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The Concept of Implicit Liabilities in the Theory and Practice of Finance

Summary. *The paper raises the issue of implicit liabilities in terms of its long-term sustainability of pension scheme. On the basis of relevant literature, the main characteristic of implicit liabilities are demonstrated together with the major challenges connected with soaring implicit public debt triggered by unfunded pension schemes.*

Keywords: *public debt, implicit pension debt; pension system reform*

1. Introduction

The assessment of public finance stability of is far from being complete if it overlooks crucial factors of mounting fiscal risk in terms of long-term public income and expenditure dynamics. As the consequence, the overall sustainability of public finance system should be perceived not only through the current legislation, which recognizes these categories of inflows and outflows that has an immediate influence on the current public finance in terms of explicit debt. More thorough approach implies that the analysis of prerequisites for public finance stability also covers a wide scope of factual obligations of public authorities. Many of these obligations take the form of implicit liabilities, especially in systems of public services such as pension and healthcare schemes. The problem is that implicit liabilities are not legally biding in official debt statistics because of their long-term nature and non-obligating nature in public accountancy.

The aim of this paper is to demonstrate the nature of implicit liabilities on the basis of pension scheme to pinpoint their growing importance to public finance stability in the context of acute shortcomings of PAYGS pension scheme and market trends.

2. The complex approach to liabilities in public finance

Implicit liabilities constitute a crucial prerequisite for the change in long-term public debt taking into consideration high amount of funds accumulated within public security systems. They arise as a consequence of presumed public expenditure on the basis of the current scope and level of contributions inflows. The main characteristic of implicit liabilities is a time gap between the origin period of contributions charged (i.e. inflows to the system) and actual benefits paid to the contributors (i.e. outflows to the system). Given their "hidden" nature, these liabilities do not show up in government balance sheets and national statistics but in fact, their long-term consequences to the public debt are non-negligible because of constant deficit in public security systems and unfavourable demographic trends[1]. The above reasons make implicit liabilities mostly unrecognisable in current politically-driven measures to curb public debt.

However, the process of accruing pension contributions, deducted from the income of employees within pension and social security care systems, constitutes in fact the form of Treasury obligations which ought to be settled in due time. These liabilities involve rising expectations of citizens connected with appropriate standard of public services (e.g. constant improvement in public medical care standards) or political pressures with a long-term implications (e.g. contribution reductions in certain professions as pension privileges). Nevertheless, implicit liabilities do not usually refer to long term expenditures such as education or defence, which are largely paid on a current basis.

The important characteristic of implicit liabilities is their non-urgent nature as the contribution period and pension benefits are widely deferred in time. The implicit conventional debt is rolled over across generations and current contributions are turned into debt as they are paid out in form of pension benefits[2]. Thus, implicit liabilities aggravate the sustainability of the public finance in the long term by reducing the responsibility of current governments for the constant deterioration

[1] Ch. Kane, R. Palacios, *The Implicit Pension Debt: Concepts and Measurement*, "Finance & Development" 1996, Vol. 33, No. 2, p. 36.

[2] R. Fenge, M. Werding, *Ageing and Fiscal Imbalances Across Generations: Concepts of Measurement*, "CESifo Working Paper" 2003, No. 842.

public finance. Moreover, implicit public liabilities are difficult to be evaluated accurately, since the amounts of future payments depend on a number of various factors included in the schemes as the result of current political pressures on the government. Furthermore, the public pension scheme is often managed in such a closed manner that a financial market methodology with discounted cash flows is not applicable. Last but least, implicit liabilities have long-term nature but they are under current influence of each government, which is tempted to modify the setting of the whole system according to its myopic political needs.

In this context, pension schemes in terms of implicit liabilities are subject of extensive analysis in the literature. Most common pay-as-you-go pension schemes (PAYG) involve inevitably implicit public liabilities to be settled in due time in future[3]. The size of implicit debt reflects the expected payments towards current contributors but the scale of future benefits are more connected with future demographic and economic developments than with the scale of current contributions. With this regard, current contributors are only given a promise on legal grounds to receive pensions with a right replacement rate. Within PAYG scheme outstanding benefits are to be financed from future contributions, so the pension implicit debt is rolled over from one generation to another with its cornerstone concept of "generational solidarity". Yet collected contributions are fully spent out to finance current pensions and negative demographic trends may lead to intensification of state borrowing needs.

Consequently, the implicit pension debt can no longer be ignored in public finance because of a yawning gap in the fiscal balance. The possibilities of levying higher taxes or increased contribution ratios are very limited. Constantly rising public support to sustain pension scheme is an obvious evidence that each year the growing part of implicit pension debt is transformed into explicit one. The default on the fiscal debt through inflation is far too small and government need to seek for capital resources in the financial markets by issuing T-bonds. However, it is no long-lasting remedy as population projections predict a shrinking share of people active in the labour market in the age pyramids with no extra money earmarked for filling this rapidly growing burden on the public finance. Moreover financial markets penalize severely unsound fiscal policy revealing raising value of implicit liabilities.

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[3] R. Holzmann, R. Palacios, A. Zviniene, *Implicit Pension Debt: issues, measurement and scope in international persective*, "Discussion Papers" 2004, No. 30153; M. Werding, *Implicit Pension Debt and the Role of Public Pensions for Human Capital Accumulation: An Assessment for Germany*, "CESifo Working Paper" 2006; Y. Wang, D. Xu, Z. Wang, Z. Fan, *Implicit Pension Debt, Transition Cost, Options and Impact of China's Pension Reform ‒ a Computable General Equilibrium Analysis* [Paper prepared for conference on Developing through Globalization: China's Opportunities and Challenges in the New Century], Shanghai 2000.

In many countries, reduced public transfers to Notional Defined Contribution (NDC) pillar as the consequence of accumulated funds within private pension funds disperses concerns about their long-term sustainability of the whole pension scheme. That is why some countries are in favour of pension system reforms aiming at replacement part of the public PAYG pension scheme with a private sector managed, fully funded pillar managing the accrued assets from part of contributions. This argument was also raised in Poland as one of most important imperatives for the pension scheme reform towards the end of the 90. last century.

However, the concept of funded pillars within the pension scheme triggers a considerable reduction in contributions to the first pillar, as a certain percentage of money paid has to be redirected to funded pillars. To cope with these extra outflows from unfunded pillar, the government needs to find additional sources of capital to replenish increasing explicit debt in order to fill in this gap. In practice the solutions are limited to the issue of additional T-bonds or accelerating privatisation process provided that State assets still have adequate value and current budgetary spending can be shielded against political pressure. However, relaxation of budget deficit discipline has proved this challenge to difficult to sustain in most EU countries.

The case of Poland has showed that the pension reform with funded pillars has led to the situation that a part of the implicit pension debt is transformed into explicit one with a direct negative influence on the national the public debt statistics. However, the problem is that these accrued assets in the funded pillar of the pension system are not recognized in EU in the national accounts relevant for assessment of the public debt in compliance with the Stability and Growth Pact. Despite their integral participation in pension scheme the private sector managed funds cannot be part of the government accounts. According to the decision by Eurostat funded defined-contribution schemes should be recorded as part of the finance system in private sector.

3. Classification of implicit liabilities in pension schemes

There are three fundamental notions of implicit pension debt based on the types of liabilities i.e. accrued-to-date liabilities, projected liabilities of current workers and pensioners and open system liabilities[4].

Accrued-to-date liabilities represent the discounted value of pensions which are to be paid in the future on the basis of accrued rights. Neither future contributions nor the accrual of new rights on the basis of these contributions are con-

[4] R. Holzmann, R. Palacios, A. Zviniene, op. cit., p. 12 and M. Werding, op. cit., p. 5–7.

sidered. Consequently, they involve the present value of outstanding benefits of current pensioners (i.e. the full package of disability pensions, old-age pensions and survivor pensions) and the present value of benefit entitlements of the active population accrued till now. The extent to which future benefits are correlated with past contributions may differ. It can be either a proportional link between earnings and benefit entitlements or flat rate under which benefits are assessed based on the periods of contributions on a pro-rata basis.

Accrued-to-date liabilities measures correspond to these liabilities that are very close to any conventional definition of explicit public debt. When assessed in relative terms, for instance, as a percentage of current GDP, they are mainly a function of the "system participation rate", that is, the fraction of the active population that is actually covered by the public pension scheme, and of the "quasi-replacement rate" of average benefits over average wages[5].

Projected liabilities of current workers and pensioners involve the assumption that pension scheme continue their existence until the last contributor dies, while no new entrants are allowed. Both the future contribution of existing members and their new rights are therefore allowed under current rules. This is also referred to as the closed-group method for calculating these liabilities[6].

Open system liabilities include the present value of contributions and pensions of new workers under current rules. The range of options extends to an infinite perspective on the basis of including only children not yet in the labour force. These liabilities include components of accrued-to-date liabilities with additional present values of future benefit entitlements such as in the case of the currently active population. These benefits will arise from their future contributions, to be paid over the regular course of a working life, and future benefit entitlements of all future contributors, estimated with an infinite time horizon.

4. The problem of implicit liabilities in unfunded pension schemes

The inclusion of future benefit entitlements that are not yet accrued is meant to reflect the expectation that the scheme under scrutiny will be continued on the basis of the current legal framework, without an arbitrary choice of the relevant time horizon that is virtually forever. It is worth stressing that the extension to an infinite time horizon does not raise fundamental technical problems – even if

[5] M. Werding, *Implicit Pension Debt and the Role of Public Pensions for Human Capital Accumulation: An Assessment for Germany*, "CESifo Working Paper" 2006.

[6] R. Holzmann, R. Palacios, A. Zviniene, op. cit., p. 13.

benefits are expected to grow on real terms, their discounted present values will usually decline and converge towards zero, so that the sum of all future benefit entitlements should be finite[7].

Within an unfunded pension scheme, the government makes public commitment mandating the payment of contributions to the current generation and promising to pay future pension benefits. However, practically in all unfunded schemes initial contributions are not set aside to pay future benefits but they are used to pay benefits to the current older generations that contributed little. Consequently, mature public pension schemes based on pay-as-you-go scheme are typically unfunded and to make matters worse, there are also a number of non-contributory pension schemes for civil servants (like policemen, miners) and other professions that are not based on earmarked revenues and so can be considered to be unfunded from the beginning.

While there are quite a few partially funded schemes, most have assets that cover only a small fraction of liabilities. In contrast to private sector pension schemes in some countries in the world (for example, the Netherlands and the United States), there are essentially no examples of fully funded, publicly run, defined benefit schemes[8]. Collecting compulsory contributions currently with the promise to repay benefits in the future out of future contributions makes the underlying debt akin to government borrowing.

Hills (1984) compare making unfunded pension promises to issuing government bonds[9]. However, several economists hold that this analogy has its limitations suggesting that the creditors (i.e. all contributors) in a pay-as-you-go pension scheme do not enter into the agreement voluntarily, but rather are forced by law to participate. Another argument is that that there is no market for trading these promises, whereas individuals can sell (and borrow against) their government bonds with relative ease[10]. Furthermore, the returns on investments in T-bonds are known (at least the nominal yield), while the ultimate value of a PAYG pension promise depends on a wide array of variables entering the defined benefit formula as well as the possibility that the government may change the formula itself in response to other fiscal demands. In Poland the systemic changes in the pension scheme framework under the social pressure and political reasons are considered as one of the main factors of severely reduced efficiency of pension scheme reforms[11].

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[7] M. Werding, op. cit., p. 7–8.

[8] R. Holzmann, Palacios R., A. Zviniene, op. cit., p. 5.

[9] J. Hills, *Public Assets and Liabilities and the Presentation of Budgetary Policy*, in: *Public Finance in Perspective*, Report Series No. 8, Institute for Fiscal Studies, London 1984.

[10] I. Rizzo, *The 'Hidden Debt'*, Financial and Monetary Policy Studies, 19, Kluwer Academic Publishers, Dordrecht – Boston – London 1990.

[11] M. Bukowski, M. Góra, A. Chłoń-Domińczak, *System emerytalny – finanse publiczne – długookresowe cele społeczne*, "Zeszyty BRE Bank – CASE" 2010, nr 106.

Last but not least, the compulsory nature of the pay-as-you-go pension arrangement implies that there is some tax element in mature schemes, usually through an implicit rate of return below the market rate of interest. However, some of these characteristics can also be ascribed to government bonds in suppressed financial markets.

Public authorities generally have a sever temptation to redefine the pension formula at least several time during one generation of contributors and thereby partially default on their liabilities. While this could create a distinction between government bonds and pension promises, this is only a matter of degree as it may be easier to default on pension promises than bonds. However, neither of above solutions is without cost. It is highly unrealistic to assume that the pension obligations can be avoided altogether. The situation of complete default on pension liabilities rises such a huge public outcry that such a measure is true only under considerable external pressure within international last lender support. In my opinion, the argument holds that usually the government finds it easier to reduce its pension liability than to default or restructure its explicit public debt. Indeed, the frequent number of cost saving revisions to defined benefit formulas in public schemes over the last few decades seems to confirm this assertion[12]. This is also a main clue to make adjustments in pensions scheme advocated recently by the Polish government.

On the other hand, it is well known that governments can also default on explicit public debt – fully or partially through the repudiation of the principal, reduction of interests due, inflation tax, or changes in taxation of interests due (e.g. the case of Greece). The true extent to which pension promises are kept will depend on an assessment of the ability of the government to reduce benefits, which in turn depends on the political and social environment. The public's perception of their "entitlement" to the payments, the ease with which they can observe the changes to often-complex benefit formulas, and the average age of the population are among the factors that are likely to determine how much room a government has for its maneuver.

In some cases, the courts may even use a broad interpretation of what is protected by the Constitution with implications for the ability of the governments to change the rules. Intervention by the courts to restrict changes that would have reduced the value of pension liabilities has already occurred in some countries like Argentina, Brazil, Croatia[13]. This is also the case of Poland as the Tribunal of State's verdict from 2010 on the unconstitutional framework of special privileges in pension scheme for farmers can be perceived in this context.

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[12] A.M. Schwarz, A. Demurgic-Kunt, *Taking Stock of Pension Reforms around the World*, "Discussion Paper" 1999, No. 9917.

[13] R. Holzmann, R. Palacios, A. Zviniene, op. cit., p. 6.

In the context of macroeconomic analysis the unfunded pension commitments as a source of implicit public debt influence individual decisions of consumption and portfolio allocation. The economic literature on macroeconomic implications of public pension systems assumes that the acquisition of pension wealth through a pay-as-you-go plan may induce individuals to increase their lifetime consumption or lead them to try to compensate future generations that will have to pay off these obligations – so called free-rider phenomenon. In either case, economists treat these unreported obligations as determinants of observed behavior[14].

Furthermore, unless there is pension debt on the government's balance sheet as a liability, pension wealth cannot exist on the individual's balance sheet as an asset. This rises the issue of the tolerance that public authorities enjoy as far as negative changes in the pension scheme are deployed with silent consent of perspective beneficiaries. Most individuals have only a vague perception of the assets value that they are entitled under pension scheme and they are satisfied that on the basis of contributions paid they have guaranteed compensation when they retire. The problem is that the solidarity of generations is likely to come to end over the next decades as negative demographic trends will accelerate.

It is also should emphasized that since unfunded pension obligations are nominally recognized as public debt, they co-determine the inter-temporal budget constraints on the government. In order to maintain solvency, the government requires future tax revenue, partial default on its pension commitments, or future lower public expenditure elsewhere. The constant rise of implicit public debt accentuates these needs in long term. Unfortunately, the time horizon of acute budgetary problems caused by implicit public debt is much longer than political time horizon. Colloquially stated in most cases "the rolling snowball" of implicit public debt is still regarded by the public authorities as the burden laid on future generations. This myopic perspective in public finance diminishes the urgent need to deal with the problem of soaring implicit public debt especially now when the financial crisis has entered into new phase of uncontrolled explicit debt deficit.

The growing implicit public debt with constant policy parameters reduces the ability of government to service the explicit pension debt and heightens the risk of default or monetary bail-out[15]. The recent downward trends in the financial markets fueled by ambiguous perspective public finance standing in a number of Euro zone countries prove that "Argentina syndrome" is likely to negatively loom the struggles to rebuild economic growth. The world financial markets are becoming increasingly aware of this link and it is clear that they compensate it with

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[14] K. Schmidt-Hebbel, L. Serven, *The Economics of Saving and Growth – Theory, Evidence and Implications for Policy*, Cambridge University Press 1999.

[15] E. Hochreiter, G. Winckler, P. Brandner, *Debt and European Monetray Union – some unpleasant fiscal arithmetc*, "Vienna Economics Paper" 1998, Vol. 9615, University of Vienna.

a risk premium on government debt. Uncertainty about the true scope of implicit public debt in the context of globalization and mobility of short term capital will increase this premium in future.

The estimates about the initial public deficit and its future dynamics path within pension scheme should be used to inform the public opinion about the need of urgent measures to the pension scheme guidelines. Estimates about the expected changes to the implicit public debt future path are to demonstrate the extent to which the scheme preserve its the long-run sustainability. In the author's view the public discussion on the grounds for recent amendments (i.e. May 2011) to Polish pension system lacked this perspective. The problem of mounting initial public debt was hardly evoked in the debate about the advantages of pay-as-you-go system of the first pillar over the funded one in the second pillar. It should be emphasized that focus on the current expenditure and revenue paths of the Polish pension scheme is illusive. The recent changes may reduce the explicit debt to some extent, but its cumulative and negative effects will occur gradually in future in form of implicit public debt undermining the sustainability of public finance.

5. Conclusions

The mounting problem of explicit public debt has been made visible since launch of pension reform in Poland in 1999 and this is one of reasons for its amendments in May 2011. The pension reform entailed the shift to partial funding pension scheme, which has obviously converted the part of implicit debt into explicit one. The underestimated amount of implicit debt with a parallel lack of subsequent efforts to complete the pension reform on the inflow side over last decade has led to the most current situation that the partial funding pension scheme has started to be blamed for its disruptive effects in term of the explicit public debt. The speed of the transition should have been trigged by the growth of government bonds issue to replace implicit debt. Moreover, the comprehensive analysis should have covered all major indirect costs with their burdens on public finance instead of too optimistic projections of privatization revenues.

The underestimation of challenges of implicit public liabilities was the main reason for failing to answer the crucial questions how much explicit debt could have been allowed to emerge in the context of burdens on the pension scheme. In Polish context Holzmann and Palacious and Zviniene (2004) are painfully right stating that "in order to assess the financial success of a pension reform and make sure that it actually leads to a fall in the overall government obligations, joint and rolling estimates of the implicit public debt and the reform-induced explicit financial debt are required"[16].

Istota zobowiązań nieformalnych w teorii i praktyce finansów[17]

Streszczenie

W artykule scharakteryzowano istotę zobowiązań nieformalnych (implicit), jako szczególny rodzaj zobowiązań w teorii finansów, oraz przedstawiono analizę ich znaczenia w praktyce finansów publicznych na przykładzie systemu emerytalnego.

Zobowiązania nieformalne są zaliczane do grupy o największym ryzyku finansowym ze względu na złożony charakter i długi czas uzyskiwania uprawnień z ich tytułu. W horyzoncie krótko- i średniookresowym zjawisko to tworzy pokusę nadużycia ze strony państwa jako podmiotu podejmującego długookresowe zobowiązania do realizacji określonych świadczeń na rzecz przyszłych beneficjentów. O nieformalnym charakterze takich zobowiązań decyduje również brak szczegółowego umocowania prawnego zobowiązań w zakresie indywidualnych relacji z beneficjentami. Tym samym beneficjenci podejmujący ciężar obowiązkowych systemów społecznych otrzymują jedynie ogólne zapewnienie władz państwowych o przyszłej realizacji praw nabytych, jeżeli zostaną spełnione określone warunki brzegowe. Ze względu na długi czas narastania zobowiązań i wysoką siłę przetargową państwa w relacji z beneficjentami, przyszła realizacja zobowiązań charakteryzuje się wysokim ryzykiem prawnym (tj. niekorzystnych zmian zasad tworzenia zobowiązań, a następnie czerpania korzyści z ich tytułu).

Brak uwzględniania części zobowiązań w oficjalnych statystykach finansów publicznych sprawia, że w przypadku zobowiązań nieformalnych powstaje istotna trudność w oszacowaniu faktycznej skali długu publicznego. Z tego względu państwo, jako podmiot przyjmujący zobowiązanie do realizacji przyszłych świadczeń, jest skłonne do transformacji części zobowiązań formalnych, tworzących dług oficjalny na poczet zobowiązań nieformalnych wpływających na narastanie długu ukrytego. W konsekwencji dochodzi do paradoksalnej sytuacji obniżenia długu publicznego, pomimo równoczesnego zwiększenia tempa narastania tego długu w części niejawnej.

Problem zobowiązań nieformalnych jest szczególnie znamienny dla finansów publicznych w aspekcie systemu emerytalnego. Brak uwzględnienia zobowiązań nieformalnych w ocenie długookresowej stabilności finansów publicznych sprawia, że system danin społecznych o charakterze składkowym przyjmuje w praktyce postać quasi-podatkowa, gdyż nie ma charakteru ekwiwalentnego. Zjawisko ma charakter szerszy niż system emerytalny, gdyż pomimo obowiązkowego ponoszenia składek na ubezpieczenia zdrowotne czy ubezpieczenie społeczne, usługi sektora finansów publicznego są w praktyce niedostępne lub ich standard ulega zaawansowanej degradacji.

W opracowaniu podjęto analizę źródeł i mechanizmów narastania długu ukrytego w systemie emerytalnym, przyjmując jako główny cel wykazanie, że szczególnie w repartycyjnym systemie emerytalnym (PAYG) wiele współczesnych zjawisk społecznych (tj. odwrócenie „piramidy wieku" ludności, wydłużenie okresu średniego życia ludności, utrzymane przywileje określonych grup społecznych) oraz ekonomicznych (tj. wzrost dotacji z budżetu w sytuacji narastającej nie-

[16] R. Holzmann, R. Palacios, A. Zviniene, op. cit.

[17] Opracowanie zostało przygotowane w ramach międzynarodowego projektu badawczego „Implicit Debt in Public Social Security Systems", koordynowanego przez Economic Policy Institute i Haans Seidel Foundation, Bulgaria.

równowagi finansów publicznych) sprawia, że powstaje szczególna pokusa nadużycia władz publicznych w postaci skłonności do generowania ukrytego długu emerytalnego.

Znamiennym symptomem narastania kryzysu finansów publicznych jest niechęć organów państwa do ujawnienia części długu systemu emerytalnego poprzez zastąpienie części repartycyjnego systemu emerytalnego mechanizmem kapitałowym lub zachowanie uprzednio wdrożonych rozwiązań w tym zakresie i w ostateczności wzrost znaczenia systemu repartycyjnego. Tym samym w systemie emerytalnym narasta ryzyko braku zagwarantowania przez państwo realizacji świadczeń adekwatnych do skali zobowiązań, jakie ponoszą osoby płacące składki w ramach aktualnego systemu emerytalnego.

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