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ERADICATING POVERTY AMONG THE ELDERLY IN MOROCCO: A SIMULATION OF A SOCIAL PENSION POLICY

L'ERADICATION DE LA PAUVRETE CHEZ LES PERSONNES AGEES AU MAROC : SIMULATION D'UNE POLITIQUE DE PENSION SOCIALE

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ABSTRACT

This paper examines the issue of social and solidarity pensions in Morocco. The major problem with pension systems in Morocco is that they fail to meet the two objectives assigned to this component of social security: (1) to provide a decent standard of living for the elderly and (2) to reduce poverty among the elderly. A large proportion of Morocco's elderly (30%) do not receive any pension or transfer. Among those who do receive a pension, 50% receive a pension below the minimum wage. To solve the problem of poverty among the elderly, this paper proposes the introduction of a social pension. A social pension is a non-contributory pension that is paid to all elderly citizens, regardless of their income or employment history. The results of a micro-simulation model show that the introduction of a social pension equivalent to the poverty line would eradicate poverty among the elderly in Morocco and reduce inequalities. The cost of this policy would be 0.33% of GDP. The introduction of a social pension would be a cost-effective way to address the problem of poverty among the elderly in Morocco. It would provide a guaranteed income to all elderly citizens, regardless of their circumstances. This would help to improve the lives of millions of elderly Moroccans and reduce poverty and inequality.

Key words: pension schemes, social pensions, poverty among the elderly, Morocco.

RESUME

Cet article examine la question des pensions sociales et de solidarité au Maroc. Le problème majeur des systèmes de retraite au Maroc est qu'ils ne répondent pas aux deux objectifs assignés à cette composante de la sécurité sociale : (1) assurer un niveau de vie décent aux personnes âgées et (2) réduire la pauvreté des personnes âgées. Une grande partie des personnes âgées au Maroc (30%) ne perçoit aucune pension ou transfert. Parmi celles qui reçoivent une pension, 50 % perçoivent une pension inférieure au salaire minimum. Pour résoudre le problème de la pauvreté des personnes âgées, ce document propose l'introduction d'une pension sociale. Une pension sociale est une pension non contributive versée à tous les citoyens âgés, indépendamment de leurs revenus ou de leur historique d'emploi. Les résultats d'un modèle de micro-simulation montrent que l'introduction d'une pension sociale équivalente au seuil de pauvreté permettrait d'éradiquer la pauvreté des personnes âgées au Maroc et de réduire les inégalités. Le coût de cette politique serait de 0,33% du PIB. L'introduction d'une pension sociale serait un moyen rentable de résoudre le problème de la pauvreté des personnes âgées au Maroc. Elle fournirait un revenu garanti à tous les citoyens âgés, quelle que soit leur situation. Cela permettrait d'améliorer la vie de millions de Marocains âgés et de réduire la pauvreté et les inégalités.

Mots clés : régimes de retraite, pensions sociales, pauvreté des personnes âgées, Maroc.

INTRODUCTION

Pension systems play a crucial role in modern social security, primarily by promoting individual well-being through income smoothing across the life cycle. They allow individuals to retire without fear of destitution or burdening their families. However, the vast majority of pension systems worldwide rely on contributions, typically levied on earned income through taxation.

In developing countries, where informal economies dominate, implementing comprehensive contributory systems can be challenging (Dethier, 2007; Galiani & Weinschelbaum, 2012; Levy, 2010). Large segments of the population remain without pension coverage, rendering these systems ineffective in combating poverty among the elderly.

Morocco exemplifies this challenge. The primary factor driving elderly poverty in Morocco is the starkly low level of pension coverage. Upon retirement, many individuals are left without financial support, forcing them to continue working or relying on family assistance. This situation is further exacerbated by the intergenerational nature of poverty. For instance, Lund et al. (2009) demonstrate

that when a poor individual with children lives with elderly parents, the trade-off between supporting their parents and ensuring their children's basic needs often leads to compromised education for the children, perpetuating the cycle of poverty.

Traditional approaches to poverty reduction through labor markets, goods and services, education, and training are often insufficient for the elderly population. Therefore, implementing lump-sum transfers financed through taxation and administered via a non-contributory pension system or social pensions emerges as the most effective solution to eradicate poverty among the elderly in such contexts. These transfers directly support individuals living below the poverty line after retirement, ensuring a minimum standard of living.

The results of this study are based on a microsimulation designed to assess the impact of introducing a social pension in Morocco. Following the methodology of Dethier et al (2010), we seek to answer two key questions: To what extent could such a program reduce poverty and inequality? What would be its financial impact on the budget? These questions are answered by the nature and amount of the social pension to be introduced. We examine two scenarios for non-contributory programs based on targeted income. If we consider y as the income of potential beneficiaries (including public pensions) and p as the amount of the social pension, the two programs are as follows: A universal pension program, where every person over the age of 60, regardless of income, would receive a pension p equal to the median income, thus guaranteeing an income level equal to the poverty line, or an income equivalent to $2 a day (based on the 2014 average exchange rate).

While initially developed in developed countries (Beveridge component), non-contributory programs and social pensions are increasingly gaining traction in developing nations, particularly in Latin America (McKinnon & Sigg, 2006; Holzmann al., 2010; Dethier et al., 2011).

This paper aims to conduct an ex-ante simulation of the fiscal cost and potential gains, in terms of poverty and inequality reduction, of introducing a non-contributory retirement system through a universal or conditional social pension in Morocco.

The remainder of the paper is structured as follows: the first section draws up a typology of the social or solidarity pensions that can be introduced, the second section summarizes the literature review on the effects of social pensions, the third describes poverty among the elderly in Morocco, the fourth measures the cost and effects of introducing a social pension in Morocco through a microsimulation exercise, and the last concludes.

1. LITERATURE REVIEW

Cette première partie commence par aborder la typologie des pensions sociales, pour ensuite explorer les effets des systèmes non contributifs.

1.1.TYPOLOGIE DES PENSIONS SOCIALES

Following Holzman et al. (2009), "social pensions" can be defined as regular cash transfers provided by the state to individuals who have reached retirement age, regardless of their prior contributions to a pension system. These transfers aim to improve the well-being of older adults, particularly those facing poverty. Depending on the eligibility criteria, several types of social pensions exist:

Universal pensions: As their name implies, these are pensions paid to anyone who reaches a designated age, without any specific conditions on beneficiaries. They are administratively simple, requiring minimal information beyond age verification. However, their universality makes them untargeted and expensive. To effectively address poverty, the pension amount typically exceeds the poverty line. Examples include Mauritania, Namibia, Botswana, and Bolivia. They serve as a cost reference point due to their broad reach.

Qualitative pensions: These are pensions granted based on non-financial criteria such as family structure, socio-occupational category, or disability. For example, Brazil targets pensions at informal rural workers (fishing, agriculture, mining) at 50% of the minimum wage, benefiting 4.6 million people aged 60 and 55+ (Carvalho Filho, 2008; Iwakami et al., 2004). South Africa employs a similar system with even greater coverage, providing a pension equivalent to a third of the national per capita income to 88% of the eligible population aged 60 and 55+.

Minimum pension pensions: These systems guarantee a minimum income for those without any pension from a contributory scheme. A drawback is that they ignore other income sources the elderly might have. Brazil offers such a minimum pension for those not covered by a contributory system, with the amount equaling the minimum wage and reaching 5.3 million beneficiaries.

Means-tested pensions: This system conditions pension eligibility on financial need, potentially making it fairer and more equitable. However, it requires extensive data collection on the financial situations of the elderly. Economic literature proposes various targeting methods (Coady et al., 2004; Grosh et al., 2005) using scoring systems based on observed household characteristics.

1.2. THE EFFECTS OF NON-CONTRIBUTORY SYSTEMS

Non-contributory pension programs and social pensions aim to improve the lives of older adults, regardless of their prior contributions or work history. They achieve this by providing regular cash transfers exceeding the poverty line. Beyond this primary objective, these programs can generate various externalities and macroeconomic effects, impacting not only beneficiaries but also their families and communities[1].

1.2.1. Positive Effects :

Poverty Reduction: Several studies, including Barrientos (2003) and Holzmann et al. (2009), confirm the effectiveness of non-contributory systems in reducing poverty among the elderly, particularly in middle-income countries. The impact is less significant in low-income nations with younger populations.

Improved Living Conditions: Social pensions can improve the living conditions of older adults by providing them with financial security and reducing their reliance on others for basic needs.

Enhanced Health and Well-being: Studies like Duflo (2003) show that non-contributory pensions can contribute to improved health outcomes for beneficiaries, particularly women and their grandchildren.

Positive Family Impacts: Programs can benefit family members beyond the recipient. Barrientos (2002) found that children living in households with a pensioner had higher school attendance and household activity rates.

Educational Benefits: Kassouf et al. (2011) and Carvalho Filho (2008) observed that non-contributory systems can improve the schooling of girls living with beneficiaries.

1.2.2. Potential Drawbacks :

Reduced Labor Supply: Some studies, like Duflo (2003) and Olivera et al. (2014), suggest a potential decrease in labor supply among beneficiaries and their family members, which could have economic implications.

Targeting Challenges: Rivera-Marques et al. (2004) note that the effectiveness of non-contributory systems can be limited by flexible eligibility criteria and targeting strategies.

[1] However, some of these undesirable effects can be avoided if the pension features are well chosen. For more details on these aspects, please refer to Dethier et al. (2010).

Fiscal Costs: While studies like Palacios and Sluchynsky (2006) and Rhomari (2015) emphasize the reasonable cost of these programs, Dethier et al. (2010) point out that universal pensions can be expensive, requiring careful consideration of factors like age of eligibility, benefit generosity, and targeting efficiency.

Overall, the literature review suggests that non-contributory systems can be a valuable tool for alleviating poverty and improving the lives of older adults. Their effectiveness depends on various factors, including the program design, targeting strategies, and fiscal sustainability. While some potential drawbacks exist, the positive effects on poverty reduction, well-being, and family dynamics make these programs worthy of further consideration in addressing the needs of the elderly population.

2. EX-ANTE EVALUATION OF INTRODUCING A SOCIAL PENSION IN MOROCCO

Having extolled the merits of introducing a social pension, it's time to attempt a quantitative assessment, in the case of Morocco, of its effects, and above all, its fiscal cost. As we have pointed out on several occasions, since the wave of pension system reforms around the world, ex-ante and ex-post studies have been carried out to quantitatively assess the effects and costs of introducing social pensions.

2.1. METHODOLOGY, DATA AND SCENARIOS

This section presents the results of a microsimulation examining the potential effects of introducing a social pension in Morocco. Inspired by Dethier et al. (2010), we explore two key questions. Poverty Reduction: To what extent would a social pension program alleviate poverty among the elderly population? Fiscal Cost: What budgetary implications would such a program entail?

The answers depend on the program's design, specifically the eligibility criteria and pension amount. We consider two main non-contributory programs targeting different income levels:

Universal Pension: Every individual over 60 receives a fixed pension p regardless of income. Two options are explored: (a) Median Income: p equals the median income, guaranteeing an income at the poverty line. (b) World Bank Standard: p equals \$2 per day, as recommended by the World Bank.

$$T = p$$

Targeted Conditional Increase: Individuals over 60 receive a pension that brings their income up to the poverty line. The transfer amount (T) is calculated as:

$$T = M(0, p - y)$$

Where y is the income of the potential beneficiary (including public pensions), p is the social pension amount and $M(0,1)$ is the indicator function, taking the value 1 only if the condition is met $(y < p)$.

Based on these options, we analyze three simulated scenarios:

Scenario 1: A universal pension equal to 50% of the median income is distributed to all individuals over 60, similar to practices in Mauritania and Bolivia.

Scenario 2: A universal pension of $2 per day is distributed to all individuals over 60, as advocated by the World Bank.

Scenario 3: A targeted pension is provided to individuals over 60 whose income falls below the median. The pension amount bridges the gap between their income and the median income.

Due to the lack of recent detailed survey data, we follow Robalino (2005) and simulate a sample replicating the income distribution of the elderly population in Morocco for 2014[2]. Ideally, using actual survey data would allow for more refined analyses. Rhomari (2005) using data from the 2006 survey of the elderly obtain similar results.

2.2. SIMULATION RESULTS AND DISCUSSION

Table 1, below, summarizes the results, particularly in terms of reducing poverty and inequality, of introducing a social pension for people aged 60 and over. It also gives the budgetary costs associated with such a policy. The results of our simulations show that, generally speaking, the introduction of a social pension makes it possible to eradicate poverty among the elderly and reduce inequalities, albeit moderately, within the population, with relatively low budgetary costs, and at the price of a relatively sustainable fiscal cost. The universal pension covers the entire elderly population, i.e. 3.2 million people aged 60 and over. In the other two scenarios, when beneficiaries are targeted on the basis of their income, the non-contributory system covers an average number of 300,000 people aged 60 and over. This represents an average coverage rate of 10%.

By construction, when the amount of the pension is equal to half the median income, which corresponds to the poverty line, the poverty rate among the elderly falls from 9.7% to 0% after the

[2] Date of the last general population and housing census in Morocco (RGPH).

introduction of a social pension as described in scenarios 1 and 23. When the amount of the pension is $2 per person per day, the poverty rate among the elderly falls drastically, from 9.7% to 3.2%. The effect on inequality, as measured by the GINI index, is much more mixed. Except in the case of a universal pension, the reduction in inequality is limited. Our result thus confirms a frequent finding in the economic literature on this issue4. Initially, in the base scenario, i.e. without a social pension, this index was 34.4%. The introduction of the universal pension reduces this rate to 26.2%. When the non-contributory program is implemented in the form of a targeted pension, inequality is reduced by only two points, with a GINI index of 32.5% in scenario 2 and 33.3% in scenario 3.

Let's turn now to the budgetary cost of these programs. Overall, here again we confirm the results of previous work on other countries. Apart from the payment of a universal social pension, which serves here as a reference and comparison scenario, the budgetary cost of implementing a non-contributory program is not exorbitant, except in the case of scenario 1. Paying a pension to all people aged 60 and over would cost 31.4 billion dirhams. This colossal amount represents 13.4% of ordinary income and 3.4% of GDP. These costs quickly become reasonable, and even hopeful, when the beneficiaries are targeted. It's easy to see how countries like Mauritania can boast a 100% coverage rate for the elderly, despite an informal sector at least as large as that of the national economy, thanks in particular to a non-contributory program. When the pension is provided to people aged 60 and over, and the amount is set exactly at the poverty line, the budgetary cost is 3.04 billion dirhams, representing just 1.29% of ordinary revenues and 0.33% of GDP. Scenario 3, with a bill of 1.83 billion dirhams, 0.20% of total ordinary revenues or 0.78% of GDP, has a slightly lower fiscal cost than the previous scenario.

Generally speaking, these budgetary costs are not very significant, given that in Morocco, social spending accounts for over 50% of the general state budget. What's more, when we compare these results with the costs of similar programs in other developing countries (notably in Africa and most Latin American countries), we see that the costs of a non-contributory program targeting the elderly poor are quite low.

Table-1. Cost and effects of a social pension for people aged 60 and over

[3] These are ex-ante assessments. In reality, and for various reasons, despite the introduction of social pensions, the poverty rate will never be equal to 0%.

[4] See, for example, Olivera, J. and B. Zuluaga (2014).

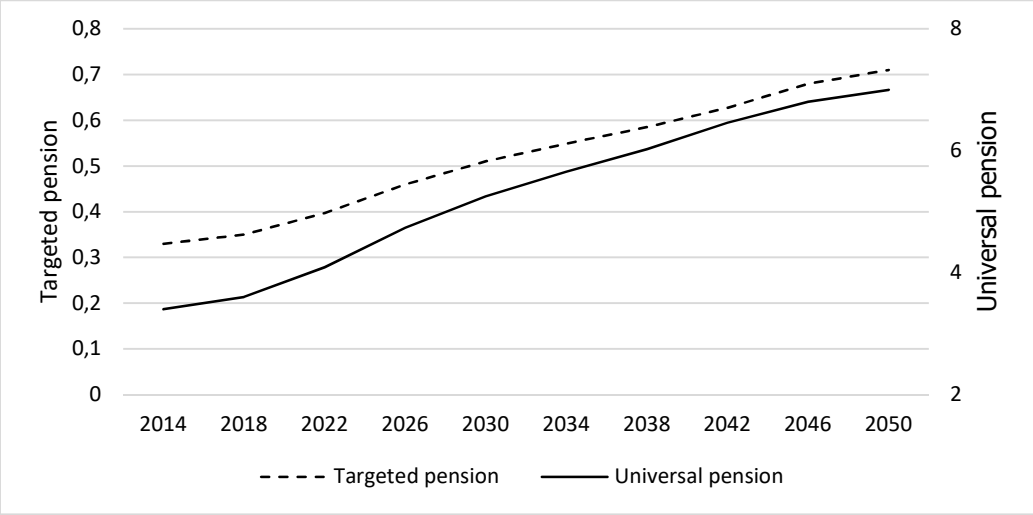
Scenario	Number of beneficiary	Cost and results
1. Universal pension (50%) of median income transferred to all persons aged 60 and over)	3,209,000 people	- 31.4 billion dirhams - 3.4% of GDP - 13.3% of ordinary income - Poverty rate = 0%. - Gini index = 26.24
2. Pension packaged (the amount transferred is such that all people aged 60 and over plus earn at least 50% of the median income)	311,273 people	- 3.04 billion dirhams - 0.33% of GDP - 1.29% of ordinary revenue - Poverty rate = 0%. - Gini Index = 32.53
3. Pension conditioned (the amount transferred is such that all people aged 60 and over plus earn at least $3.1 per day)	208,585 people	- 1.83 billion dirhams - 0.20% of GDP - 0.78% of ordinary income - Poverty rate = 3.2% - Gini index = 33.3

Source. Own calculations

A quick look at the evolution of the number of elderly people allows us to project the evolution of expenditure linked to the implementation of a non-contributory program. We limit our projections to the cases of a universal pension and a pension targeting the poor, with an amount equal to the poverty line in both cases. To carry out these projections, we adopt a central scenario with two assumptions which we consider to be largely realistic. We assume that pensions are indexed to the cost of living, with an inflation rate of 2% and an economic growth rate of 4.5%. These two growth rates are the average annual growth rates calculated from national accounts data for the last ten years. As shown in figure 1, potential expenditure on the non-contributory program will rise slightly over the first 10 years, from 0.33% of GDP in 2014 to 0.40% in 2024 for the targeted pension, and from 3.4% to 4.17% for the universal pension. From that date onwards, spending will stabilize and even decline. From 2024 onwards, the rate of growth in the number of elderly people will, on average, be lower than the rate of real economic growth.

In view of all the above, it would seem that the budgetary cost of setting up a non-contributory program to benefit the elderly poor is not only viable in the short term, but also sustainable by 2050, given the likely demographic and economic trends in the national economy.

Figure-1. Projected fiscal cost of a social pension (in % of GDP)



Source. Own calculations and projections

CONCLUSION

This paper examines the situation of the elderly in Morocco, specifically focusing on the potential for introducing a non-contributory social pension (social solidarity pension). Several countries, including developing nations, have successfully implemented such universal pensions. In a context like Morocco's, with a large informal sector, a social pension may be the optimal policy to combat poverty and improve living conditions for this vulnerable population. Some studies even suggest it could contribute to economic growth by encouraging school attendance among beneficiaries' children. This makes it both an effective and equitable economic policy.

The non-contributory nature of this pension pillar is particularly appealing considering its estimated cost. Various ex-ante and ex-post studies suggest that setting it up would not be exorbitant compared to its goals or other social expenditures. The aim of this paper was to explore these issues through theoretical and empirical literature reviews, and in the case of Morocco, through an ex-ante simulation of the effects and costs of implementing a universal social pension. Our simulations align with previous studies, demonstrating that eradicating poverty among the elderly through a targeted social pension can be achieved at low cost. In Morocco's case, we show that the cost wouldn't exceed 0.33% of GDP for a program benefiting low-income individuals aged 60 and over.

Of course, the success of such a policy hinges on certain conditions. Precise beneficiary targeting is crucial, requiring in-depth knowledge of the elderly's socio-economic situation. This would prevent

wasteful practices like compensation and annuity policies, as well as corruption. Administrative setup costs can also be kept down. While potential drawbacks such as reduced labor supply or income adjustments exist, empirical evidence suggests these effects are often minimal.

It's important to note that our estimates only reflect direct, monetary gains. Other indirect or non-monetary costs must be considered. The most significant financial cost is inherent in the administrative setup, particularly for a population-targeted system. Implementing such a pension requires adequate staffing, efficient information systems, and a robust monitoring and evaluation system (World Bank, 1992). Additionally, costs associated with pension research and its vulnerability to corruption must be factored in. The economic literature offers several targeting methods (administration identification, community identification, and self-selection). In developing countries, the Proxy Means Test (PMT) method, which calculates eligibility based on easily verifiable characteristics, appears to be the most cost-effective and appropriate option.

Another indirect cost of this measure is the potential distortion created by additional taxes used to finance it. Nevertheless, as mentioned earlier, the benefits of a non-contributory system extend beyond just poverty and inequality reduction. Recent studies have shown significant positive externalities of these transfers on beneficiaries' mental health (Galiani et al., 2014) and the educational attainment of grandchildren, particularly girls, living with beneficiaries (Barrientos, 2003). For a finer, more comprehensive, and therefore more realistic assessment, estimating the economic gains and costs of implementing a non-contributory system using a micro-simulated computable general equilibrium model (CGE-MI) would be ideal.

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