by data providers. For example, in the US, some States have reported using unrealistic nominal discount rates (8%) in order to lower government liabilities. It is therefore necessary to adjust these results to make them plausible. Mrs Hume McIntosh (US Federal Reserve Board) confirmed that when the OECD asks to fill a questionnaire, they do, and they will fill the new 2008 SNA Table 17.10.

Ms Chavoix-Mannato reminded that the OECD cannot oblige countries to report data following strict rules. However, it will be useful that all OECD countries complete Table 17.10 and provide any information on the methods used (deviations from SNA standards). A brief notice could inform that the actuarial calculations remain the base for private pension schemes, but for government schemes, some adjustments should be made.

In summary, at the workshop there was general support for leaving the actuarial work to actuaries except in the case where there is a clear deficiency which needs to be rectified. Ms. Kara Rideout (IMF) agreed but also suggested the need to work with the source data regulators in order to ensure that the statistical requirements are factored into any changes to accounting standards that for example the actuaries use. She also referred to an example of such efforts –an

appendix in the upcoming revision to the GFS Manual, *GFSM 2013*, compares and contrasts International Public Sector Accounting Standards and GFS methodology. This appendix highlights areas where further alignment is possible and outlines the cooperative research agenda planned in response to the identified areas for improvement.

(2) Public Sector Employee Pension Liabilities and Assets: Implications for Canada's Total Government Debt Measures - Jen Collins and Brad Recker, presented by Joe Wilkinson (Statistics Canada)

Mr Joe Wilkinson presented a paper written by staff at the Finance Canada, which is the department responsible for fiscal policy. Specifically, the paper looks at how unfunded pension liabilities are measured internationally and the adjustments made by OECD to the data.

Mr Wilkinson gave an overview of the treatment of government DB schemes in the Canadian System of National Account (CSNA) balance sheets. In the CSNA, funded public sector pension plan assets are attributed to Trusteed Pension Plan (TPP) sector, which is part of the financial corporations sector. The net asset of the fund is recorded as a liability of the TPP sector, the unfunded and under-funded portion of pension obligations are recorded as a liability of the government sector, the unfunded and funded pension obligation are recorded as an asset to the household sector. The treatment in the CSNA is transparent; it makes the treatment of funded and unfunded plans symmetrical, impacting the surplus-deficit and gross and net debt measures.

Canada is one of few advanced economies that recognise unfunded pension liabilities when measuring gross and net debt; other countries include Australia and New Zealand. However, the unfunded liabilities are removed from gross and net debt measures for international comparisons by the OECD Economic Department (as a lot of countries do not recognise this debt). For example, in the CSNA, net debt of total government for 2011 is around 50% of GDP, but in the OECD Economic Outlook, it is recorded as 35% of GDP. Finance Canada does not agree with this OECD treatment.

Mr Wilkinson showed an example of the OECD treatment for two countries. Country A has 100% of unfunded pension liabilities, country B has some pension assets, funded through issuing debt amounting to 20% of GDP. When the OECD treatment is applied, country A with no pension assets has total liabilities of 0% of GDP and Country B with pension assets shows total liabilities of 20% of GDP.

The paper proposes an alternate treatment to the CSNA treatment to prevent unusual results after OECD adjustment. It suggests that another way to recognise the pension fund assets is to move them from the TPP sector to the government sector. The argument is if the government had not funded pension assets for its employees in Canada, both the employer and employee contributions would have been available to the general government to buy assets (or reduce debt) and therefore reduce the government net debt. Mr Wilkinson presented a graph that shows that, if this alternate treatment was applied, the OECD reported net debt position for Canada would be reversed to a net asset position.

Mr. Wilkinson concluded the presentation by stating that the current situation of different treatments across countries leads to misunderstanding of unfunded pension liabilities by international organisations. Financial indicators such as net debt should be harmonized across economies if the goal of international comparability is to be met

During the discussions of this presentation, Ms Ynesta (OECD) provided clarification that, within the OECD, there are 2 measures of debt that are disseminated. Whereas the Economic Department does not consider the unfunded liabilities in the Economic Outlook publication, the Statistics Directorate reports total liabilities, as transmitted by countries, including the unfunded liabilities when reported, within its financial indicators Dashboard. Ms Ynesta stressed the importance of the metadata to explain any deviations from the SNA, and indicated that these are used as a basis for any footnotes in the publication. Mrs Chavoix-Mannato confirmed that, in Table 17.10 that all countries, will be asked to provide data for both funded and unfunded schemes so that comparison across countries can be made.

Ms Kara Rideout (IMF) noted that the Ministry of Finance (Canada) presented the alternate treatment to the IMF for comment. The IMF did not support the proposal to shift the assets onto the government balance sheets. Mr Wilkinson responded that Statistics Canada does not support this approach as it is not transparent, but noted that it was a logical adjustment in order to improve international comparability with countries that do not recognise unfunded liabilities.

3. *The measurement for retirement benefit obligations in Japan's flow of funds accounts*- Sayako Konno (Bank of Japan)

Ms Sayako Konno gave an overview of Japan's pension plan system; she explained that they are grouped into three tiers. The first tier is pensions other than public pensions, which includes corporate pensions, personal pensions, and other pensions. The second and third tiers are public pensions. The second tier, an earnings-related pension, covers employees in the private sector, government employees or others who participate in employees' pension insurance or mutual aid pensions. The third tier is the national pension or the basic pension which covers all members of the society. All working generations are insured by the national pension, and receive the benefits of a basic pension with a fixed amount according to their participation period when they become old.

Japan has defined benefit scheme (DB scheme) and defined contribution (DC) scheme; most of Japan's pension types are DB schemes of which approximately 95% are corporate pensions. The DC pension plan (corporate and individual types) is a new pension plan introduced by the Defined-Contribution Pension Law which was enacted in October 2001.

Japanese Flow of Funds Accounts (JFFA) covers tier 1, the household sector records pension reserves on its asset side, while corporate pensions, insurance and other pensions sectors record pension reserves (retirement benefit obligations) on their liability sides. JFFA does not cover public pensions (tiers 2 and 3) as it is considered as transfer benefits from social security funds (government) in which contributions are not linked directly to benefits.

Ms Konno explained that in March 2011, JFFA started to record the full coverage of retirement benefit obligations (RBO), it includes part of actuarially calculated retirement benefit obligations not covered by corresponding financial assets. There are two important reasons for full coverage, first, the data became available to calculate unfunded obligation of corporate retirement benefit plans after the implementation of the retirement benefits accounting rule from April 2000 and second was the new treatments prescribed in the 2008SNA.

Ms Konno went through the three steps undertaken by actuaries in their calculation of the RBO (expected total benefits at retirement earned to date and discounted to the present value). The RBO are mainly comprised of pension assets, unrecognised liabilities and accrued pension costs. Prior to the revision, JFFA did not record unrecognised liabilities and accrued pension

costs. Unrecognized liabilities includes: (a) transition obligations; (b) actuarial gains/losses; and (c) past service liability (PSL). Accrued pension costs should be recorded as liability for retirement benefits, if it becomes an asset, it will be, prepaid pension costs.

Ms Konno showed some time series graphs from 2001, which illustrated the volume of the unrecorded portion in the non-financial corporations and banks sector. Non-financial corporations occupy more than 90 percent of the unrecorded portion of RBO, of which the unrecognised liabilities amounts to 10 trillion yen and the accrued pension costs amount to 15 trillion yen at the end of fiscal 2011. By contrast, banks occupy less than 10 percent of the unrecorded portion of RBO, of which, the unrecognized liabilities amount to 1.2 trillion yen and the accrued pension costs amount to 0.6 trillion yen.

Ms. Konno then illustrated how JFFA records part of actuarially calculated retirement benefit obligations which corresponds to unrecognised liabilities and accrued pension costs, in the household, private corporation, corporate pension sectors. The unrecorded portion has been back casted in the three sectors from June quarter 2002. Finally, Ms. Konno mentioned remaining tasks on recording the unrecorded portion of RBO: to refine stock data, to include companies other than banks and private nonfinancial corporations, to include unlisted companies; and to estimate transaction data.

During the discussion of the presentation, Mr Yosuke Tada (Cabinet Office of Japan) noted that there is currently a misalignment in Japan's current account and its financial balance sheets because the current accounts for the private DB plans are still based on 1993 SNA. Japan is aiming to implement 2008 SNA by 2016. However there are some difficulties in estimating current and past service cost as recommended in 2008 SNA because data are only available from the financial statements of listed companies. He noted that this lack of data would have impacts on the level of household savings.

4. *Adding Actuarial Information on Defined Benefit (DB) Pensions to the US National Accounts* - Marshall Reinsdorf (Bureau of Economic Analysis, USA)

Mr Marshall Reinsdorf stated that his presentation would cover the flow impacts of adding actuarial information on DB pension plans on the US national accounts, whereas the next presentation by Ms Susan Hume-McIntosh will cover the financial account and balance sheet impacts.

The US national income and product accounts (NIPAs) will change from a cash approach to an accrual approach for defined benefit pension plans as part of the 2013 comprehensive revision based on 2008 SNA. Currently, under the cash approach of the NIPAs, pension plan assets are treated as property of households.

Mr. Reinsdorf summarised the actuarial methods required to measure DB pension wealth, compensation type income, and ABO and PBO approach measures of normal cost. Mr. Reinsdorf highlighted the flow implication of using ABO or PBO. For ABO, normal costs for an individual employee tend to rise rapidly as the employee nears retirement (as average contributions increase due to salary increases at end of career) so aggregate estimates of normal cost tend to be higher using ABO than using PBO. Yet ABO estimates of benefit entitlements are lower than PBO estimates (provided that at least some of the plan participants are still in the employed phase of the life cycle).

Included in his presentation was the SNA treatment for DB plans which he included for completeness, but did not discuss in detail as he had done so in his previous presentation (Session A, (I) (2)).

Mr. Reinsdorf, discussed the special features of NIPA treatment, which includes elements such as: the mixed use of ABO and PBO approaches due to data availability; the property income that plans pay to households being equal to the sum of the property income received by plan assets; the interest received on the plan's claim on the employer for unfunded actuarial liability and; plans being treated as pass-through entities, that is their dividend income is paid to households as imputed dividend income, and their interest income is paid to households as imputed interest income. He highlighted some advantages of using the ABO approach: it fits the accounting definition of a liability, as it is not contingent on future events that are at the discretion of the employer and, the ability to benefit from future raises is highly uncertain for private sector employees; and private plans report ABO data on their tax returns.

Mr Reinsdorf summarised the data sources, and compilation methodology applied for the three types of DB plans: private; state and local government; and the federal government. He described in detail NIPA's presentation for the three types of plans for: 2008 SNA table 17.8; cash flow statement (which gives an idea what should be happening to assets); and a section which shows the effect of participation in DB on personal income, savings and wealth. The tables provide examples of numbers for 2007 calculated using the actuarial approach to be adopted by the NIPAs. He informed that the estimates are not official estimates, the official estimates will be available at the end of July; however the general pattern of the data displayed by the tables should be the same.

Mr Reinsdorf showed the impact of moving to accrual measurement of DB pensions on NIPA sectoral saving. The 2007 results illustrate that savings is expected to slightly fall in private business sector, and to increase significantly for the household sector, by 1.5% of disposable personal income(DPI). The state and local general government sectors will move from having a surplus to deficit and the federal government deficit will increase by 0.3% of DPI.

During the comment and discussion, Mr Michael Davies (ABS) commented on the ABO versus PBO approach, he felt that it is unclear why they are being treated as alternatives. They are different measures for different purposes. The ABO should be considered the conceptually correct way under the SNA to calculate the liability of a pension fund i.e. you do not incorporate possible future events (under the control of employers) into current liabilities. Meanwhile the PBO is more appropriate for pension funds administrators and governments who plan and clearly need to know what liabilities the fund is going to incur in the future. However PBO could be seen to be a reasonable approximation if an ABO valuation is not available. Mr Ross Harvey (ABS), mentioned that the SNA seems to imply that the ABO should be the method applied, even though it not specifically stated.

5. *Pension Liabilities in the U.S. Financial Accounts* - Susan Hume McIntosh (Federal Reserve Board, USA)

Ms Susan Hume McIntosh's presentation followed on from Mr Reinsdorf presentation, the Federal Reserve has been working closely with BEA to insure consistency as the US change the recording of pension liabilities. BEA will introduce their changes in the national accounts in July 2013. The Federal Reserve Board will incorporate BEA's changes and their own and present them in the September 2013 Financial Accounts and Integrated Macroeconomic Accounts (IMAs)

US Flow of Funds (FoF) accounts will use BEA's series on accrued liabilities for the three types of plans: private defined benefit (DB); states and local government DB; and federal government defined benefit DB. US FoF will follow 2008 SNA standards; however Ms Hume McIntosh highlighted the terminology for pension manager will be replaced by pension sponsor. A new table will be introduced which aggregates of all three pension sectors into one total public and private pension sector and includes both DB and DC plans, plus a memo item for total household retirement assets. (This will include DB and DC pension plans, plus Individual Retirement Accounts (tax-preferred retirement assets not directly tied to an employer- IRAs) and annuities at life insurance companies.) Ms. McIntosh indicated, FoF currently include DC plans, DB plans (liabilities equal assets held by pension funds), IRAs and life insurance annuities, and these are referred to pension reserves. Once the accrual liabilities are included in the new tables, they will be referred to as pension entitlements.

Ms Hume McIntosh went through the examples of the new tables for the pension plans that FoF intends to publish. She highlighted the important changes, such as the new instrument for the "claim of pension fund on sponsor" that illustrates the under and over funding positions and transactions of funds. She also explained why the claims by the pension fund on pension sponsor for private plans are recorded for non-financial corporations, and no claims are shown for the financial corporations sector.

She presented some of the information from the tables in graphical time series illustrating the impact of the new method for: pension entitlements; share of household retirement assets to total assets; composition of household retirement assets; and composition of total financial assets of total private and public pension plans. She provided two case studies (General Motors and Verizon Communications) to illustrate the change seen over time in the shift of DB plan to life insurance annuities. Both companies closed their DB plans to new employees. The company's objective was to lower the financial risk of their DB pension plan while improving the company's longer-term financial profile. Employers would no longer be exposed to fluctuating interest rates and investment results which can affect their contributions. Also with the shift of assets from a plan sponsor to an insurance company, the investment portfolio usually shifts from predominately equities to mostly high-quality corporate bonds.

Ms. Hume McIntosh presented a graph of total pension entitlements for both DB and DC plans for private, state and local government, and federal government pension plans. The graph showed that the state and local government retirement plans have had the greatest increase in pension entitlements and these plans are all DB plans, by contrast the private pension fund growth has been in the defined contribution plans which are totally backed by assets. The final graph presented showed the effect of recording pension entitlements on the sponsor's balance sheet. From 1968 through to the early 1990s, private plans' and state and local governments plan 'claims on sponsors were relatively small, indicating that they were fairly well funded. The dot-com bubble led to overfunding in the late 1990s (negative claims on sponsors) and the bust led to underfunding around 2000. The claims on the federal government by the federal government employee retirement funds continued to grow over the forty year period, with about $1.5 trillion in underfunding by 2007. As the only assets backing these plans are nonmarketable Treasury securities, the volatility of the stock market does not directly affect the claims on the federal government.

Ms. Hume McIntosh concluded her presentation by highlighting some of the immediate work in pensions they will be carrying out in next few months.

During the comment and discussion, Mr Derick Cullen (ABS) asked where the annuities and IRA's would be reported within SNA Table 17.10 for the US. Ms Hume McIntosh replied that these are not included in 17.10 which explains why the US is publishing household wealth separately in order to provide a clearer picture to their users. Mr Cullen then noted that there might be an issue with the design of table 17.10. That is, if the purpose is to explain retirement benefits then the table is not meeting this objective because certain tax preferred vehicles which are not tied to an employer would be missing. A question was asked to Mr Jens Guertz (Eurostat) to know if such types of investment vehicles exist in Europe. He mentioned that, for example in Germany, there are such vehicles which are included in social insurance schemes and recorded in Table 17.10 within the core accounts. Mr Marshall Reinsdorf (BEA) commented that this would indicate that Germany is treating them as if they are pension schemes. Mr Michael Smedes (chair) noted that as this is becoming a contentious issue, the scope of table 17.10 and definitions of schemes within the table will be discussed further in Session D.

(III) Country specific case studies highlighting difficulties/compiling data

1. Measurement of accrual pension expense and related assets and liabilities in Canada- Joe Wilkinson (Statistics Canada)

Mr Joe Wilkinson went through the current treatment of government sector unfunded pension liabilities in the Canadian System of National Account (CSNA) which was implemented in 2000. Unfunded government plans were recognised in order to align with all employer-based pension plans and to be consistent with government measures of pension liabilities in public accounts. Prior to this change, the representation of government debt was understated in the CSNA and were subject to volatility as unfunded plans moved towards becoming funded.   In addition, there were significant reforms to the social security funds in 1999 and the central government plan became autonomous in 2000.

Mr Wilkinson discussed the problem with the cash measure of pension contributions as part of employers' social contributions for government, where GDP is measured by the sum of costs, the volatility in pension contributions has affected the overall nominal GDP estimates as well as the GDP deflator. For the business sector, the cash treatment of pensions in labour income may result in an inconsistency with the way businesses have expensed pensions in their own financial accounts. . Special employer contributions to eradicate actuarial deficits are not expensed by business. Rather, they are adjustments to an off-balance sheet account. However, these are currently treated in CSNA as employers' social contributions of households, and a business expense must be imputed (and corporate surplus lowered) when these expenses are incurred. Employer actuarial deficit liabilities are treated as "other liabilities" of businesses and as "other assets" of households; these are subsequently allocated to pension assets of households, when the actual funds are disbursed to the autonomous plans.

Mr Wilkinson highlighted some issues with balance sheets entries as presented in SNA Table 17.10. In Canada there are social security trust assets; SNA table 17.10 does not cater to the recording of these assets in the core accounts as presented in the CSNA balance sheet accounts. Specially, table SNA 17.10 seems to imply that the funded social security assets should not be reported in the core accounts, and therefore if Canada took these assets out of the CSNA balance sheet account for consistency, then the CSNA balance sheet account would not balance, assets would not equal liabilities.

Mr Wilkinson discussed the move to accrual estimates of employers' social contributions related to pensions in 2015 or 2017 He highlighted that the need to define the accrual measure requires an understanding of the algorithm used to estimate pension expense and entitlements in both the corporate and government sectors. He illustrated this with an example from publicly available corporate financial statements which contained data reporting issues. For example, the item "current service cost with adjustment", the adjustments may relate to past service from prior years and actuarial assumption changes.   CSNA may have to take only the current service cost as the social contributions, and therefore costs related to past service adjustments would need to be treated as capital transfers between employer sectors (corporate, government and NPISH) and household sector.   For the balance sheet, he highlighted problems with government sector under/overfunding being included in unfunded liabilities using an ABO method.   Mr Wilkinson concluded by showing the sequence of the accounts, including the aggregates that the planned pension accrual changes will impact on.

2. *Pension statistics for the new ESA: compilation, modelling and some results for Portugal in 2011 -* Ana Margarida de Almeida (Banco de Portugal)

Ms Ana Margarida de Almeida provided some information from the *2009 Ageing report: Economic and budgetary projections for the EU-27 Member States (2008-2060), which* states that sustainability gaps emerge because the discounted values of all future primary balances are too small to offset current debt, and the 2012 report, states that total age-related budgetary expenditure is projected to increase on average by 3.6 p.p of GDP by 2060 in the EU27 and by 4.0 p.p. in the euro area.

Ms de Almeida discussed the methodological framework for pension statistics. She defined social insurance schemes (social security and employer related schemes) as the schemes of interest, and provided 2008 SNA definition of pension entitlements. She then went through three main reasons for changing the treatment of unfunded employer retirement pension schemes from the 1993 SNA to 2008 SNA, such as: different recording of funded and unfunded schemes lead to difference in countries of reporting of key variable of saving, income, financial assets and liabilities; in light of demographic developments and the foreseeable fiscal burden from ageing populations in almost all developed countries, there is well-founded interest in having available more comprehensive statistical information on commitments of governments, given the significance of unfunded employer schemes for the general government and the public sector; convergence of statistical and accounting international standards, the last (IPSAS) already recognising unfunded employer retirement pension obligations as liabilities; further, some theoretical criteria could be applied to distinguish pension schemes sponsored by general government which should be recorded in the core national accounts, from those schemes that should be recorded only in a new supplementary table on pensions.

Ms de Almeida described the Portuguese pension schemes: there are general government unfunded defined benefit (DB) schemes (on a *pay-as-you-go* basis) and non-general government DB pension schemes. Data are compiled using budget data, under co-operation between *Banco de Portugal* and National Statistics Institute, from the following institutions: the Ministry of Finance, the Insurance and Pension Funds Portuguese Supervisory Authority and the Ministry of Labour and Social Solidarity. In 2010, a contract between *Banco de Portugal* and the Research Centre for Generational Contracts of the *Albert-Ludwigs Universität Freiburg* was signed with the purpose of delivering a report and estimates for the Portuguese pension entitlements according to a model developed by the university. The model is an actuarial cross-section country model based on the accrued to date gross liabilities approach of government pension schemes, with the following assumptions: Projected Benefit Obligations (PBO) approach; GDP growth rate of 1.7%;

wage growth rate of 1.5%; discount rate of 3% (ten-year average of Euro area ten-year government bond yields); constant employment rate; and mortality/fertility rates (from EUROPOP2008). Migration was ignored. For 2011, results from the supplementary table showed that the entitlements of general government schemes not in the core accounts amounted to 209.3 billion euro for the Civil servants' pension scheme and 348.2 billion euro for the Social security general scheme, representing respectively 122% and 204% of GDP, which summed to 326% of GDP. By contrast, non-government employer schemes in the core accounts represented approximately 10% of GDP.

Ms de Almeida went through some of the compilation challenges: difficulty in identifying different types of pension schemes for the supplementary table; updating demographic information; and collection of information from the different institutions. Ms de Almeida concluded her presentation by highlighting some future work to be considered in the medium term: for example, the model used for the estimation of the supplementary table is based on an actuarial approach; however, it does not consider specifications in order to measure the main changes and future reforms related to pension schemes in Portugal. A dynamic general equilibrium model, including some additional assumptions, like demographic ones and other heterogeneous agents´ components such as ability and skills, might overcome this issue since it will rely upon the use of national specific assumptions.

3. *Statistical measurement of the liabilities of pension schemes in general government of Korea* - Sung-Ja Kim (The Bank of Korea)

Ms Sung-Ja Kim provided a description of pension schemes in Korea. Schemes are made up of private pension schemes which account for 35.6% of total pension scheme assets and public pension schemes, which are controlled by government. Within the government schemes, National Pension takes almost 94.9% of pension assets of public pension schemes. Individuals with special occupations, e.g. national and local public officials, professional soldiers and private school teachers, cannot take part in the National Pension and instead have their own employment-related pension schemes. Private pension schemes were introduced in 1994 in order to complement public pension schemes so that individuals would strengthen their own retirement income.

Korea plans to publish SNA supplementary table 17.10 after 2017. Korean government adoption of accrual accounting in government accounting system with implementation of 2001GFS has enhanced the implementation along with participation in conferences and technical working groups on the 2008 SNA measurement on pensions.

To date, all pension schemes in government sector are classified as not in the core account, with National Pension being classified into social security, and the government employee pension and military personnel schemes as defined benefit (DB) schemes. The private sector schemes fall into both defined benefit (DB) and defined contribution (DC) schemes.

Ms Kim presented as a case study, the methodology used for the government employee pension (GEP). She explained that the ABO approach is used, but after 2012 the PBO approach will be used for pension liabilities and cost measures. Ms Kim provided the detail methodology for the calculation of the pension liabilities and pension costs of GEP for 2011. She went through the methodology for actuarial assumptions for demography and financial conditions underlying the model (retirement rate, discount rate) for calculation of the liabilities. Ms. Kim, showed that in 2011, the model estimated that GEP pension entitlements was 290 trillion won, which was 23% of GDP; including the military personnel schemes, the entitlements increase to 27.6% of GDP.

Before the inclusion of the pension entitlements, Korean government debt was 37.9% of GDP, whereas with its inclusion, government debt increases to just over 60%, which Ms Kim said was perceived by the Korean public as a problem.

Ms Kim concluded with some of the problems and limitation of the model: the Korean economy is experiencing a declining interest rate environment, there is a gap between the true discount rate which reflects this structural change and the discount rate already calculated by the current method; new population census data indicate Korean life expectancy has increased from 80 to 85 years, this new data will lead to changes in pension liabilities and; ideally assessment should be carried out every year (as problems keep arising from actuarial assumptions). However there is possible scepticism among the public about the assessment results (too much variation in the amount of pension liabilities) and the result itself could lack credibility.

4. *Luxembourg's experience in compiling the ESA 2010 supplementary table on pension entitlements* - John Hass (Statistics Luxembourg)

Mr John Hass outlined the positives and negatives of undertaking statistical work in the regulatory framework of the ESA 2010. On the positive side: there is enhanced co-operation between Eurostat and the European Central Bank (ECB) which leads to clear methodological choice in ESA manuals; extensive guidance and interpretation of ESA is provided by Eurostat in form of compilation guides, workshops, taskforces etc.; and enhanced comparability of statistics across the European Union (EU). On the negative side: the increasing administrative uses of the statistics hinder application of better or logical solutions; comparability issues leads to lowest common denominator solutions and may block the search for optimal solutions; and the large EU membership (27 countries) makes compromise harder to attain and procedures have become very slow. Many of the highlighted postive and negative issues were experienced by Statistics Luxembourg (STATEC) when working on pension compilation: there was extensive preparation in form of Eurostat/ECB Task Force and workshops, guidance handbooks and participation in pilot exercise; however negotiations at ESA council level were long; and there was fear (from a political view point) of possible wrong interpretation of pension entitlement data; and some countries did not want to publish results.

Mr Hass provided a description of pension schemes in Luxembourg, the most important pillar is a mandatory scheme (the "general scheme"), which covers people working in the private sector. The scheme is a defined benefit (DB) scheme on a pay as you go basis. The pension is calculated according to a formula taking account of members' wages or salaries and the length of career. Most of the population belong to the general scheme with the exception of civil servants and other statutory employees of general government and two public companies. Pension reform in 2001 made all other schemes operate on terms very similar to the general scheme. Pensions cover old-age pensions, survivors' pensions, disability and early retirement pensions. Pensions are automatically adjusted to price changes every time the general price level as measured by the consumer price index has increased by more than 2.5%; and the rise of real wages every two years (voted by parliament).

Mr Haas presented the methodology and results from the STATEC pilot exercise on the compilation of the supplementary table (SNA table 17.10) on pensions (part of the work conducted by the Eurostat/ECB Task Force on pensions). The exercise concentrated on Social security pension schemes (column H of the supplementary table) and defined benefit schemes for general government employees classified in general government (column G) as these columns cover most of Luxembourg's pension system . STATEC worked with Inspectorate of Social Security's (Inspection générale de la sécurité sociale - IGSS) Service for Statistics, who

had expertise and very detailed data to conduct the required actuarial calculations. IGSS also undertook the pension estimates for Economic Policy Committee's Working Group on Ageing Populations and Sustainability, therefore the same model was used for the compilation of the supplementary table. The model allows for an estimate according to the accrued-to-date liabilities (ADL) concept. The model adopted hypothesis for: pensioners (life expectancy, indexation for prices and wages) and for current workers (average age of retirement and probability of not reaching age of retirement). The model used the PBO approach. Mr. Haas showed the results for 2008: the social security pension entitlements (column H) were 315% of GDP and DB for general government employees was 57% of GDP.

Mr Haas concluded by mentioning STATEC future work on pensions, it includes: another update of pilot exercise table, with more detailed data from IGSS to undertake analysis of hypotheses; the filling of data for supplementary pension schemes managed by non-general government units; and the plan to do voluntary transmission of ESA pensions table 29 in September 2014 (not wait till 2017).

Session C - Views of Pension Industry and Regulators on Measurement Issues

(I) Industry View

<u>(1) *Australian superannuation: a statistical outlier* – Ross Claire (The Association of Superannuation Funds in Australia)</u>

Mr Ross Clare stated that the Australian superannuation industry is quite different (in a positive way) from other countries: pension assets are relatively large ($A1.5 trillion), with Australia having the 4th largest pension assets to GDP (after Iceland, Netherland and Switzerland) and 5th largest in $US terms (after USA, UK, Japan and Netherland); high coverage of workers in private pension schemes; most members are in defined contribution schemes and; relatively high investment exposure to equities. Australia does have unfunded liabilities, mostly in government defined benefit (DB) schemes. The superannuation system is a maturing system. Already the size of superannuation assets means that superannuation funds form a very important part of the Australian financial sector. The Australian superannuation sector is large even in international terms, amounting to the 4th largest funds management industry in the world.

The current superannuation system started as a voluntary system, and covered a base of 40% of employees in 1980, but the 1992 government made the system compulsory through the tax system; now 9% of wages are compulsory contributions from employers. Today, almost all full time employees receive pension contributions, as do many casual and part time workers. In Australia, over a third of assets are in "hybrid" schemes with both a DB and DC component, but most are DC. Only 4% of assets are in pure DB schemes (around $A65 million), covering about 10% of employees, most DB schemes were closed 10 years ago. The liabilities of DB schemes to current and future pensioners are nearly $A300 billion; in addition, there is an $A80 billion government future fund (fund set up originally fund government pension entitlements). For private DB schemes, Mr Clare mentioned that under-funding was an issue during the global financial crisis; however, the regulator, Australian Prudential Regulation Authority, ensures that funds are back to funded status within 5 years. For the DC funds, most members in Australia have 70% exposure to equities, and this was reflected during the Global Financial Crises, 2008-09, when fund returns were on average -12.8%.

Mr Clare then went through some recent developments and Government initiatives in the industry and some of the challenges ahead with respect to statistical data coming through from the regulator and ABS household data on superannuation.

(II) Regulatory View

<u>*Australian superannuation data: APRA's data collection and publications* - Emily Doube (Australian Prudential Regulation Authority)</u>

Ms Emily Doube gave a summary of the prudential supervisory role of the Australian Prudential Regulation Authority (APRA) in its function in overseeing the superannuation industry for members. Role includes: minimising losses to beneficiaries; promoting financial stability and; promoting the integrity of retirement income policy. APRA undertake its role by setting prudential standards for the industry. One of the important facets of APRA's role is that its auxiliary function as a national statistical agency for the financial sector enables it to carry out its prudential

supervision. Ms Doube then gave an outline of some recent reforms occurring in the industry, including the enhancement of the prudential standards.

Ms Doube explained APRA is undertaking a review of the APRA 2004 superannuation collection. Currently, there is no primary user of the collection, this causes inconsistent reporting, and so the review will ensure that the new collection has clarity for each item being collected. She also mentioned that the industry is more complex and there is a lot consolidation within funds, so fund detail will be required in future collections to enable APRA to assess the funds. In future, APRA will be collecting more data, but will make it more accessible to the public,

Ms Doube explained that superannuation data is collected by APRA for: prudential requirements; for APRA's publications (increasingly governments have required APRA to publish fund statistics that assist transparency); on behalf of other agencies (ABS) and; for government policy formulation. Ms Doube described in detail types of data that are collected for regulatory purposes and how the data is used by supervisors.

Ms. Doube went through the challenges for superannuation data collection: the first challenge is to answer questions such as, are we measuring accurately what we want to measure? She gave examples of questions many users ask, that the current data sets are not able to answer. She then discussed the collection of information on the different fund structures and the challenge in how the data items should be compiled. Ms Doube explained the process involved in designing and collecting data on behalf of other agencies. The important challenge the ABS faces is the tension between the purpose of the APRA collection being for regulatory and economy statistic requirements. She concluded by discussing the work APRA is undertaking in designing new publication containing the new superannuation data collection.

Session D - Way Forward

Session D of the workshop was a round table discussion by delegates on the agreed outcomes of the workshop. Mr Michael Smedes (ABS) presented a summary (put together by the ABS delegates), which contained some of the issues and some 'likely' outcomes from the two and half day workshop for discussion. The issues/outcomes were categorised into concepts, methods and sources. The final outcome of the session would be a record of the agreed outcomes from the workshop, with a summary report being presented to the AEG meeting in May 2013.

- Concepts
- Methods
- Sources

(I) Concepts

The concepts were broken down into, those to go on the long term SNA research agenda and those for immediate consideration by AEG in May 2013.

Long term SNA research agenda

Definition of income

The delegates came up with the following recommendation:

- *The nature of income and the relationship with capital gains is an issue in the measurement of pension funds, as it is elsewhere in the SNA. Insurance (including pension) funds undertake their production processes with an explicit expectation of capital gains providing resources. To sensibly measure insurance output, these expected holding gains need to be considered in conjunction with property income flows. Workshop participants agreed that the issue of capital gains as income should be considered in the longer term SNA research agenda and in the short term requested a clarification of the exact meaning of SNA paragraph 17.18.*

During the discussion delegates acknowledged that outcome above falls into the broad area of the definition of income that has been discussed at length in the national accounts community, and is already on the SNA long term research agenda. However, delegates felt it was important to inform national accounts community that the issue came up again in the context of pension measurement during this workshop.

Immediate consideration by AEG (May 2013)

The purpose and coverage of table 17.10

The following issues were discussed:

- Whereas there was some agreement on the purpose of the table, some divergence in the countries appeared in the discussions.
  1. For some delegates, the aim of the table is to capture all liabilities related to pension entitlements, not only the liabilities relating to private pensions schemes , that generally are already well covered in the core national accounts, but the sum

of all government liabilities related to pension entitlements, including those that are not in the core accounts, of which the social security pension schemes;

2. For other delegates, the aim of this table is to ensure that all retirement related resources for the households are captured. This includes: individual saving accounts not related to employment, taken out solely on the own initiative of insured, which has tax incentives (encouraged by governments); and annuities provide by life insurance companies (which also has tax incentives in some countries). It was noted that such assets can be expressed as liabilities of the institutions offering such products as well as assets of households. The workshop acknowledged that the current design of the table does not accommodate the reporting of these two types of investment vehicles in a transparent manner.

- Lack of clarity regarding the recording of social security pension schemes:
  1. For many countries, the social security pension schemes are unfunded and not recorded in the core accounts, therefore recorded in column H of table 17.10.
  2. Other countries, such as Canada have parts of their social security that are funded, and therefore are recorded in the core accounts. However, the design of table 17.10 does not accommodate the recording of these funded liabilities.

- It was clarified at the workshop that the label for column J in table 17.10 is incorrect and should read "pension entitlements of non-resident households" as prescribed by the SNA paragraph 17.199. This column is included to capture significant entitlements that may be, for example, earned by cross border workers.

- The importance of the old age assistance (social assistance schemes) as a form of retirement benefit in some non EU countries (New Zealand, Australia, Canada and the USA). Social assistance is not provided as part of a participatory social insurance arrangement and so does not meet the test for inclusion within 'Social security' as defined by the SNA (17.88 and 17.90). Unlike social insurance schemes in many other countries, workers do not contribute to a pension or insurance, and the payment is available to all (in most countries it is subject to means testing). For example, in New Zealand nearly three quarters of pension benefits received by current retirees comes from such a social assistance scheme (known as "New Zealand Superannuation").

The delegates came up with the following recommendations:

- The delegates' recommendations are based on the clarification of the purpose of table 17.10 established during the workshop; and on criteria set up to define the scope of the table. Following this logic, delegates concluded that Table 17.10 represents well a full articulation of liabilities pertaining to retirement (with one exception - social assistance schemes). It included liabilities related to:
  (a) employment related pension schemes,
  plus the following two elements if they are not included in the core accounts:
  (b) government employee defined benefit schemes; and
  (c) social security pension schemes.

- Table 17.10 10 as prescribed by the SNA (and the equivalent ESA table 29) should be kept and unchanged.

- However, an additional table 17.xx "Household Retirement Resources" is recommended to capture all retirement resources (both funded and unfunded) available for household in order to understand their 'preparedness' for retirement.

- It was agreed that for both tables, countries should include metadata to clearly describe, for example: inclusion of particular schemes in the various columns; description of the structure of pension systems, including the stage of maturity; and population structure covered by schemes.

- Based on their experience in populating SNA Table 17.10, Statistics Canada agreed to draft the additional table (with appropriate fields but without data) showing this extended picture. The new table will include additional elements such as, individual retirement savings accounts, annuities provided by life insurance and social assistance. It was hoped that the table would be ready for discussion at the AEG meeting in May 2013.

- Following the release of the USA national accounts for the third quarter of 2013, the new Table 17.xx will be filled in with USA data and presented for consideration during the next meetings of the OECD Working Party on Financial Statistics (WPFS) and Working Party on National Accounts (WPNA), to be held on 30 September - 4 October 2013.

Imputation for property income for underfunded defined benefit schemes

The delegates came up with the following recommendation:

- The workshop recommended AEG to consider the treatment of imputations for under-funded and over-funded schemes. It is necessary to record interest accruing, on the unfunded liability, between the employer and the pension fund. There are two ways to calculate this imputed property income flow - (i) Imputed flow from fund to households less actual fund earnings or (ii) net unfunded liability times the discount rate.

It was noted that this recommendation (with option (ii) for measurement) was brought forward by the BEA and discussed at 2012 AEG meeting, there was some support at the time, but AEG did not put forward any recommendations. It was agreed for the 2013 AEG meeting, more detail treatment, including more detail on the two options on how to calculate the imputation would be presented to AEG.

Clarification of the exact meaning of SNA paragraph 17.18

The delegates came up with the following recommendation:

- Delegates felt that the last sentence in the paragraph could be misinterpreted and therefore clarification was sort as to the exact intent of the paragraph.

(II) Methods

The delegates came up with the following recommendation:

- **Actuarial modelling**

The workshop agreed that best practice was to use estimates from actuaries/supervisory authorities wherever possible, rather than statistical agencies developing their own estimates.

Actuaries have been specifically trained and employed to undertake these tasks and so are best placed to compile estimates. National accountants should be trained in order to understand the different actuarial concepts and to disseminate the relevant metadata on national pension entitlement estimates. In particular for government unfunded pension schemes (including social security) estimates from actuaries are often not available or suffer from inadequate assumptions. In these cases collaboration between all national institutions (e.g. social security, ministry of labour) should lead to proper modelling reflecting the fair value of pension entitlements. In this regard the workshop took note of the European Regulation (ESA 2010) and further recommendations for comparable calculations of pension entitlements for unfunded government pension schemes.

- **Review of assumptions (in particular, regarding discount rates and growth rates)**

Where statistical agencies undertake the estimation themselves, the workshop strongly recommended periodic reviews of assumptions underlying the estimates. These reviews are necessary to keep abreast of changes in the economy. However, the assumptions (such as discount rates, wage rate movements etc.) should be based on medium to long term averages and it is not recommended that they be reviewed annually.

- **Projected Benefit Obligation (PBO) versus Accrued Benefit Obligation (ABO)**

The workshop noted that the method used in countries for the measurement of defined benefit schemes (private or public schemes) depends on circumstances. Therefore, no specific recommendation is made, but methodological notes need to be provided to explain the choice of the method used. However, the International Public Sector Accounting Standard (IPSAS 25) recommends applying the PBO approach to measure pension obligations of defined benefit plans. Business accounting standards, in particular the International Accounting Standards 19 (IAS 19), also recommend the PBO approach. The ESA 2010 rules regarding the valuation methods; ABO vs. PBO; are in line with these international standards.

- **Measurement of non-core social security and old age social assistance**

The workshop noted that further research work needs to be undertaken on the valuation of social security and old age social assistance liabilities. In the future, discussion needs to undertake on the appropriate valuation methodology to apply and on the appropriate assumption to include in such methodology.

(III) Sources

The workshop made the following recommendations on the following issues:

- **Regulatory and Government Finance Statistics Data**

Typically pension schemes are highly regulated. The workshop recognised the critical role of regulatory and Government Finance Statistics (GFS) data in providing information required for the System of National Accounts. GFS data is currently the weakest point for many countries' estimates of pension schemes. It was acknowledged that the update of the GFS manual is an important step towards better measurement. The workshop recommended that in order to compile comparable and complete data across countries all statistical agencies should move to adopt the updated GFS standards as soon as is practical. In particular, National Statistical Offices (NSOs) should seek to influence the data collection activities of regulators and should stress the importance of the requested data about pension schemes on the transparency and sustainability of current and future debt.

- **Accounting Standards**

The workshop recognised the importance of working closely with Accounting Standards Bodies to influence standard settings and recommended the adoption of government data that adheres to the International Accounting Standards (IAS).

- **Data Gaps**

The Workshop recognised that it is difficult to collect data relating to migration (including data on migrant workers after retirement) and recommended better cooperation between countries regarding cross border related information.

The organisers of the workshop informed all participants that a short report with a list of recommendations, and key issues identified during the meeting, both resolved and unresolved, will be finalised very soon after the workshop so that it can be presented and discussed at the AEG meeting end May 2013. Then a full record of presentations and discussion, as well as the proposed table 17.xx on 'Household Retirement Resources', will be on the agenda of the next OECD meeting of the Working Party on Financial Statistics and Working Party on National Accounts (30 September – 4 October 2013).

ANNEX

OECD-ABS Workshop on Pensions

Brief Summary Report

Introduction

1. The OECD/ABS workshop on pensions was held in Canberra, Australia from 22-24 April 2013. Over the three days, discussion covered conceptual, methodological and country experience in the measurement of employment related pension schemes (including social security) in the full sequence of the SNA accounts and the supplementary SNA table 17.10.

2. Overall discussion reinforced the importance of the measurement of pension schemes within the System of National Accounts. Funding retirement incomes with an aging population, understanding the obligations on government, increasing debt concerns and the sustainability of consumption patterns are common issues to all developed countries. Though the strategy of encouraging increased savings for retirement, via pension schemes and other initiatives, is common to most countries, there are substantial differences in how these strategies have been implemented across countries. The differences in the operation of pension schemes (and other arrangements to finance retirement) across countries result in difficulties in collecting and disseminating internationally comparable data.

3. Similarly the prioritisation of policy questions, and hence the information data set required to answer these questions, is different across countries in the OECD. There are two broad priorities which are related but distinct:

   - the ability of the general government to meet its obligations leading to a focus on the liabilities of the general government sector; and

   - the ability of households to fund their lifestyles in retirement leading to a focus on the assets of the household sector.

4. Given the common and global nature of funding retirement, it is essential that countries and international organisations continue to work through these issues to produce standards that promote the full recording of international comparable data.

Summary of Outcomes

5. The workshop agreed to the following outcomes.

SNA Data Presentation - SNA Table 17.10/SNA Table 17.xx

6. The workshop noted that the main purpose of table 17.10 is to provide comprehensive information on all pension schemes included and excluded from the SNA sequence of accounts, and supported the mandatory nature of the table in order to provide a clear picture of pension entitlements on an internationally comparable basis.

7. The workshop acknowledged that table 17.10 does not allow for a number of schemes which are designed to encourage household savings for retirement which are not part of social insurance and therefore does not present a complete picture of household preparedness for retirement and consequently of households financial wealth after retirement. For example, private savings schemes taken out by households solely on their own initiative and not linked to employment.

8. The discussion of the workshop revealed a possible different treatment of individual policies where government provides tax incentives or allowances. Eurostat reported that individual policies which are encouraged by government (e.g. via tax benefits for labour income) are classified in social insurance when the participants are insured against old age. These contracts are reported in column A of table 17.10. However, Canada classifies similar schemes as private saving taking place outside social insurance and therefore outside table 17.10. Other countries extended the scope of the discussion and stressed the possible importance of social assistance as part of old age income.

9. Statistics Canada agreed to draft an additional table (with appropriate fields but without data) showing an extended picture. The new table 17.xx "Household Retirement Resources" is included in Appendix 1. The purpose of this supplementary table is to display household resources available for retirement.

10. While participants acknowledged the importance of Table 17.10, especially in capturing government liabilities relating to pension entitlements, a clarification of the purpose of Table 17.10 and the endorsement of the additional supplementary Table 17.xx will solve the reporting problems encountered by countries (described above) and therefore help define which pension/savings arrangements need to be included in each of the two supplementary tables.

11. Following the release of the USA national accounts for the third quarter of 2013, the new Table 17.xx will be filled in with USA data and presented for consideration during the next meetings of the OECD WPFS and WPNA (30 September - 4 October 2013).

Conceptual Issues for Immediate consideration by AEG

Imputed property income flows between employers and autonomous defined benefit pension funds

12. The workshop recommended AEG consider treatment of imputations for under-funded and over-funded schemes. It may be necessary to record interest accruing, on the unfunded liability, between the employer and the pension fund. For further detail see Appendix 2.

Conceptual Issues for Long Term SNA Research Agenda

13. The nature of income and the relationship with capital gains is an issue in the measurement of pension funds, as it is elsewhere in the SNA. Insurance (including pension) funds undertake their production processes with an explicit expectation of capital gains providing resources. To sensibly measure insurance output, these expected holding gains may be considered in conjunction with property income flows. Workshop participants agreed that the issue of capital gains as income should be considered in the longer term SNA research agenda and in the short term requested a clarification of the exact meaning of SNA paragraph 17.18.

Methodological Issues

14. The Workshop made specific recommendations on the following issues:

- **Actuarial modelling**

The workshop agreed that best practice was to use estimates from actuaries/supervisory authorities wherever possible, rather than statistical agencies developing their own estimates. Actuaries have been specifically trained and employed to undertake these tasks and so are best placed to compile estimates. National accountants should be trained in order to understand the different actuarial concepts and to disseminate the relevant metadata on national pension entitlement estimates. In particular for government unfunded pension schemes (including social security) estimates from actuaries are often not available or suffer from inadequate assumptions. In these cases collaboration between all national institutions (e.g. social security, ministry of labour) should lead to proper modelling reflecting the fair value of pension entitlements. In this regard the workshop took note of the European Regulation (ESA 2010) and further recommendations for comparable calculations of pension entitlements for unfunded government pension schemes.

- **Review of assumptions (in particular, regarding discount rates and growth rates)**

Where statistical agencies undertake the estimation themselves, the workshop strongly recommended periodic reviews of assumptions underlying the estimates. These reviews are necessary to keep abreast of changes in the economy. However, the assumptions (such as

discount rates, wage rate movements etc.) should be based on medium to long term developments and it is not recommended that they be reviewed annually.

- **Projected Benefit Obligation (PBO) versus Accrued Benefit Obligation (ABO)**

The workshop noted that the method used in countries for the measurement of defined benefit schemes (private or public schemes) depends on circumstances. Therefore, no specific recommendation is made, but methodological notes need to be provided to explain the choice of the method used.

Data Source Issues

15. Typically pension schemes are highly regulated. The workshop recognised the critical role of regulatory and Government Finance Statistics (GFS) data in providing information required for the System of National Accounts. GFS data is currently the weakest point for many countries estimates of pension schemes. It was acknowledged that the update of the GFS manual is an important step towards better measurement. The workshop recommended that in order to compile comparable and complete data across countries all statistical agencies should move to adopt the updated GFS standards as soon as is practical.

16. The workshop recognised the importance of working closely with Accounting Standards Bodies to influence standard settings and recommended the adoption of government data that adheres to the International Accounting Standards (IAS).

17. The Workshop recognised that it is difficult to collect data relating to migration (including data on migrant workers after retirement) and recommended better cooperation between countries regarding cross border related information.

Issues for consideration

18. The AEG is requested to:

a) Clarify the purpose of SNA Table 17.10.

b) Discuss the draft supplementary Table 17.xx "Household Retirement Resources" to develop recommendations for countries to report all pension schemes including schemes which are not part of social insurance.

c) Discuss property income imputations for under-funded and over-funded schemes, that is to record interest accruing on the unfunded liability between the employer and the pension fund.

d) If (c) is endorsed, does AEG have a preferred methodology (see paragraph 10 and 11 in Appendix 2)?

e) Put a high priority on the issue of capital gains as income which is already included on the longer term SNA research agenda. This includes the short term clarification of the exact meaning of 2008 SNA paragraph 17.18.

Appendix 1: SNA Table 17.xx "Household Retirement Resources"

DRAFT

		Liabilities appear in the core national accounts								Liabilities do not appear in the core national accounts				
		Counterparty sector to Household Assets			Non-general government		General government							
		Directly Held Household Retirement Schemes						General government employee defined benefit schemes						
Row number	Position / transaction / other flows	Directly Held Household Retirement Schemes linked to tax incentives	Directly Held Household Retirement Schemes linked to annuities	Directly Held Household Retirement Schemes - Other (Please Specify)	Defined contribution schemes	Defined benefit schemes	Defined contri-bution schemes	In the financial corporation sector	In the general government sector	In the general government sector	Social security pension schemes	Social assistance schemes	Total Pension schemes	Pension entitlements of non-resident households
	Column number	A	B	C	D	E	F	G	H	I	J	K	L	M
	Opening balance sheet													
1	Pension entitlements													
	Transactions													
2	Social contributions relating to pension schemes													
2.1	Employer actual social contributions													
2.2	Employer imputed social contributions													
2.3	Household actual social contributions													
2.4	Household social contribution supplements													
2.5	Less Pension scheme service charges													
3	Other (actuarial) accumulation of pension entitlements in social security funds													
4	Pension benefits													
5	Adjustment to the change in pension entitlements													
6	Change in pension entitlements due to transfers of entitlements													
7	Change in entitlements due to negotiated changes in scheme structure													
	Other economic flows													
8	Revaluations													
9	Other changes in volume													
	Closing balance sheet													
10	Pension entitlements													
	Related indicators													
	Output													
	Assets held by pension schemes at end-year													
	Valuation Method for entitlements													

Empty cells show where entries appear in the main ("core") accounts. Black cells show where no entry is appropriate. Grey cells show where information is provided in the supplementary table only
Row 2 is the sum of rows 2.1 to 2.4 less 2.5
Row 3 is the analogue of employer's imputed contributions in the case where government has assumed the ultimate responsibility for any shortfall in pension provision
Row 5 is the sum of rows 2 and 3 less 4
More information on the components underlying rows 8 and 9 to be shown in a further supplementary table to allow an assessment of the degree of uncertainty in these estimates.

1. Column A would be used for assets of the household sector such as the Individual Retirement Account (IRA) in the USA or the registered retirement savings plan (RRSP) in Canada. Governments encourage households to save for retirement by offering tax incentives which permit the deferral of current income tax. As companies in Canada have evolved away from defined benefit schemes, households have been encouraged to save in these types of schemes in preparation for retirement and these assets are earmarked and held in trusts for individuals.

2. Column B would be used for retirement related annuities. In Canada (and the USA), money moves out of pension schemes (DB or DC) and into annuities. This can take place at retirement and the annuity represents a payment mechanism for the liquidation of assets which have accumulated during employment.

3. Column C would be used for other types of household savings plans which are not included in Column A or B, but still related to retirement. The type of plans in Column C should be specified by the respondent economy.

4. Column K would be used to report schemes such as the old age pension.

5. Row "Valuation method of entitlements"- This row is included to indicate the basis of valuation for the pension entitlements. Accumulated benefit obligation as well as projected benefit obligation are methods for the evaluation of DB plans. Other valuations should be noted such as market value in the case of DC plans or directly held household retirement schemes.

6. Row 2.5 was added to deduct pension service charges (as is shown in the ESA Table 29). This moves up the output information from the related indicators row of table 17.10 to social contributions.

7. For description of Columns D to J, L and M, see description for SNA table 17.10.

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Appendix 2: Imputed property income flows between employers and autonomous defined benefit pension funds

1. Chapter 17 of 2008 SNA provides a detailed description of the way in which employer sponsored pension schemes should be recorded. A clear distinction is made between defined contribution (DC) schemes and defined benefit (DB) schemes. There are no problems with the treatment of DC schemes. However, there is one aspect of the recommendations regarding DB pension schemes that does not seem appropriate. The issue relates to the need to record imputed property income flows between an employer and an autonomous pension fund if the schemes are underfunded or overfunded (in the case where the employer retains full responsibility for the benefits payable to his past and present employees).

2. Consider the case of an underfunded DB scheme with an autonomous pension fund where the employer retains full responsibility for the benefits payable to his past and present employees. 2008 SNA discusses and illustrates such an example in paragraphs 17.167 to 17.174 and in Table 17.8. In the last sentence of paragraph 17.169 it is noted that there is a difference between imputed interest payable to employees and the property income earned by the pension fund and ends with the statement "... but it is not shown in the current accounts." However, the reason for not doing so is not given.

    17.169 In the allocation of primary income account, investment income is also shown. The increase in pension entitlement coming from past service, due to the unwinding of the discount factor because retirement is one year nearer, is 4. This is shown as an imputed flow of investment income from the pension fund to households. At the same time, the pension fund actually earns 2.2 from investment income of the funds they manage. At this point, therefore, there is a shortfall of 1.8 in the pension fund resources but it is not shown in the current accounts.

3. In Table 17.8 the employer is not shown as being responsible for the difference between the past service increase and the actual investment income of the pension fund in either the income accounts or the financial account (i.e. an amount of 1.8 is not accounted for). This implies that this amount must be recorded in the reconciliation accounts as either a 'revaluation' or an 'other change in volume'. However, it is hard to justify treating this amount as either a 'revaluation' or an 'other change in volume'. The solution to this apparent anomaly is simple. Record an imputed property income flow from the employer to the autonomous DB pension fund of 1.8 in the allocation of primary income account. This treatment was recommended in Annex 1 of a paper by Francois Lequiller presented to the AEG meeting, 19 to 23 March 2007, in New York. A link to the paper is copied below: http://unstats.un.org/unsd/nationalaccount/AEG/papers/m5TFpensions.pdf

4. The need for such a treatment is reinforced by comparing how two similar DB schemes (one totally unfunded and the other significantly underfunded) are treated in 2008 SNA. In the case of a fully unfunded DB scheme two imputed flows to the household sector will be recorded in the employer's income accounts:

    (i)   current service increase (imputed employer contributions) and

    (ii) past service increase (imputed property income)

5. However, in the case of a significantly underfunded DB scheme only one imputed flow - *(i) current service increase (imputed employer contributions)* - will be recorded in the employer's income accounts.

6. There does not appear to be any justification for not showing an imputed property income flow from the employer to the pension fund in the latter case to allow for the fact that the employer effectively owes interest on his unfunded liability to the pension scheme. It could be argued that the employer's saving will be overstated if no imputed property income flow to the pension fund is recorded.

7. By analogy if a DB pension scheme is overfunded there may be a need for an imputed property income flow from the pension fund to the employer.

8. Brent Moulton, Bureau of Economic Analysis, raised this issue under Agenda Item II at the 7th Meeting of the Advisory Expert Group on National Accounts, 23-25 April 2012, New York. A link to the paper is copied below:
    http://unstats.un.org/unsd/nationalaccount/aeg/2012/M7-272.pdf

9. Marshall Reinsdorf, Bureau of Economic Analysis, also reiterated his concerns in two papers listed below at the workshop:

    (a) Comment on the Treatment of Defined Benefit Pension Plans in the SNA, and

    (b) Adding Actuarial Estimates of Defined Benefit Pension Plans to National Accounts, Dominque Durant, David Lenze and Marshall Reinsdorf, October 2012.

How to calculate imputed property income flows between the employer and an autonomous DB pension fund

10. There are two main ways in which the imputed property income flow between the employer and a DB pension fund could be calculated in the case of an under-funded DB scheme:

    (i) net unfunded liability times the discount rate, or

    (ii) total pension liabilities to households times the discount rate less actual property income earned by the fund (excluding capital gains).

11. The International Accounting Standards Board requires corporations to follow the treatment described in *IAS 19, Employee Benefits*. This accounting standard recommends the use of option (i) above, whereas Francois Lequiller's paper proposes using option (ii). In the forthcoming comprehensive revision of their national accounts BEA intends to measure transactions of defined benefit pension plans on an accrual basis for the first time, see attached link from March 2013 issue of the Survey of Current Business. Pages 21-25 in the article clearly illustrates BEA treatment to include imputed property income flows from the employer to an underfunded autonomous pension fund using option (i) above.
    http://www.bea.gov/scb/pdf/2013/03%20March/0313_nipa_comprehensive_revision_preview.pdf