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Article

Employment-related pensions in public sector finances

An explanation of the changes in pension estimates in the National Accounts which has resulted in improved data for funded and unfunded public sector pension schemes being used in the public sector finances.

Contact:
Eduard Moskalenko
Eduard.Moskalenko@ons.gsi.gov.uk
+44 (0)1633 456738

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1 . Summary

The European System of Accounts 2010 (ESA 2010) introduced changes to the way that defined benefit pension schemes are recorded in the national accounts and public sector finances. In September 2014, when ESA 2010 was introduced into the UK National Accounts, the public sector statistical aggregates were revised to incorporate the net pension liabilities and associated imputed flows of the Local Government Pension Scheme (LGPS), a funded public sector pension scheme.

Since the original change in 2014, we have conducted a classification review of other large funded public sector pension schemes and identified other cases where government should be considered liable for the provision of pension benefits. We have also reviewed and identified improvements to the methods and data sources we use to compile government's net pension liabilities and to model the associated imputed contributions.

The improvements to the methods and data sources, as well as the inclusion of the additional funded public sector pension schemes are being implemented in the Public sector finances release on 21 September 2017. This article is being published alongside this release to explain the rationale for those improvements. It also explains how the pension changes affect the main fiscal aggregates of public sector net borrowing (PSNB), public sector net debt (PSND) and public sector net financial liabilities (PSNFL). The magnitude of the revisions themselves is available in the revisions section of the public sector finances bulletin.

2 . Introduction

Since 2014, public sector finances (PSF) statistics have been produced in accordance with the European System of Accounts 2010 (ESA 2010). Unlike the previous statistical framework, which assumed that households are entitled to the assets held in employment-related pension funds, ESA 2010 recognises that this may not be the case when pension payments are specified by the pension scheme rules, for example, a formula based on the final salary or a career-average wage. Such pension schemes, known as defined benefit (DB) schemes, may be underfunded or run a surplus.

ESA 2010 requires pension scheme liabilities and assets to be recorded as a net pension liability, that is, accrued-to-date liability for underfunding (which can be negative should the scheme run a surplus), on the employer's balance sheet. As a result, an imputed contribution representing the amount that the employer needs to pay each year to fund the estimated change in the pension fund deficit is now also applicable to such DB schemes.

We included the accrued-to-date net liability for the Local Government Pension Scheme (LGPS) along with the associated imputed flow in the PSF statistics in 2014, but mentioned at the time that we would be further improving our pension estimates. As part of this wider work programme on improving the pension estimates in national accounts, we have reviewed the statistical classifications, data sources and methods of compiling pension statistics. Additionally, we have reviewed the methods for compiling the unfunded pension scheme data and changed the way in which we model imputed contributions.

This article discusses these changes in detail and identifies where there will be effects on fiscal aggregates within the PSF statistics. The structure of the article is as follows:

- section 3 explains the theory behind how pensions are recorded in the public sector finances
- section 4 explains what is changing in the way that we are reporting funded public pension schemes
- section 5 explains what is changing in the way that we are reporting unfunded public pension schemes
- section 6 summarises the changes and concludes

The article does not show the magnitude of the effects of the changes on the public sector finances as these are shown in the Public sector finances bulletin being released alongside this article on 21 September 2017.

3 . Pensions in public sector accounts

Pension managers and administrators

In the context of employment-related (occupational) pensions, employers and their pension funds are seen as distinct types of economic agents. With the exception of multi-employer pension schemes, pension funds themselves are assumed to be mere administrators; as such, they are not responsible for the deficit nor are they entitled to keep the surpluses[1]. Any difference between the assets and pension liabilities is routed to the pension manager, normally the employer or the unit acting on its behalf (for example, should the original employer cease to exist). For instance, as a result of privatisation or liquidation of a public corporation, government may become a manager for its pension scheme.

Additionally, the statistical framework recognises that occupational pensions are provided in the interest of employees and thus represent another form of remuneration of labour, and that pension entitlements are therefore an asset for the employees.

These simple principles underlie a relatively complex system of interactions between employers (pension managers), employees (households) and pension funds (pension administrators). Owing to its focus on the public sector and the fiscal aggregates, the public sector finances (PSF) statistics capture a sub-set of such interactions.

Funded and unfunded pension schemes

As noted in the previous section, employment-related pension schemes are considered in economic statistics to have a pension manager and a pension administrator. Funded pension schemes are those where the employee and employer pension contributions are used to purchase a ring-fenced pool of assets, which are then used to finance payments of pension benefits. Public sector examples of funded pension schemes are the Local Government Pension Scheme (LGPS) and the BBC Pension Scheme.

In specific circumstances, the manager and its pension scheme can be part of one institutional unit and therefore one institutional sector. Even so, the employer is considered as being involved in two separate economic activities. The most common example is when the pension scheme is unfunded; in other words, the scheme has no ring-fenced pool of assets that it can use to invest and generate a return – instead, the employer provides pension benefits on a pay-as-you-go basis.

Such unfunded schemes often use different types of actuarial models to set contribution rates compared with their funded counterparts. A simple comparison of assets (which, by definition, may only be collected for liquidity purposes) and liabilities of an unfunded scheme is far less indicative of its sustainability than in the case of its funded counterparts. A public sector example of an unfunded pension scheme is the Civil Service Pension Scheme.

In compliance with the European System of Accounts 2010 (ESA 2010), funded and unfunded pension schemes are recorded differently in the public sector finances and wider national accounts. Of particular note is that the stock of liabilities associated with public unfunded pension schemes are not recorded on the public sector balance sheet.

Pensions in the public sector balance sheet

The public sector is the pension manager of both funded and unfunded pension schemes. As noted previously, no liabilities are recorded in the public sector finances for the unfunded pension schemes but the liabilities of the funded schemes are recorded. To reflect the pension manager's perspective, the net pension liability is recorded for funded schemes, not gross entitlements of public sector employees and gross assets held in pension funds.

Although net pension liabilities are recognised on the public sector balance sheet for funded pension schemes, the main UK public sector debt aggregate, public sector net debt (PSND), consists of the public sector's financial liabilities in the form of loans, debt securities, deposit holdings and currency, less its liquid financial assets (mainly foreign exchange reserves and cash deposits). In other words, not all assets and liabilities recorded on the public sector balance sheet are used to derive PSND.

In the case of funded pension schemes, the net pension liability is not a component of PSND and so does not affect the fiscal debt aggregate. Similarly, public sector net pension liabilities are not a component of Maastricht Debt, the official EU measure of member states' general government debt.

In recognition of the partial balance sheet coverage of PSND and Maastricht Debt, the UK government introduced in November 2016 a new supplementary fiscal aggregate, public sector net financial liabilities (PSNFL), which includes all financial assets and liabilities. Given this wider balance sheet coverage, the PSNFL aggregate does reflect the net pension liabilities related to public sector funded pension schemes.

It is worth stressing that the PSNFL aggregate follows national accounts concepts and principles set out in ESA 2010, as does the public sector finances more generally, and as such the liabilities associated with public sector unfunded pension schemes are omitted.

As noted previously, the PSF statistics record the net pension liabilities associated with funded pension schemes and not the gross assets held by the scheme and the gross liabilities (households' pension entitlements). The rationale for this treatment is that what is most important fiscally is the difference between the pension liabilities and the assets, which reflects the position of the public sector as pension manager. Inclusion of the pension scheme assets on a gross basis could be misleading given the ring-fenced nature of those assets.

PSNFL is largely unaffected by this net treatment as it is calculated as the difference between all public sector liabilities and all public sector assets. However, there will be some small effect due to the difference between the market and face value of gilts held by the public sector funded pension scheme. This reflects the fact that PSNFL is a public sector consolidated aggregate and gilt liabilities in PSNFL are recorded at face value, whereas gilt assets held by the pension scheme are recorded at market value.

Pensions in public sector net borrowing

Public sector net borrowing (PSNB) is the difference between all public sector expenditure and all public sector revenue over a period of time. As with the public sector balance sheet, the reporting of pensions in the PSNB reflects the perspective of the unit who is the pension manager. What this means for funded pension schemes is that public sector expenditure only reflects the employee and employer contributions (both actual and imputed) paid into the funded schemes, whereas the pension benefits paid out by the pension funds themselves are not part of the public sector expenditure. Therefore, PSNB is increased each year by the total value of all contributions into the funded pension scheme within that year. The contributions are recorded in public sector expenditure as a component of the compensation of public sector employees.

In the case of unfunded pension schemes, the same unit is both the pension manager and the pension administrator and as such both the pension contributions and pension benefit payments are recorded in PSNB. The pension contributions are recorded as both social contributions, to the pension administrator, and as compensation of public sector employees, while the pension benefits are recorded as social benefits (paid by the pension administrator). The net effect is that, for unfunded pension schemes, PSNB is increased each year by the total value of all pension benefits paid out in that year.

As a result of this, the change in the funding position of the scheme (real or notional), although recorded for both funded and unfunded schemes, only affects PSNB in the former case. The reason for this is that contributions into funded schemes, which include the imputed flow that the manager needs to pay to finance the deficit, are part of both the pension manager's expenditure and the pension administrator's revenue. In the case of funded schemes, where only the pension manager transactions are recorded, PSNB is a function of pension contributions. By contrast, in the case of unfunded schemes the pension contributions are recorded as both public sector expenditure and revenue and PSNB is dependent on the value of pension benefits payable.

Other presentations of public sector pension data

As explained in this section, the PSF statistics only capture a sub-set of all transactions and stocks related to public sector pensions. Of particular note is that in compliance with ESA 2010, the stocks of liabilities associated with unfunded pension schemes are not recorded on the public sector balance sheet. Estimates of such unfunded liabilities are nonetheless available in a single table, in the form of the Supplementary Table for Accrued-to-Date Pension Entitlements in Social Insurance. Currently, we have only published this table for 2010 on an experimental basis, but in 2018 we plan to publish the revised and updated table for the period 2010 to 2015.

Another source for data on public sector pensions is that reported in HM Treasury's Whole of Government Accounts (WGA). WGA follows business accounting concepts and principles and as such there are a number of differences between its recording of pensions and that followed in national accounts and public sector finances, which is in accordance with ESA 2010. Most notably, there are differences in the valuation of pension entitlements and in the coverage of public sector pensions.

Like the public sector finances, WGA records in its main Statement of Financial Position pension liabilities (and implicitly assets) on a net basis, although unlike the public sector finances it includes net liabilities for both funded and unfunded employment-related pension schemes.

Notes for: Pensions in public sector accounts

1. In economic statistics, a multi-employer pension scheme is a scheme that not only collects contributions from multiple employers but also pools risks and is entitled to keeping the surpluses. In doing so, it acts similarly to insurers.

4 . Changes to recording of funded pension schemes

Scope

Most UK public sector employees are members of the unfunded pension schemes, which means that the adoption of the European System of Accounts 2010 (ESA 2010) framework with its new approach to funded schemes in 2014 had limited effect on the public sector finances (PSF) statistics.

Among the most significant changes was the inclusion of the actuarial estimate of government's net pension liability (and, more importantly for the fiscal aggregates, the imputed change in the liability for which the government is responsible) for the Local Government Pension Scheme (LGPS). The LGPS is a funded statutory pension scheme, and local authorities are required by law to provide pensions to their employees. We noted at the time of first publication in 2014 that a number of other, much smaller funded occupational defined benefit (DB) schemes were also offered to public sector employees and initiated a classification review of these schemes to determine whether or not the liability for these schemes should also be included in the PSF statistics.

Statistical classification

As explained in section 3, the PSF statistics consider pensions from the pension manager's (employer's) perspective. The concept of pension manager used in economic statistics is broadly similar to that of pension sponsor used in corporate accounting but there are important differences in determining which institutional unit bears the actual liability for paying out pension benefits. This renders the use of information based on the accounting standards such as the International Financial Reporting Standards (IFRS) inappropriate for the purposes of PSF statistics.

We reviewed potential public sector DB pension schemes through the statistical classification process, which considers the rules set out in the ESA 2010 and the accompanying Manual on Government Debt and Deficit.

Between September 2015 and November 2016, we reviewed large schemes with government involvement and in most cases ruled that government should be recognised as the pension manager. The schemes classified to the public sector include the closed BBC defined benefit pension scheme, the Audit Commission pension scheme, the British Coal Staff Superannuation Scheme, the Mineworkers' Pension Scheme, the Bradford and Bingley Staff Pension Scheme, the Transport for London pension fund and certain sections of the Railway Pension Scheme. The full list of the schemes reviewed can be found in our Public Sector Classifications Guide.

Estimating pension liabilities

Section 3 explains that where a public sector unit is found to be the pension manager, the liability for any underfunding should be recorded on the public sector balance sheet. To estimate the value of the net liability, it is necessary to do a valuation of the assets held in the pension fund and to produce an actuarial estimate of the gross liability (the accrued-to-date entitlements of the pension scheme members).

Similar estimates are regularly produced and often published by the pension schemes themselves. However, the calculation of pension liabilities in public sector finances statistics relies on a set of assumptions, such as the discount rate, prescribed by the ESA 2010 framework. These assumptions will often differ from those used by the schemes' own actuaries. We therefore worked with the Government Actuary's Department to develop methodology that would allow us to produce accurate estimates of pension liabilities using the administrative data.

The application of a harmonised set of assumptions in economic statistics ensures international (and inter-scheme) comparability, however, the results may differ numerically from the equivalent figures reported for non-statistical purposes. For this reason, the estimates of net pension liabilities differ from those reported in the Whole of Government Accounts, which are compiled in accordance with the International Financial Reporting Standards.

The actuarial data do not become available in the same timely manner as the data for the other financial assets and liabilities on the balance sheet. Therefore, the inclusion of pension liabilities in the fiscal aggregates requires the use of forecasts. While we have sought to ensure that our models are based on a sound set of assumptions and reflect all the information available to us, retrospective revisions are inevitable owing to the properties of the underlying data. The size of pension liabilities and their sensitivity to economic events further means that such revisions may be material in the context of the public sector finances.

Estimating imputed transactions

The change in the funding position of the scheme over time is recorded as employers' imputed contributions (D.122). This imputed contribution is defined as "the increase in benefit due to current period of employment less the sum of the employer's actual contribution, less the sum of any contribution by the employee, plus the costs of operating the scheme". Unlike any actual contributions (D.121), it therefore does not correspond to an actual cash transaction. Its recording is nonetheless essential under the accrual basis. Crucially, the imputation does not change the overall, long-term value of employers' contributions (D.12) but does affect the timing profile: if the manager facing a deficit in the fund should raise actual contribution rates, or make an extraordinary contribution, this will, all else unchanged, lead to a lower (or possibly negative) imputed flow in that period.

We first introduced the imputed contributions associated with the LGPS in 2014. At the time, the lack of available data and limitations of our model did not allow us to employ the best methodology for producing an uninterrupted time series. In compliance with the statistical rules, we therefore estimated the imputed flow as a proportion of compensation of employees, based on the relationship we observed in the time periods with good data availability.

Since then, more data have become available to us and we have worked with the Government Actuary's Department on improving the model. As with the value of net pension liabilities, it is important to note that the administrative data only become available with a time lag that can sometimes reach three years. As a result, the estimate of the imputed flow in the most recent years is liable to revision as administrative data become available.

Effect

As a result of our programme of development work related to funded public sector pension schemes, we are able in the PSF statistics of 21 September 2017 to implement improved estimates for the LGPS and introduce estimates for newly classified pension schemes, within both central government and local government. At this stage it has not been possible to implement these same improvements in the wider national accounts and they are scheduled instead to be introduced in the national accounts over 2018 and 2019 as part of a wider piece of work to improve pension estimates.

The changes implemented encompass both the imputed contribution flows and the net pension liability. In economic statistics, net pension liability is formally denoted as claims of pension funds on pension managers (AF. 64). In section 3, we explained that changes to the net pension liability do not impact public sector net debt (PSND) but do affect estimates of public sector net financial liabilities (PSNFL).

The change in the funding position of the scheme over time is recorded through employers' imputed contributions (D.122) which, as explained in section 3, is a component of public sector net borrowing (PSNB). The inclusion of the additional schemes does not necessarily mean that imputed contributions, and hence PSNB, have to increase. Should the scheme's deficit be decreasing, for example, when actual contributions are sufficiently high to outweigh the rise in entitlements, all else being equal, imputed contributions would be negative, lowering the borrowing measure.

Details of the effect of the revised estimates for LGPS and the inclusion of the additional public sector funded pension schemes can be found in the revisions section of the Public sector finances statistics published on 21 September 2017.

5 . Changes to recording of unfunded pension schemes

Scope

Considerable heterogeneity in design remains a feature of the UK public sector pension system. Consequently, several sub-types of unfunded pensions were historically distinguished in the UK economic statistics. However, pension reforms over the last two decades have brought about a degree of harmonisation. Additionally, although the methodology for recording unfunded schemes remains largely unchanged with the introduction of the European System of Accounts 2010 (ESA 2010), the new framework offers some clarity on how cases where contributions are consistently lower than the benefits should be presented.

To increase transparency and internal consistency of economic statistics, we have reviewed our data sources for unfunded pension schemes so as to harmonise our approach to the recording of the flows associated with various unfunded pension schemes.

Flows associated with unfunded pension schemes

There are two distinct forms of employers' pension contributions, namely actual (D.611) and imputed (D.612). As a general principle, actual contributions reflect the flow of money into the pension account as specified by the rules of the respective scheme. Contrary to their name, actual contributions can be real or notional cash flows. Notional cash flows exist where the employer is required in law to put aside a percentage of employees' remuneration but in practice does not conduct a true economic transaction.

Some unfunded schemes in the past were not contributory or had actual contribution rates consistently below those necessary to finance the accruing benefits. Just as in the case of the funded counterparts, imputed contributions into unfunded schemes are aimed to capture the implicit costs of pensions borne by employers and ensure they are recognised as remuneration of labour.

We have reviewed the application of these principles of recording actual contributions to various sub-categories of unfunded schemes, which has resulted in a shift of several flows from their historic treatment as imputed (D.612 or D.122) to a more appropriate category of actual social contributions (D.611 or D.121), and a change in the way in which we model the remaining imputed contributions. We have also concluded that personal pension transfers in and out of unfunded schemes should be separated from social contributions (D.61) and social benefits (D.62) and recorded as other capital transfers (D.99).

Estimating imputed pension contributions

While most public sector pension schemes are financed on a pay-as-you-go basis, where current (employer and employee) contributions fund payments of pensions to retired members, they now recognise accrued future obligations and produce resource accounts annually. Most schemes undergo actuarial valuation every three to four years. The employer contribution rates are set separately for different bands of employees using the Accruing Superannuation Liability Charge (ASLC) or equivalent mechanisms.

Generally, the contributions are set to meet the cost of all accruing benefits rather than the cost of benefits payable to the existing retired members. The contribution rates are, therefore, regularly reviewed and amended with the view of ensuring both the sustainability of the scheme in the long term and its affordability to the taxpayer. If the actuarial valuation finds that contribution rates are insufficient to meet the cost of accruing benefits, employer and/or employee contribution rates are increased and/or measures are implemented to reduce benefits. This mechanism ensures that imputed contributions are always close to zero (on average, imputed contributions are zero by design).

In the past, we estimated imputed contributions for a sub-set of unfunded scheme as net benefits, that is, the difference between benefits payable and contributions receivable. This approach provided economically meaningful estimates when the relationship between the number of active participants and their retired counterparts remained broadly stable over time, as were the scheme rules. These assumptions are no longer viable; more importantly, imputed contributions as defined by ESA 2010 are by no means designed to be a cash concept and should not be estimated as net benefits.

Indeed, the labour efforts that gave rise to the benefits now had been exerted long ago, when the present pensioners were active employees. Thus, using cash flows, which net benefits are, underestimates past and overestimates present labour costs if the benefits outweigh the contributions. As a result of this, we have judged that as long as the ASLC mechanism is used in an unfunded scheme then zero is a reasonable approximation of the true value of imputed contributions.

Effect

As with the funded public sector pension schemes, we are able to implement improved estimates for the unfunded public sector pension schemes in the Public sector finances release on 21 September 2017. Unlike the improvements being made to the funded pension scheme estimates, these changes to the unfunded public sector pension schemes will be reflected in the wider national accounts in the Quarterly National Accounts, due to be published on 29 September 2017, and the Blue Book 2017, due to be published in October 2017.

As explained in section 3, imputed contributions into unfunded schemes do not themselves affect public sector net borrowing (PSNB) as pension contributions are simultaneously expenditure (as a component of compensation of employees, D.1) and income (as employees' investment in pensions, D.61) for the pension manager. Despite this, the value assigned to the imputed flow provides a useful insight into the changes in the notional funding position of the unfunded schemes. The PSF statistics only separately identify total public sector pension contributions (actual and imputed) but the imputed contributions are visible within the sector accounts of the wider national accounts.

As well as enhancing the methodology, we have reassessed data sources used in the compilation of unfunded pension statistics and made some improvements. The changes to PSNB are primarily driven by the revisions to Police and Firefighters' pension scheme data. We also identified in the data and separated pension transfers from pension contributions (D.61) and benefits (D.62) respectively. Such transfers, particularly when they happen between a funded and an unfunded scheme, are more appropriately recorded as capital transfers (D.9). This change affected public sector current budget deficit (PSCB) owing to the reclassification of the transactions from current to capital, but had no impact on PSNB.

The international statistical framework is prescriptive in that unfunded pension liabilities should not be recorded on the government balance sheet and as a result do not affect either public sector net debt (PSND) or public sector net financial liabilities (PSNFL). We are, however, carrying out the work to quantify accrued-to-date liabilities related to government unfunded pension schemes (in balance terms). These estimates will be available in the Supplementary Table for Accrued-to-Date Pension Entitlements in Social Insurance once published in 2018.

Details of the effect of the revised estimates for the actual and imputed contributions of public sector unfunded pension schemes can be found in the revisions section of the Public sector finances statistical bulletin published on 21 September 2017.

6 . Conclusion

In 2014, the European System of Accounts 2010 (ESA 2010) became the basis for compiling national accounts and public sector finances statistics. The implementation of ESA 2010 led, for the first time, to the recording of the net pension liability of the Local Government Pension Scheme (LGPS) and the imputed contributions flow. These imputed pension contributions can be seen as the amounts that the employer needs to pay to fund the change in the pension scheme's deficit.

Since the original change in 2014, we have improved the methodology for estimating pension liabilities of funded pension schemes. Most importantly, we have improved the method of modelling the imputed flow. We have also extended the coverage to include not only the Local Government Pension Scheme (LGPS), but also other public sector pension schemes in central government.

In addition to these changes, we have revisited the recording of unfunded pension schemes and harmonised the recording of various schemes. This has led to a presentational shift of employers' contributions into several schemes from imputed to actual, and changes in the way we impute in general. As part of this work we have taken the view that for schemes that use the Accruing Superannuation Liability Charge (ASLC) mechanism, over a long time series, zero is a reasonable approximation of the true value of imputed contributions.

The statistical framework recognises that funded and unfunded pension schemes are fundamentally different in the way pension benefits are financed. Consequently, the two types of pensions affect the fiscal aggregates differently. On the public sector balance sheet, the improved estimates of net pension liabilities (accumulated deficit) for the funded schemes, such as LGPS, affect the public sector net financial liability (PSNFL) supplementary aggregate. Net pension liability is not a component of public sector net debt (PSND); hence, this measure is not impacted. Unfunded pension liabilities are not recorded on the government balance sheet and as a result do not impact either public sector net debt (PSND) or public sector net financial liabilities (PSNFL).

Public sector net borrowing (PSNB) is also affected by an improved estimate of the imputed contributions into the funded pension schemes. The presentational changes to the contributions into the unfunded schemes do not, on the other hand, lead to the revisions in PSNB because pension contributions are deemed to be simultaneously expenditure and income for the employer. We have, however, revised other data relating to unfunded schemes where the new sources have become available. As a result of these data improvements, there are revisions to public sector net borrowing (PSNB). None of the changes affect public sector net cash requirement (PSNCR).

The changes to the reporting of both funded and unfunded public sector pension schemes will be implemented in the Public sector finances release on 21 September 2017. Details of the effects will be available in the revisions section of that bulletin. Only the changes to unfunded pension schemes will be implemented in the wider national accounts in September 2017, with the changes to funded pension schemes following in 2018 and 2019 as part of a larger work programme on pension estimates.