Chapter 3: The Nature, Problems and Potential of Social Security Programs in Sub-Saharan Africa

As indicated in Chapter 1, the concept of social security in this study is narrowly defined, to include only those retirement schemes where individuals make contributions to a public or private institution during their lifetime earnings, with the aim of providing for old age after retirement. This chapter analyses the nature and operation of such retirement schemes in sub-Saharan Africa and explores reforms that may be implemented or considered.

In developing countries in general and sub-Saharan African countries in particular, social security is of crucial importance given the high levels of unemployment that lead to an increasing proportion of the population living in poverty conditions, especially the aged. A particular challenge is the increasing impact of the growing number of people in the informal sector in these economies. Thus, devising a mechanism that provides retirement income to the majority of the aged population is of extreme importance, especially in the context of regional integration and at the most advanced level, continental integration (NEPAD).

Firstly, the regulatory framework is analysed. Secondly, the sources of funding and qualifying conditions for benefit payments are identified and thirdly, the replacement rates across-sub-Saharan African countries are analysed. Finally, the possibility of reforms to the existing retirement systems is discussed.

3.1 Regulatory Framework and Coverage

As referred to in Chapter 1 pension or retirement systems in many sub-Saharan African countries were devised during the colonial era, with the regulatory framework mostly reflecting the interests of expatriates and a minor group of the indigenous population loyal to the former. These systems prevailed for a long period even after the independence of these countries. Until recently, retirement systems were simply absent in many of these countries, for example in Zimbabwe, Botswana and Sierra-Leone, the first regulatory frameworks date from 1993, 1996 and 2001 respectively (www.socialsecurity.gov).

The earliest documented regulation on retirement systems in sub-Saharan Africa dates in Mauritius from 1951, followed by South Africa, 1956 (Sephton, 1990), Congo (Kinshasa) 1956 and Guinea, 1958 (www.socialsecurity.gov). The majority of the regulations were implemented during the early 1960s through 1970s (www.socialsecurity.gov). The common type of retirement system used in many countries is social insurance, which includes provision for disability, survivors and dependents. Only a few countries form the exception like South Africa, with pension and provident funds and Swaziland, Tanzania and Kenya with provident funds that also allow for disability, survivors and dependents. Some other countries have dual systems, which allow for contributory and non-contributory systems.

In all countries public servants have their own regulatory systems. This complex system of regulatory retirement framework (Annexure 1) complicates its supervision and increases administrative costs. A more elaborate and simplified system is required that reduces the public burden and allows for conscious and advantageous contributions to retirement schemes. This implies, for example, that civil servants may be allowed to contribute to schemes that offer better returns on their contributions compared to publicly administered schemes.

Problems with the regulatory framework also have implications regarding coverage. Many workers in sub-Saharan African countries are relegated to poverty after retirement because they did not contribute to retirement schemes. In some cases this happens because there was no regulation, and in other cases because the existing regulation only covers individuals working in the formal sector, especially civil servants and public (sometimes also large private) companies. In many of these countries regulation is required that covers the majority of the working population in order to address the lack of income during old age.

In addition, the regulation in many sub-Saharan African countries does not allow for cross-border benefit payments. SADC countries have jumped one step ahead with the SADC Social Charter signed by member states in 2003, which is meant to facilitate the intensive consultations among the social partners in the region. Among other objectives, the Charter is aimed at promoting the establishment and harmonisation of effective and efficient social security systems with increased levels of participation of member states to improve the lives of the elderly. A broader coverage program for the aged is promoted with improved levels of coordination among member states and different retirement systems available offering more investment opportunities.

Coverage could be an important vehicle in reducing poverty levels in many African countries. However, SSA countries are still far from reaching significant coverage levels compared to those in other parts of the world. For example, Olivier (2005) quoting the 2003 report of the Ministry of Labour, Youth Development and Sport in Tanzania, indicated that social insurance schemes only covered 5.4 per cent of the labour force of 16 million people. He also added that "in many of the other African countries the picture is not much different".

Coverage has been one of the major issues in the debate of how to provide retirement programs around the world. Of special importance is also to address the growing informal sector and ways in which to provide income in old age of those involved in this sector. This is of crucial importance, especially for societies often featured by increasing social disintegration and instability. An example of a natural shock is the loss of power of community arrangements due to migration (the breaking of close-knit community) that provided security to the aged and those incapable of working over a long period.

An improved coverage scheme should assist individuals to reduce their vulnerability to such shocks, but the question is how to devise a scheme with ample coverage while at the same time avoiding moral hazard? This is one of the major constraints when evaluating the effectiveness of existing retirement programs in reducing poverty amongst the aged who may end up in a poverty trap simply because they did not save enough during their life-time earnings. Poor savings occur mainly due to two reasons namely: (i) lack of foresight or myopia and/or (ii) very low lifetime earnings that do not allow individuals to save for their old age. In the latter case, descendants of such an individual also run the risk of ending up in poverty, due to lack of proper education to be able to compete in the labour market.

This and the growing importance of the informal sector, as a refuge for the poor, require that governments investigate alternative systems. They should consider mandatory savings for both the formal and informal sectors that can cover the majority of the population. However, this does not necessarily imply the privatisation of the retirement industry as has been argued, but instead reforming the actual programs in a manner that satisfy the requirements of the aged, their dependants and most importantly, the economy as a whole.

Another constraint related to sufficient coverage stems from the low population density in many of these countries, which increases administrative and compliance costs and the costs related to receiving benefit payments by the aged. Tanzania's provident fund scheme attempted to avoid such costs by paying a lump sum to a retiree who decides to live in a village. However, this solution may not be efficient, since the probability is high that the individual may exhaust the lump sum long before death.

3.2 Funding Retirement Systems and Qualifying Conditions for Benefit Payments

The most common way of funding retirement systems is the PAYG system, where both employers and employees contribute to the fund. In some countries the costs of non-contributory retirement benefits for public servants is borne entirely by the government. In the latter case the government's budget is frequently under strain, which complicates the adjustment of retirement benefits to the cost of living, with the result that governments prefer to keep the benefit payments at lower levels.

In "*Averting the Old Age Crisis*", the World Bank indicated that the adjustment of retirement benefits to the cost of living is crucial for poverty alleviation amongst the aged and their dependants. In fact, an individual who contributes to a retirement fund in a country featured by higher rates of inflation may receive negative benefit payments when he/she retires. Low returns on these funds and consequently an eventual negative benefit payout may discourage the current and future working populations to contribute to retirement funds. High tax rates to mitigate the adverse effects, like those arising due to inflation, may also discourage the supply of labour, which further reduces the source of funding to pay for promised benefits. If this situation is accompanied by generous qualifying conditions to benefit payments, the supply of experienced labour may be reduced even further.

The average retirement age in sub-Saharan Africa is 55 years except for Mauritius, Nigeria, Sierra Leone, Ghana, Zimbabwe and Cameroon, where the retirement age is 60. In Sao Tome and Principe it is 62 years for men and 57 years for women while in South Africa, Botswana, Mozambique and in Congo (Kinshasa) it is 65 years (Congo, 60 for women). In the Seychelles it is 63 years and in Swaziland 50 years. In many countries individuals are required to have contributed at least 5 years (60 months) before qualifying for benefit payments.

In almost all SSA countries governments have direct or indirect (but influential) control of the funds. However, government control generally leads to mismanagement (World Bank, 1994 and James, 1996), which could result in inefficiency in the selection of investment portfolios and high administrative costs. For example, Cameroon, Togo and the Ivory Coast are reported to have pension expenditures equal to their total revenue (Barbone and Sanchez, 2000). These problems along with the poor replacement rates lead to dissatisfaction amongst the members of social security systems, which in turn results in evasion that may cause a further depletion of the revenue base for social security purpose.

Thus, generous qualifying conditions and excessive government intervention often hinder the potential economic effects of retirement programs such as effects on national saving. Generous qualifying conditions that allow for early retirement, for example, may reduce the supply of experienced labour, which affects labour productivity negatively and consequently results in lower growth rates of the economy. Often government intervention implies compulsive investment in government securities, like bonds, with low returns that may lead to negative returns, especially in the presence of high inflation. Negative real returns, low rates of contribution due to low wages and high levels of inflation may lead to lower benefit payments. All these constraints distort expectations not only of the older generation but also the younger one due to the intergenerational transfers relationship featured by social security programs. Nevertheless, investing in government securities may not be bad *per se* should these securities be indexed to inflation to ensure that individuals do not lose out on the real value of their expected benefits from their contributions to retirement schemes.

Annexure 2 (column 2 to 4) shows the qualifying conditions and the source of funds for countries where information is available.

3.3 Replacement Rates in Sub-Saharan African Countries

In many developing countries and sub-Saharan African countries in particular, benefit payments are under pressure due to low replacement. Many countries do not provide for an adjustment in the cost of living which reduces the replacement rates even further in real terms. Thus, replacement rates are also an important indicator that influence decisions whether to contribute to retirement systems or not.

Poor benefit payments and sometimes even negative payouts, could lead to evasion, since individuals perceive their contributions to retirement systems as a tax rather than a price paid for services offered (James, 1996). In addition, some countries like South Africa impose taxes on retirement benefits, which reduce benefit payments even further. The actual observed replacement rates influence decisions on whether to contribute to retirement systems or to evade them. Low replacement rates and a lack of capacity to monitor the contributions may result in moral hazard and free rider behaviour, stemming from the fact that individuals are only concerned about getting the entitlement. They postpone the contributions to a later stage of their working lives, provided that the number of contributions meets the minimum qualifying conditions. However, the actual observed replacement rates may also affect the productivity by inducing individuals to retire early.

When reaching retirement age, some countries pay a lump sum given the specific qualifying conditions. Some others like South Africa pay a fixed lump sum while the balance is converted into an annuity fund. This is necessary to avoid the possibility that individuals consume the entire sum before they die.

Annexure 2 (column 5 and 6) shows, by approximation, different official (regulated or statutory) replacement rates. As seen from the table there are huge differences between the different regulatory frameworks in terms of replacement rates. It also shows that some countries take into account the adjustment to the cost of living while others do not.

In general countries do not allow for cross-border benefit payments. For example, if someone works in Nigeria he or she is only allowed to enjoy the retirement benefits with retirement in Nigeria and this individual would lose the entitlement if he/she decides to live abroad after retirement. Cross-border restrictions limit the possibility of diversifying an investment portfolio given the underdevelopment of capital markets in many sub-Saharan African countries. Lifting such restrictions by allowing savings through retirement funds to be used for the development of domestic capital markets and thereby also contributing to domestic economic growth (Orszag and Stiglitz, 1999) seems to be important. However, liberalising the capital market with some amounts of retirement funds being allowed to be invested abroad is also important, especially in the context of regional economic development blocks, like SADC, WAEMU, EAST AFRICA, etc. It would allow for risk diversification and to take advantage of higher rates of return in other countries in the region or elsewhere. This could improve the replacement rates, thereby improving the life of retired individuals. Obviously the interest of the contributors to such retirement funds has to be protected.

3.4 Why Reforming Retirement Systems?

Reforming retirement schemes from the traditional PAYG systems has been a matter of discussion all around the world, especially in Latin American and transition economies. In the US and other OECD (Organization for Economic Co-operation and Development) countries there is a debate on whether privatising social security programs will produce better incentives to the economy. Chile is seen as one of the most successful examples in the reform of social security programs. Various options for reforming social security programs from PAYG have been proposed and discussed. These options range from privatising the management of retirement funds to a multi-pillar system, where there is interaction between private and publicly managed schemes.

One of the reasons for reforming retirement systems is the fact that social security financed by PAYG, crowds-out other government expenditure and most importantly entails an implicit pension debt with implications to the economy depending on the way it is financed. Moreover, the existing literature considers that PAYG has devastating intergenerational transfer effects, especially when accompanied by significant demographic changes. In general, social security financed by a PAYG system has macroeconomic, microeconomic, and political effects.

On the macroeconomic side it is argued that a PAYG system constrains personal savings, rates of return are lower and the investment of public trust funds have no welfare implications. On the microeconomic side, PAYG creates negative incentives to the labour market, since it encourages early retirement and its administrative costs are also higher. From a political point of view it is argued that government inefficiency and corruption provide a motivation for moving away from publicly managed social security systems. Bailout politics affect publicly managed systems more than privately managed ones and the investment of public trust funds is always squandered and mismanaged (Orszig and Stiglitz, 1999 and Barr, 2002).

The reform of PAYG systems is seen as the only way to address the above problems in order to make social security programs more efficient and effective at both the individual level (benefits received during retirement) and government level (reduction in the fiscal burden). The benefits of reforming PAYG occur because private management tends to offer more incentives than public management does. The reform of PAYG implies its substitution with a system composed of three different pillars as proposed by the World Bank Report (1994), which evaluates the policy options based on their impact on the aged and the economy as a whole.

According to the World Bank recommendations the first pillar should be a publicly managed system aimed at addressing the problem of redistribution. This pillar is basically aimed at poverty alleviation. The second pillar is the implementation of privately managed schemes aimed at addressing the problem of consumption smoothing while the third pillar addresses the problem of extra consumption during retirement for those who will and can (this is basically private saving). The first two pillars are mandatory, while the third is voluntary, which corresponds to private saving through other financial or capital instruments. The fact that publicly and privately managed pillars are mandatory raises the question how to monitor the management of the funds to ensure that managers do not incur higher expenses and become involved in risky investments? On the other hand, in the case of many countries with well established PAYG systems, reforming this system (totally or partially) involves transition costs of the dimension of the reform. However, since the implicit debt on pension is generally high, the transition costs involved, independent of whether the reform is total or partial, are also high. Such transition costs have been one of the major reasons for opposing reforms of the PAYG systems in many countries[11].

3.4.1 Macroeconomic effects

The issue whether privatising retirement programs (in part or total) increases national saving is contentious, as sub-Saharan African countries have limited capacity to mobilise and invest the proceeds of contributions. Furthermore, the majority of individuals in these countries do not have the capacity to save out of their after tax earnings. This suggests that a switch from the PAYG social security systems to privately administered systems may not alter national saving as envisaged, unless accompanied by increased levels of public saving. However, given the indebtedness of the majority of African countries, reforming PAYG from publicly managed to privately managed systems (as proposed) may increase the financial burden of government. This will result in increased tax pressure on individuals and companies or increased interest rates if government has to resort to borrowing to finance this expenditure.

Orszig and Stiglitz (1999) and Barr (2002) suggest that reforming PAYG systems could operate without switching to privately defined contribution plans, as long as the functions of the public funds are so defined as to address the management problems in the same way privately defined contribution plans do. The authors argue that pre-funding in a narrow sense need not imply pre-funding in the broader sense. In the African context it seems to

[11] For discussion on this issue please, see Orzig, P. R. and Stiglitz, J. E. (1999) and Barr, N. (2002) and Diamond, P. (1996) and (1998).

be reasonable to reform the existing systems within the existing social security framework (related to pre-funding in the broader sense), that is, firstly create capacity within the existing PAYG systems. This is to avoid higher costs that may deter the performance of these economies. Although James (1998b) argues that transition costs do not decrease public saving, this can only occur if the additional costs of regulation are not accounted for. Such costs, as well as the transition and administrative costs, may hamper the growth of the sub-Saharan African economies by deviating resources from its most productive use.

It is argued that rates of return are higher under privately administered schemes than under PAYG systems. However, Orszig (1999) uses a simple example, borrowed from Breyer (1989) to show that this argument may not be true and that only the initial generation benefits from the introduction of either PAYG or privately defined contributions plans. The only way this would not happen, is if it were possible to start from a situation where there is no initial generation that receives benefits to which it did not contribute.

Higher rates of return referred to by the PAYG reformists do not take into account the necessary expenses to finance the transition and administrative costs. As Barr (2002) argues, a simple comparison of the nominal rate of return may be misleading policy guidance. Orszig and Stiglitz (1999) wrote:

> "… The higher rate of return would result regardless of whether the additional funding is routed through individual accounts or a public trust fund, as long as the trust fund were allowed to hold the same type of assets as individual accounts. It is the additional funding, not the individual accounts themselves, that is crucial to producing the higher rate of return".

Apart from transition costs, administrative costs in sub-Saharan African countries are high to the extent that shifting from a PAYG system to a privately defined contribution plan (individual accounts) may not improve the rate of returns. The argument is that most retirement schemes in this part of the world are featured by high implicit debt[12] with

[12] This categorization is done in relation to the size of the economies of these countries. Some authors have claimed that the implicit debt in these countries is small, but this is only true if the referred debt is compared

strong government intervention. This is not only because of the nature of the PAYG system, but also because of the higher rate of default from the contribution side. Thus, a shift from the PAYG system (if any) still requires strong government intervention through regulation and monitoring, which requires financial and human resources that are not readily available. Since this intervention may increase the cost of shifting away from the PAYG system, it has to be considered when evaluating the trade-off between the rates of return of publicly and privately managed retirement funds. Therefore, the above argument advanced by Orszig and Stiglitz (1999) to allow publicly managed funds to hold assets similar to those held by individual accounts, seems to be suitable for sub-Saharan African countries.

In addition, risk and diversification of portfolio may raise other complications to the analysis in the African context. Given the level of development of sub-Saharan African countries, the way risk is managed and portfolio diversified, is crucial to the stability of retirement funds. With a PAYG system, risk can be spread across generations, which is important for poverty alleviation and appropriate for this stage of development. Diversification under PAYG can help to lessen the financial risk for any given individual.

Some economists like James (1998b), Feldstein (2005), Davis and Hu (2004) and others may argue that the disclosure of information, better management, proper regulation and institutions could contribute towards enhanced performance of individual accounts. Government regulation may impose restrictions on investments from individual accounts as in Chile (Holzmann, 1997), thus protecting such accounts from high risks involved with other investments. However, sub-Saharan African countries are affected by exogenous factors such as structural problems and weaknesses in government institutions; corruption, etc. that could hamper the expected improvement in the performance of social security systems after reforms.

Therefore, the argument is that diversification in sub-Saharan African countries could be done within public PAYG systems with more responsibility demanded from the managers

to developed countries. But compared to the size of their economies the debt is also high as in developed countries.

of such social security institutions. It has to be ensured that managers are not involved in risky investments with the expectation that government will back them up when losses may occur. Thus, governments will have to create strong institutions (required for future moves) that can enforce regulations and monitor the performance of retirement schemes. Within this environment diversification may be beneficial (Geanakoplos, Mitchell, and Zeldes, 1999). Allowing for investment abroad could shelter the domestic market from volatility of returns but may be detrimental to the development of a domestic capital market (Davis and Hu, 2004). Alternatively, if social returns of investing domestically are higher than private returns of investing aboard, investing in the international market may not be beneficial (Orzig and Stiglitz, 1999). However, where the national income is subject to volatility due to a worsening terms-of-trade, investing abroad may be a beneficial alternative (Davis and Hu, 2004).

3.4.2 Microeconomic effects

The common claim of supporters of individual accounts is that the traditionally defined benefits distort labour markets. Their point is that individual accounts link benefits received to contributions made and because of that, workers are likely to consider contributions to retirement funds as a tax under defined benefits rather than defined contributions (James, 1998b)[13]. The question is what induces workers to consider contributions to retirement funds as a tax under PAYG and not under individual accounts? There is no specific reason that justifies this argument, since it is a matter of allocation.

The opponents of the individual account proposal, like Barr (2000), argue that the design of a retirement scheme is crucial to measure its impact on the labour market. Therefore, for this group of analysts a key trade-off lies between redistribution and incentives. Redistribution typically creates labour distortions, independent of means used. Diamond

[13] For more in this argument see: Feldstein, M. 1998. "Introduction," in Martin Feldstein, ed., *Privatizing Social Security* (University of Chicago Press: Chicago, 1998). Bok, J.T., Combs, A. L., Schieber, S. J., Vargas, F. A., and Weaver, C. L. 1997. "Restoring Security to Our Social Security Retirement Program," *Report of the 1994-1996 advisory Council on Social Security, Volume I: Findings and Recommendations* (Washington, DC, 1997); James, E. 1998a. "Pension Reform: An efficiency-Equity Tradeoff?" in Nancy Birdsall, Carol Graham, and Richard Sabot, eds., *Beyond Tradeoffs* (Brookings Institution Press: Washington, 1998).

(1998) argues that any redistribution will create some labour distortion, independent of location, defined benefit formula or any other form of retirement system.

In general, distortionary effects on the labour market may not only arise because of taxes raised to finance social security under a PAYG system. Shifting to individual accounts with taxes to finance the transition cost, for example, may have distortionary effects on the labour market. In fact, Corsetti and Schmidt-Hebbel (1997) reported from their simulation that "debt-financed transition [costs] to individual accounts *reduces* output by between 1 and 4 per cent in the long-run because of the distortions from higher income taxes necessary to finance the debt" and the reduction in output has a significant effect on the labour market. In the context of sub-Saharan African countries, low per capita income may constrain governments to raise taxes to finance debt due to transition costs. Furthermore, high rates of unemployment, reflected by the growth of the informal sector, do not favour such policies. Some economists argue that the growth of the informal sector is due to distortions in the labour market, but in the case of developing countries this claim needs to be substantiated. The formal sector in these countries is not capable of absorbing the existing labour force and the growth of the informal sector is continuous, which reflects structural problems in these developing economies.

Orszig and Stiglitz (1999) argues that most of the distortions reported in the labour market are due to the fact that most of the discussions only consider the supply side of the labour market, with the assumption of perfect competition. They correctly argue that in developing countries this assumption "seems inappropriate", suggesting that the focus on the supply side only may be misplaced. In fact, in developing countries featured by high unemployment, lack of skills, etc., the demand side of the labour market is likely to determine the final equilibrium in this market. Thus, taxes channelled to retirement funds are not the only the cause of labour market distortions, but part of it.

Another argument against the use of PAYG systems is that it provides more incentives for early retirement than individual accounts. However, the diminishing productivity due to rapid technological changes may be a cause for early retirement as a form of insurance against it. In addition it is also said that competition lowers administrative costs of privately defined contribution plans. However, microeconomic theory confirms that competition only reduces the excess rents that a monopolist may enjoy. The costs to a firm remain unless a process of restructuring and restraining in the labour force takes place. Centralised retirement fund management that constrains choices with economies of scale may contribute to lower costs compared to decentralised ones. In a decentralised approach costs tend to be high because of costs additional to administration, like excessive advertisement costs, loss of economies of scale, competitive returns, etc. (James, 1998b).

Thus, the privatisation of retirement schemes in sub-Saharan African countries may not contribute to the lower cost of such retirement schemes. However, a competitive market with a proper structure of regulatory institutions is required that could regulate and monitor the conduct and practices of privately managed schemes that are not yet established. This entails additional costs related to the acquisition of the necessary expertise. Furthermore, low incomes and the weakness of the capital market may discourage the private sector to enter the market, thus, leaving government to take care of the management of retirement systems. In fact, the majority of studies proposing the privatisation of social seecurity, are based on realities far removed from the sub-Saharan situation.

3.4.3 Political effects

Barr (2002) states that PAYG and funding are treated "similarly in the face of the output shocks" and that "since future output is uncertain, all pension schemes face uncertainty". In the economies of sub-Saharan African countries shocks and uncertainty regarding output are caused by factors impacting on production (mostly traditional agriculture) and intensified by exogenous factors like wars, droughts, floods, etc. These in turn impact on expenditure priorities and thus the sustainability of social security programs. These phenomena may increase the risks of private schemes as opposed to public schemes, since the managers of privately managed systems may seek more political favours (Orszig and Stiglitz, 1999). These favours may increase the risk of corruption and mismanagement of funds channelled to those institutions managing the pension funds. Knowledge (by the private sector) of the weaknesses of public institutions with regard to monitoring will increase the volatility of retirement funds.

The failure of government to monitor the behaviour of privately managed retirement schemes raises concerns regarding the effectiveness of government institutions. Schneider and Enste (2000) in their empirical study found that is not the high taxes *per se* that increase the size of the informal sector but the ineffectiveness and discretionary application of the tax system and regulations by governments. This justifies the concerns about the role of corrupt governments in regulating and monitoring pension systems privately managed (Heller, 1998). On this Orszig and Stiglitz (1999) wrote: "*It is difficult to know why a government that is inefficient and corrupt in administering a public benefit system would be efficient and honest in regulating a private one*". Avitabile (2003) in his analysis on "*PAYG parametric reforms and labour in the informal sector*" finds that "*with perfect enforcement of social security rules both the contribution rate and the contributory share of pension benefit does not affect the allocation of work between the formal and informal sector in equilibrium*". These findings have important implications for the possible political effects of reforming retirement systems in the SSA context due to corruption, deficient legal institutions and low coverage rates of retirement systems (but also with lower population density that increases transaction costs)[14].

With imperfect government regulation and monitoring in sub-Saharan countries, bailout politics (as they frequently are) may negatively affect privately managed defined contribution plans more than purely PAYG schemes. Thus, reforming the current systems to multi-pillar systems, with the second pillar privately managed, some guarantees have to be offered (Rocha, Gutierrez, and Hinz, 1999), even when such guarantees are to be implicit (Diamond and Valdes-Prieto, 1994). Bailout politics in developing countries and SSA countries in particular are of significant concern due to their potential impact on the already adverse financial performances of these countries (Esterly, Islam, and Stiglitz, 1999).

Such adverse financial performance in SSA countries is also important when analysing the impact of the investment of public trust funds. The imperfection of financial markets in sub-Saharan African countries and their dependence on foreign capital may increase the volatility in this market. The usual claim that reforms are required because private

[14] See section 3.2 in this chapter

managers make better investment choices than public funds managers, can only be valid for SSA countries if capital markets were minimally developed with a proper regulatory framework. But as argued previously, the imperfection of government regulation and monitoring may increase the risk of private management of the funds with the increased potential of corruption.

Therefore, in sub-Saharan African countries the political effects of reforms may have an important impact on the stability of retirement schemes. Furthermore, the presence of a group of interests may influence the course of reforms as happened in Argentina, Brazil and Uruguay (Kay, 2001). Given this background it seems reasonable to accept that in SSA countries, reforms should start within the PAYG systems through a management contract (introduction of a principal-agent problem[15]). Government regulation should allow for more flexibility in terms of the assets to be held in the portfolio of retirement funds. At the same time governments should set up and strengthen institutions and capital markets that would be able to accommodate the reforms.

Lower rates of coverage accompanied by low incomes and low population density rates that increase transaction costs, also constitute constraints to the private sector to enter into the market, even if the reforms are politically and socially supported. In this case it is recommended that retirement systems be publicly managed which would contribute to the maintenance of macroeconomic stability and capturing scale economies. It is unlikely that the shifting from PAYG to privately managed systems would be able to achieve this. Barr (2002) points out that political sustainability, which includes strength of political will and duration and depth of political support, are important ingredients for the success of any reforms. Therefore, any political consideration of PAYG reforms has to take into account these important ingredients.

[15] The principal-agent problem arises when the principal (employer) has interests in the performance of a firm but appoints an agent (employee) to act on his behalf and the principal cannot fully control what the agent does (The MIT Dictionary of Modern Economics, 1992). In other words an agent is a person who is employed to do and act on behalf of another person called the principal; the modern principle is that contracts entered into by an agent are regarded as entered into by the principal, provided the contract is within the scope of the agent's authority (Dictionary of Economics, 1987). In this case the principal bears the risk of assigning the task to the agent. The principal-agent problem also raises the issue of adverse selection which is basically a problem of information asymmetry between the principal and the agent.

3.5 Alternatives for Retirement Finance

In Chapter 1 it was pointed out that individuals find it difficult or are not motivated to save for retirement because they depend on the fact that government intervenes to compel or motivate them to save for their old age. This section investigates the rationale of government encouraging saving for retirement, given the variety and sophistication of insurance instruments available today. To this end the section investigates how the problem of adverse selection due to information asymmetry, may affect the choice of retirement instruments. It especially analyses the substitution effects (partial or total), if any, between publicly and privately administered social security systems. Other forms of assets that are potentially eligible to the household portfolio are also considered.

3.5.1 Insurance products for retirement

From a theoretical point of view one would assume that the objective of the suppliers of retirement products is to maximise the social welfare of individual members. However, due to problems of adverse selection (arising because of asymmetric information) and moral hazard, individuals are not able to correctly predict and efficiently select the optimal policy from a set of policies offered by suppliers of retirement insurance suppliers. Moral hazard arises due to externality problems related to the management of retirement funds by insurance companies.

The question is to what extent privately managed social security schemes and/or provision of old age policies can substitute (partially or totally), if any, the current publicly managed schemes in developing countries? The answer to this question will largely be determined by the higher transaction costs, low per capita income and most importantly, the less developed and unstable capital markets in such countries.

The argument is that the substitution of publicly managed retirement funds by private ones reduces the burden of such retirement programs on the public sector (Ehrlich and Zhong, 1998). Kotlikoff (1987) using the formulae suggested in Kotlikoff (1979) indicates that the burden of social security in the United States in 1986, would have been $8 trillion, which was 30 times more than the tax revenue necessary to pay for retirement benefits and 4.5 times larger than the 1986 official stock of US debt. This is an illustration of the burden borne by governments in providing unfunded retirement schemes, which has become an increased function for the ageing population. This phenomenon is even worse for developing countries, usually plagued by natural disasters, civil wars, low levels of productivity, lack of skills, etc.

Thus, for developing countries, shifting from publicly managed retirement funds to privately managed ones and/or motivating individuals to buy insurance policies, by means of tax incentives for example, may not solve the problem of the public burden. On the contrary, it may even worsen the problem because of the guarantees that government may have to offer to encourage such a shift[16]. The probability of default in the management of retirement funds in developing countries may be high and, therefore, undermine the stability of the system. Retirees expect government to act as provider in the last resort in order to ensure that they are entitled to their retirement benefits to which they may have contributed during their careers. Furthermore, the problem of asymmetric information in these countries is far from being solved (in many cases due to the literacy problem), leading to an even more complicated adverse selection problem. One solution is to place these institutions under strong financial supervision, normally the responsibility of central banks. However, due to corruption in many African countries, such supervision may not be efficient.

Given its popularity, PAYG systems still seems to be the ideal option for providing retirement security in developing countries and SSA countries in particular. Higher transaction costs, low per capita income, less developed and unstable capital markets, higher probability of default (moral hazard), complicated adverse selection problems, etc. cause other systems to be less viable. Under this retirement system government can still incur debt and use it to pay for retirement benefits. This, however, does not mean that reforms of current retirement systems may not be undertaken or started, but that it should be initiated with caution. For example, reform could start by liberalising the asset holding of actual PAYG systems, in other words, allowing these systems to keep assets similar to those of defined contributions plans as proposed by Orszag and Stiglitz (1999).

3.5.2 Real assets as a retirement alternative

In the Barro (1974) model where bequests are operative, individuals are motivated to save more in order to be able to bequeath a certain amount to their descendants. In this case retirement funds tend not to reduce other forms of savings. Individuals with an uncertain future due to imperfect capital markets, tend to save more in the form of real assets, like real estate, whose value increases with uncertainty and which also serves as bequest for the entire dynastic family. Thus, real assets are included in the individual retirement portfolio not only due to bequests but also as precautionary measure and the need to supplement the inadequate benefits received from social security during retirement.

In Feldstein's (1974) model where bequests are non-operative, an individual's saving is crowded out by the presence of retirement funds. This implies that few individuals buy real assets to bequeath or use as precautionary saving to supplement income during retirement.

These findings have different implications in the analysis of the effects of retirement programs on the economy. In the first case, where individuals have a strong sense of providing for the welfare of their children, capital accumulation tends to be proportional to the number of children (Zhang and Zhang, 2004, Ehrlich and Lui, 1998, and Ehrlich and Kim, 2005), which implies that the economy will continue growing at a steady state rate. While in the second case the economy departs from its steady state and the accumulation of real assets declines.

The composition of the retirement portfolio of an individual largely depends on how his/her assets are being taxed to the extent that portfolios of an individual may reflect the

[16] See also Rocha, Gutierrez ,and Hinz (1999) and Diamond-Valdo-Prieto (1994) for the case of Chile

tax structure of a country. In addition, the composition of the portfolio also reflects the level of risk aversion of an individual. Moreover, the composition of an individual's retirement portfolio at any given point in time will reflect expectations with regard to retirement benefits and the actual equilibrium level of the economy. Thus, if the expected after-tax returns from real assets in the individual's portfolio exceed the expected benefits from retirement funds, the individual will tend to substitute (partially or totally) real assets for retirement saving. However, since many retirement programs are compulsory, such individual liberty is constrained (Friedman, 1962) reducing the accumulation of real assets. This implies that retirement programs reduce not only the supply of capital but also the accumulation of real assets independent of final destination. This problem may be more controversial in developing than in developed countries.

3.5.3 Financial assets as a retirement alternative

This section investigates the range of financial assets available that individuals may include in their retirement portfolios in order to supplement or substitute retirement saving.

Such financial assets may include long-term government bonds, firm equities and other forms of financial assets such as strong foreign currencies. Apart from long-term government bonds, many financial assets are highly volatile, especially due to inflation. Furthermore, assets invested in the stock exchange may even reduce the initial capital. This means that the problem of information asymmetry plays an important role in choosing an investment portfolio with financial assets as alternative or complementary to retirement programs.

The problem of asymmetric information and imperfection in capital markets is also an important reason for paternalistic government intervention in providing retirement programs. Investing in financial assets as a means of future income is also affected by real rates of return and taxes. Thus by comparing the expected after-tax return on financial assets and benefits expected from retirement funds will determine the share of financial assets to be held in the retirement portfolio of an individual.

Again these arguments are harder to sustain in the case of developing countries and SSA countries in particular, since as argued in previous chapters many of these countries have weak financial and capital markets. That is, individuals in these countries have fewer choices to complement or substitute retirement funds through these markets. Moreover, the problem of moral hazard exists, mostly due to the lack of adequate management of financial assets and corruption. Yet, the adverse selection problem is more complex to control in these markets, even under a tightened financial regulatory system.

Thus, given the relatively high proportion of the population living below the breadline with a relatively low income, government intervention seems to be justifiable. However, as the economy moves out of the low per capita income phase and capital markets evolve, reforms in retirement programs have to be initiated. In addition, information should be made readily available to economic agents, while managerial skills have to be improved. However, literacy will continue to be a real constraint in the case of the majority of people living in sub-Saharan African countries.

3.6 Sustainability of government finances in sub-Saharan countries

Debt sustainability is a topic that is widely debated by academics and politicians given the consensus that higher levels of debt constrain economic development as a result of the cost of debt servicing. Low economic growth rates since the early 1980s and the economic business cycles due to movements in macroeconomic variables and their components, for example the debt crisis of 1982, induced most developing countries, in particular sub-Saharan countries, to borrow in excess of their capacities to address the challenges for development in their economies. The sustainability of the debt is often measured in terms of the capacity that a country has to generate enough resources to service the debt contracted (UNCTAD, 1998, 2000).

Therefore, the level of the debt is sustainable only when it contributes to development process and not an obstacle to it. In other words, debt is only sustainable in the long-run if it is capable of increasing the earnings of foreign exchange above the level of domestic needs that allow the country to repay the debt (UNCTAD, 1998, 2000). This implies that debt occurred should contribute to the increase of a country's exports to at least compensate for imports.

One of the most important categories of government expenditure is expenditure on social security programs. Social security programs absorb in between 4.5 per cent and 10.7 per cent of the GDP in developed countries (Weller, 2004) but much less (0.1 to 3.6 per cent GDP) in developing countries. The need for the sustainability of these programs induced many governments, mainly in developed countries since 1980s, to search for alternative methods of financing them. The reason for this was that social security programs at the time had exerted an immense pressure on the government finances and as a result fuelled the implicit deficits. Government deficits should be evaluated in terms of their effects on macroeconomic variables, such as inflation, interest rate, and output (Jacobs, *et al.* 2002).

Table 3.1: Concessional Debt/GDP ratio (percentage)

	1980	1987	1988	1989	1995	1996	1997	2001
Benin	10	30	30	58	61	58	59	59
Cameroon	13	12	11	15	53	45	43	45
Ethiopia		29	31	33	70	145	135	81
Ghana	18	33	32	36	62	62	58	88
Kenya	10	24	25	25	44	42	35	35
Lesotho	12	51	46	47	56	53	48	53
Mali	37	92	92	96	113	101	104	106
Mozambique		155	185	172	208	141	98	57
Nigeria	1	2	2	2	6	3	3	3
Senegal	14	42	41	38	50	50	53	57
South Africa*	32	34	33	36	50	49	49	45
Zambia	21	78	49	41	85	115	97	98
Zimbabwe	0.3	13	12	12	24	17	17	15
sub-Saharan Africa	**6**	**18**	**18**	**18**	**49**	**26**	**24**	**24**
Excluding South Africa	**8**	**27**	**28**	**29**	**49**	**42**	**43**	**39**
Excl. South Africa and Nigeria	**12**	**31**	**32**	**33**	**57**	**55**	**53**	**49**

Source: African Development Indicators (various issues)

* Data on South Africa is taken from Reserve Bank Quarterly Bulletin and it is based on total central government debt.

Table 3.1 illustrates that a country such as Mozambique had been heavily engaged in borrowing as from the mid-1980s and during the 1990s with the highest debt/GDP ratio in that county achieved at 208 per cent in 1995. Since then its ratios have been declining significantly. There against countries like Kenya, Cameroon, South Africa, Zimbabwe[17] and Nigeria have been showing stable debt/GDP ratios. However, globally debt/GDP ratios have been increasing in the majority of SSA countries, raising the question of the sustainability of the debt.

Table 3.2: Government primary deficit/surplus as percentage of GDP

	75-84	85-89	90+	2003
Benin		-2.7	-0.9	-0.5
Cameroon	1.6	-3.9	0.4	3.6
Ethiopia	-5.7	-4.2	-4	-5.7
Ghana	-1.1	-1.2	-3.3	-4.4
Kenya	-3	0	5.7	-5.3
Lesotho			4.3	-1.4
Mali	-7.7	-3.7	-1.7	-5.3
Mozambique	-8.5	-7.1	-1.8	-1.4
Nigeria			5.2	-1.3
Senegal	-4.3	1.2	1.6	-0.2
South Africa*	-3.73	-8.34	-4.13	-2.5
Zambia		-1.3	3.2	-6.6
Zimbabwe	-3.2	-3.2	0.4	-0.4
sub-Saharan Africa			-10.2	
Excluding South Africa			-8.2	
Excl. South Africa and Nigeria		-9.3	-9.8	

Source: African Development Indicators (various issues). Data for 2003 are taken from IFM Country Report
Data on South Africa is taken from Reserve Bank Quarterly Bulletin and it is based on total central government debt.
* Data on South Africa is taken from Reserve Bank Quarterly Bulletin and it is based on total central government debt.

Table 3.2 shows the decline in primary deficit/GDP ratios (with some countries showing surpluses in the 1990s) in the majority of SSA countries since late the 1970s through the 1980s and 1990s. Mozambique reduced its primary deficit from 8.5 per cent in early 1980s to 1.4 per cent in 2003. However, countries such as, for example, Ethiopia, Ghana, Mali and others, are still struggling to reduce their deficits. Higher levels of primary deficits imply higher levels of indebtedness which can only be sustainable if it contributes to persistent long-run growth[18].

[17] In most recent years, particularly since 2002, Zimbabwe has gone into a economic crisis which would cause its debt position to change dramatically.
[18] This section is meant to discuss the transmission mechanisms, but only to hint on the effects of government deficits and borrowing on retirement expenditure.

In SSA countries borrowing capacity has been increasing despite the international efforts to reduce their debt through debt reducing initiatives. The reason being that most African countries, except oil exporters and South Africa, together with low economic growth and some other exogenous factors have seen the price of their exports dropping dramatically, since the beginning of the 1970s. This constitutes an obstacle to these countries to generate enough resources that would enable them to repay their contracted debt. These facts raise the issue of how primary deficits run by governments in SSA countries are sustainable. Burger (2004) argues that if government decides to become sustainable by running a primary surplus, the unsustainability of its deficit will be shifted to other sectors. He poses the question what would happen if these other sectors decide to accumulate more assets to prevent the declining of their financial assets and he suggests that inflation will rise, real interest rate will decline and output be depressed with further erosion of the tax base.

The issue is what happens if SSA country governments decide to reform their social security programs to provide for better social security programs similar to those offered in developed and middle-income countries? Table 3.3 shows (based on information available in 2003) that such a reform will increase the primary deficit and, therefore, increasing the need for borrowing. But the fact that the majority of SSA countries have their primary deficits declining, while their debts are increasing, means that fundamental problems will have to be taken care of before any reform of social security programs are considered. The reason is that reforms in social security programs involve significant costs related to financing them.

Table 3.3 shows how primary deficits in these countries would evolve if reforms are undertaken in order to bring expenditure in social security programs up to the level of countries like OECD the (7.5 per cent of GDP), Mongolia (6.8 per cent of GDP) and Armenia (3.6 per cent of GDP). The results show that SSA countries would have to resort to additional debt in order to finance such expenditure, which may not be sustainable from a debt management and persistent long-run economic development point of view.

The figures show that some countries are in better position to initiate reforms to their social security programs, but that a limitation exists regarding the sustainability of current deficits. Thus, SSA countries should be evaluated on a country to country basis, taking into account the countries' specificities, for example export capacity, level of indebtedness, expected growth of output and the development of financial market among other factors, including informal sector.

Table 3.3: Government primary deficit/surplus as percentage of GDP (simulation)

	OECD 1)	**Mongolia 2)**	**Armenia 3)**
Benin	-6.55147	-6.4002376	-5.7089109
Cameroon	-0.62857	-0.5219408	-0.0344784
Ethiopia	-7.43376	-7.2939417	-6.6547669
Ghana	-5.84527	-5.6438677	-4.7231627
Kenya	-4.80745	-4.5975391	-3.6379486
Lesotho	-5.23451	-4.9328411	-3.5537977
Mali	-6.28347	-6.1375	-5.4702103
Mozambique	-2.70743	-2.6069202	-2.1474638
Nigeria	-4.67376	-4.4052396	-3.1777061
Senegal	-5.52045	-5.3607183	-4.6305095
South Africa*			
Zambia	-15.7281	-15.511514	-14.521319
Zimbabwe	-2.60963	-2.4327435	-1.6240976

1) Based on the average of 7.5% government spending on retirement programs in OECD countries

2) Based on 6.8% government spending on retirement programs in Mongolia

3) Based on 3.6% government spending on retirement programs in Armenia

Note: to this level of spending is added 1.4% for the administration of the program and all calculations are base on 2003 information.

* Data on South Africa is taken from Reserve Bank Quarterly Bulletin and it is based on total central government debt.

In conclusion the fact that debt/GDP ratios have been increasing together with a decline in the deficit/GDP ratios reflects a structural problem in SSA countries. The increasing of debt/GDP ratios are because of interest payments and accumulated deficits of the previous generations, that constrain fiscal space to allow for more expenditure on socio-economic expenditures such as retirement programs. Also, the relative levels of the deficit/GDP ratios do not allow for such fiscal expansion given the current constraints. In order to create fiscal space for social security programs, a number of factors will have to be taken into account and in a country to country basis, such as export capacity, prospects of economic growth, the size of informal sector, the level of development of financial markets, among other factors that may affect the course of the reforms and prevent the accumulation of large government deficits.

3.7 Main Insights and Concluding Remarks

Chapter 2 analysed the nature, problems and potential of existing retirement programs in SSA countries. The main conclusion is that retirement programs (mainly of a social assistance nature) have been basically designed for civil servants and major public and sometimes private enterprises. The majority of these regulatory frameworks were implemented during the 1960s through 1970s, directed especially to expatriates and a minor group of indigenous people. The nature of these retirement systems does not allow for ample coverage and therefore excludes the majority of the population from formal retirement programs.

Furthermore, replacement rates are too low given the low standard of living in these countries and the way in which these retirement systems were designed does not allow for adjustment to the cost of living. The result is that the standard of living of the elderly has been declining. Because of the poor benefit payments and sometimes even negative payouts, individuals may perceive contributions to retirement systems as a tax rather than a price paid for services offered; with the result that evasion may occur. It is also concluded that due to macroeconomic effects (for example, effects on national saving and economic growth), microeconomic effects (e.g. on labour market) and political effects (bailout politics), reforms of retirement systems as proposed in the literature, including the 1994 World Bank Report, may not produce the expected results. This is due to the vulnerability of SSA countries to output shocks, other exogenous factors such as wars, natural disasters, etc.

Therefore, reforming the existing retirement systems requires firstly, the strengthening of the institutional arrangements for regulation and monitoring. Secondly, before liberalising the existing systems, the introduction of the principal-agent model of management within the existing publicly managed systems. Thirdly, allowing a minimum investment abroad benefiting from such investment opportunities, should the returns more than compensate for social returns of local investment opportunities. Fourthly, there are various alternative options to retirement systems, individuals can buy insurance policies, real estate and financial assets as a way to provide for retirement. Finally, as long as bailout politics and the possibility of corruption and mismanagement continues to be a real concern, publicly managed defined benefit plans still seem to be the viable option for SSA countries.