

Defining Eligibility for Social Pensions: A View from a Social Assistance Perspective¹

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Introduction

This chapter looks at social pensions from the viewpoint of those concerned with social assistance policy. Two factors loom large from this vantage point. The first is the desire for horizontal equity – to serve those who are equally needy equally well. The second is a pervasive concern for financing, because tax-financed transfer programs are in perpetual competition with other important priorities and are rarely ‘fully funded’ outside of OECD countries.

Are special programs for the elderly poor needed? [suggested heading].

The first step in formulating social assistance policy is a diagnostic of poverty and vulnerability (see Grosh et al. 2008). How many are poor or at risk of poverty? What are their characteristics? What are the causes of their poverty and vulnerability? Social pensions policy often takes, almost as axiomatic, the view that the elderly who are not covered by contributory pensions schemes or have not contributed enough to earn a minimum pension are vulnerable. The social assistance diagnostic [or: A rigorous economic analysis, however, ...] would probe the situation of the elderly further before giving them high priority. How poor are the elderly vis-à-vis other groups? Is the common lifetime income path reliance only on own or partner’s wage earnings, suddenly eliminated by retirement with no replacement via a pension? Do families pool income across members of different ages? Do the elderly sharply withdraw from productivity and earnings as in a formal sector retirement, or do they continue in their economic activities, possibly at diminished levels or with diminished earnings? [Refer to Chapter 2 on poverty among the elderly].

The answers to such questions are country specific and, indeed, can vary by groups of elderly – they may differ between those who had formal sector employment and those who did

¹ A first presentation of this material was made at the World Bank-Hitotsubashi Workshop: Closing the Coverage Gap: The Role of Social Pensions, February 21-22, 2008 in Tokyo. This paper extends the results presented at the workshop with the addition of data from two additional countries – the Kyrgyz Republic and Yemen.

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not, those employed in agriculture and others, perhaps by ethnicity if it affects household structure. Various comparisons of rates of poverty among the elderly show that in many countries they are a bit poorer than average, but that this is not universally the case (see Grosh et al. 2008, chapter 8, section 1), and we shall see that in the four country cases we present later in this paper.

From a social assistant point of view [again, why point of view should be different? This seems to me more as good policy analysis], the diagnostic of the poverty and vulnerability should include not only the elderly, but other groups that may be in need of assistance. Even where the old are poorer than average, there are many poor who are not old, and old who are not poor, something we shall again see in the empirical part of the chapter.

Social pensions then need to be fit carefully into the overall picture of social assistance. Are there other programs that serve other groups, with the same level of coverage and generosity? If not, then a social pension, especially a universal one, implies that the elderly are somehow more worthy of support than other needy groups – such as poor children, persons with disability, working families with low earnings, etc. – and violates the principal of horizontal equity. This will be especially severe in the lower income countries where social assistance is in general most lacking, and these are often also the countries where contributory pensions are least common, the ‘coverage gap’ largest and thus social pensions of the most interest.

In countries where there are other programs for other groups, the issue of horizontal inequity may be much less, but then the issue of efficiency arises – should income support be provided through a social pension or through inclusion of the elderly in other social assistance programs? See table 1 for the pros and cons of various options. There are obvious advantages in administration in having only one rather than multiple systems for targeting, for payments, for monitoring and evaluation, etc. And by integrating groups into a single program, the issue of who is more worthy of support is avoided. Indeed, from a social assistance point of view, integrateing the poor elderly into a poverty targeted social assistance program is the preferred or ‘default’ option [this is a very important message and again I think should be presented as the results of good policy analysis instead of simply the preference/position of people working on SA]..

Integration of the elderly into social assistance is of course always done implicitly in general needs based programs, it is even done in four of the best-known conditional cash transfer programs (in Mexico, Brazil, Ecuador, Jamaica) which area usually thought of as serving only

children. There are ways to explicitly modify the program to ensure that the elderly are well served – through adjustments to eligibility rules, setting of benefits, or other program requirements. In Bulgaria, the eligibility threshold for the Guaranteed Minimum Income Program is adjusted depending on family characteristics whereby it is higher for families with elderly members. In Jamaica’s PATH program (a conditional cash transfer), the formula for the proxy means test was adjusted to lower the weight given to housing assets to allow significant numbers of elderly living alone to participate. The elderly receive their full payment even if children in the household default on the conditions pertinent to them and fail to qualify for their own benefits. In the US Food Stamps program and in [ECA targ example], the recertification period is longer for households headed by elderly than for other households. In Romania’s guaranteed minimum income program, the elderly are exempt from the public service requirement.

Table 1: Options for Providing Income Support to the Elderly

Selected Advantages	Selected Disadvantages
<i>Contributory Pension</i>	
<ul style="list-style-type: none"> ➤ Unified pensions policy ➤ Lifetime income smoothing 	<ul style="list-style-type: none"> ➤ Coverage is low and not increasing enough to solve problem ➤ Contributory systems will not provide adequate support to lifetime poor, those with incomplete employment history or informal sector workers who prefer not to contribute; ➤ Difficulties with collection and record-keeping
<i>Universal Social Pension</i>	
<ul style="list-style-type: none"> ➤ Apparent simplicity – no affiliation, contributions or targeting issues ➤ Little issue of labor disincentives for direct beneficiaries ➤ Political support may be high 	<ul style="list-style-type: none"> ➤ Fiscal cost can be high ➤ Implicit issue of whether elderly the most or only deserving in the society? ➤ Most money goes to non-poor because most elderly live in non-poor households
<i>Targeted Social Pension</i>	
<ul style="list-style-type: none"> ➤ Radically reduces fiscal cost ➤ May reduce horizontal inequity with other groups ➤ Political support is usually high 	<ul style="list-style-type: none"> ➤ Requires a targeting system
<i>Include Elderly in a Poverty Targeted General Social Assistance Program</i>	
<ul style="list-style-type: none"> ➤ Minimizes administrative costs, avoids duplication of functions ➤ Avoids issues of one group being more worthy of support than another ➤ Allows SS administration to stay service-oriented rather than become gatekeepers 	<ul style="list-style-type: none"> ➤ Stigma may be greater if support called social assistance rather than a pension; ➤ Receipt of family-based social assistance won’t empower the elderly within the household the way receipt of an individual-specific pension might; ➤ Political support for social assistance is often less than political support for pensions.

Source: authors’ elaboration

Targeted Vs. universal transfers [suggested subtitle]

A second pervasive concern in social assistance is the fiscal constraint. This implies careful scrutiny of costs and opportunity costs (see also Chapters 6 and 7). Various authors have

calculated the fiscal costs of universal pensions, most often in Sub-Saharan Africa, because this is where both contributory pension schemes and more general safety nets that might provide alternatives are least developed. Schwarz (2003) calculates the cost of providing US\$1 per day to all those older than 65 in 40 Sub-Saharan African countries and comes up with estimates that range from 0.1 percent of gross domestic product (GDP) in the Seychelles to 10.6 percent of GDP in Ethiopia. Confining the pension to those older than 75 reduces costs somewhat—for example, to 3.0 percent in Ethiopia. Kakwani and Subbarao (2005) simulate the impact of a transfer calibrated to be 70 percent of the country-specific poverty line to all those older than 65 in 15 Sub-Saharan African countries and find that costs for this range from 0.7 percent of GDP in Madagascar to 2.4 percent of GDP in Ethiopia. These costs are large relative to expenditures on social assistance as a whole. In most developing countries that is only 1-2 percent of GDP for all programs, in some countries it is markedly less, in a few poor countries with large donor support for social assistance it can be more (Weigand and Grosh, 2008). Moreover in most of these countries the safety net is far from complete in coverage or adequacy of benefit levels.

The costs of universal social pensions are daunting. Some social policy analysts interpret them as signifying the need to significantly enlarge social assistance budgets, to others they imply the need for targeting. See box 1 for a further discussion of that choice.

Box 1: Universalism versus Targeting

Targeting is a hugely controversial topic, considered anathema by some and panacea by others when, as with many divisive topics, the most sensible view is probably somewhere in between.

In relation to social protection, the universalist approach proposes that all citizens of a nation receive the same state-provided benefits. Targeting proposes that state-provided benefits differ depending on individuals' circumstances. Proponents of both approaches understand that in most developing countries, current budgets do not allow a meaningful provision of transfers to all citizens, and also that targeting experience is far from uniformly excellent. There are two glasses of milk, each of them half empty and half full; the "camps" differ about which they perceive can be filled.

Universalists are optimistic that the social unity resulting from a uniform provision of benefits will garner a sufficient budget (nationally financed in middle-income countries and donor assisted in low-income countries) to provide meaningful protection. Universalists believe that experience with targeting as a way to increase the efficiency of redistributive spending has been unsatisfactory to date, uninspiring in relation to hope for the future and detrimental to efforts to increase the budget.

In contrast, targeters have a more optimistic assessment of targeting experience and are hopeful that bad experiences can be replaced by good experiences and that perhaps the good experiences can be improved. Targeters' pessimism concerns budgets, seeing both political and technical obstacles to budgets becoming sufficient to provide meaningful universal benefits.

In reality, the distinction between the approaches is not absolute. Even the European welfare states that have gone the furthest in universal provision of child allowances, education, and health insurance and have extensive minimum wage laws, labor market activation and the like have last resort needs-based programs that are tightly targeted.

Source: Grosh et al, 2008, box 4.2

If targeting is chosen, it has several implications. First a targeting mechanism must be found. There are several options available (see table 2), but the categorical options (age, household structure) are not very accurate, which strongly implies that using a more sophisticated mechanism (community based, proxy means testing or means testing) will be desirable whenever the administrative capacity exists or can be built.

Table 2 Options for Targeting Social Pensions

Selected Advantages	Selected Disadvantages
By age	
<ul style="list-style-type: none"> ➤ Administratively simple ➤ Setting a high age, such as 75 or 80 can limit numbers substantially 	<ul style="list-style-type: none"> ➤ Inaccurate, because elderly are not always or only poor ➤ The poor die younger on average, so setting a high age threshold will concentrate benefits on those who have been well-off for most of their life
By household structure – benefitting only households with only elderly, or elderly and children in ‘missing generation households	
<ul style="list-style-type: none"> ➤ Household structure easier to observe than income ➤ Limits benefits substantially because such households may constitute only 1-2% of households 	<ul style="list-style-type: none"> ➤ Inaccurate – many elderly living alone are ‘those who can afford to’ rather than those who have no family ➤ Sets a worrisome incentive for families to have their elderly live alone rather than absorb them into households with earners and carers.
Community based methods – local officials or committees determine who in community need assistance	
<ul style="list-style-type: none"> ➤ In most such schemes, elderly are often included as a priority group ➤ Relatively little administrative apparatus needed 	<ul style="list-style-type: none"> ➤ Possible costs to community cohesion not well understood ➤ Accuracy not well known
Means testing	
<ul style="list-style-type: none"> ➤ Usually the most accurate ➤ Rely on a excellent measure of household welfare 	<ul style="list-style-type: none"> ➤ Requires the most administrative apparatus ➤ Welfare is hard to verify verifiable by the authorities that run the program ➤ May discourage work since targeting is directly on welfare
Proxy means testing	
<ul style="list-style-type: none"> ➤ Usually provides fairly good individual-level targeting of program ➤ It is based on poverty status using a relatively small amount of information. 	<ul style="list-style-type: none"> ➤ Requires the most administrative apparatus ➤ Requires staff with computer training skills and moderate to high levels of information and technology ➤ Formula can be not sensitive to quick changes in household welfare or disposable income ➤ Sensible to selection of variables

Source: authors’ elaboration

Fortunately there is a great deal known already about the pros, cons and requirements of targeting systems for the general population (see, for example, Coady, Grosh, Hoddinott 2004, Grosh et al. 2008, Castañeda and Lindert, 2005) but it is important to check whether the methods useful to the generally poor population work as well for the elderly. We turn now to that question looking in depth at one of the most commonly chosen and fastest growing targeting methods – proxy means testing -- and consider how well it works for the elderly.

One question that needs to be addressed somewhere in this or the previous section has to do with poverty measurement itself. The criticism to some of the studies looking at poverty among the elderly is that most of the time they assume that income/consumption is distributed equally across members. Yet some evidence suggests that the distribution favors children and working age individuals. Different assumptions about economies of scale can also affect the results. In short, because of this the claim is that poverty rates among the elderly can be often underestimated...].

Proxy means test is common targeting tool whose popularity has exploded in the last twenty years. Chile pioneered the practice in 1980. This targeting method is now used in many Latin American countries and has spread to countries in every region of the world. The idea is that while income is quite hard to quantify for households whose earnings come from the informal sector, from household enterprises and small farming, household welfare can be predicted based on a fairly small number of easy to measure and often easy to verify indicators (or proxies). Thus an application form would ask two or three dozen questions about household demographics and the education of its members, possibly whether they work and what kind of work they do; about the location and quality of its dwelling; about the household's possession of durable goods and livestock. The answers would be fed into a scoring formula, and eligibility or priority for a program assigned based on that score. The score is derived using analysis of household survey data that measures consumption or income directly and reasonably completely and which has a rich set of correlates to test. (for more on proxy means testing, see Castañeda and Lindert, 2005).

Methods and data to assess the effectiveness of alternative targeting mechanisms [sst]

We use household survey data from four countries – Kyrgyz Republic, Niger, Panama, and Yemen to look at poverty, to model different variations of proxy means tests, and to evaluate targeting errors for the population and for the elderly. Niger, the Kyrgyz Republic and Yemen are poor, though with different intensities of poverty. Panama, on the other hand, is middle income, with a income per capita twenty times that of Niger and ten times that of the Kyrgyz Republic. Income inequality is low to moderate in each country, which makes targeting somewhat more difficult than in high inequality countries. (See Table 3.) Each country has some social assistance and contributory pensions, none presently have social pensions, all have substantial coverage gaps [add details](#) see Table 4.

Table 3: Basic Social Indicators

	Kyrgyz Republic	Niger	Panama	Yemen	
Population (in millions) ¹	5.1	14.4	3.3	20.1	
Rural population (%) ²	63	83	39	73	
GDP (current US\$, billions) ¹	2.8	3.7	17.1	19.1	
GNI per capita (current US\$) ¹	500	270	5000	760	
Life expectancy at birth ¹	68	56	75	62	
School enrollment in primary (% net) ¹	86	43	98	75	
Population ages 65 and above (% of total) ¹	6	3	6	2	
Poverty Level (%) ²					
	FGT(0)	58.1	62.1	37.1	36.5
	FGT(1)	22.7	24.1	15.3	10.2
	FGT(2)	11.9	12.3	8.7	4.1
Inequality ²					
	Gini Index	0.29	0.44	0.47	0.39
	P90/P10	3.4	5.7	10.4	4.4

Source: The World Bank; Niger QUIBB 2005; Panama ECV 2002/03

Note: 1- The World Bank, reference year 2006; 2 - Poverty and Inequality measures computed on household per capita

Table 4: Basic Social Protection Programs.

Country	Social Insurance coverage	Social Insurance Expenditures as a % of GDP ²	Social Assistance coverage	Social Assistance Expenditures as a % of GDP ²
Kyrgyz Republic	Pensions, maternity benefits, work injury benefits and unemployment benefits	5.1	Family allowances (monthly benefits) for disadvantage population (childre, elderly and disable)	0.7
Niger ¹	Pensions, maternity benefits, work injury benefits and health insurance	n.a	Food for work program, General Food aid, Cash for Work program	n.a
Panama	Pensions, maternity benefits, work injury benefits, health insurance and unemployment benefits	5	Cash transfers, school feeding, subsidies	1.7
Yemen	Pensions, maternity benefits for public-sector employees and work injury benefits	0.9	Social Welfare Fund, Social Fund for development, Petroleum Subsidies, Public transfers (income assistance for martyr's families, agriculture and fishing production, etc.)	1

Note:

1: Mainly all social protection programs in Niger (70% of total safety net expenditures) are focused on food crisis.

2: Weigard and Grosh (2008)

Source:

Kyrgyz Republic, Enhancing Pro-poor Growth, September 30, 2003, Report No. 24638-KG

<http://www.ssa.gov/policy/docs/progdesc/ssptw/2002-2003/asia/kyrgyzstan.html>

Niger: Food security and Safety nets (2008); <http://www.ssa.gov/policy/docs/progdesc/ssptw/2002-2003/africa/niger.pdf>

Social Protection in Panama; <http://www.ssa.gov/policy/docs/progdesc/ssptw/2002-2003/americas/panama.pdf>

MENA database; Reducing Vulnerability and Increasing Opportunity, Social Protection in the Middle East and North Africa, Report No.24559

<http://www.ssaonline.us/policy/docs/progdesc/ssptw/2002-2003/asia/yemen.pdf>

Box 2: Summary of Data Sources and Methods

Data:

Panama – Encuesta de condiciones de vida (ECV) 2002-2003;

Niger – Questionnaire des indicateurs de base du bien-être (QUIBB) 2005;

Yemen – Household Budget Survey (YHBS) 2005-2006

Kyrgyz Republic – Household Budget Survey (KIHBS) 2005

Welfare measure:

Household per capita consumption for all four countries, gross of receipt of any social transfers and pensions

Poverty lines:

Poverty lines are set to include 20 percent of the population.

Targeting errors:

Exclusion error is calculated as the ratio of poor households predicted as non poor over the total number of poor households.

Inclusion error is calculated as the ratio of non poor households predicted as poor over the total number of non-poor households.

The empirical analysis is based on recent household survey data. Box 2 summarizes the data sources and basic methods used in the analysis.

We consider various form of targeting systems: four different designs of proxy means tests and a pure means test. Panama actually uses a proxy means test for its conditional cash transfer program – Red de Oportunidades – and Yemen in considering using one for its cash transfer program – Social Welfare Fund – but the calculations shown here are not the exact formulae used in these countries, but re-specified to make the analysis in this paper as comparable as possible across the countries. Further details on the calculations of the proxy means test are provided in Annex 1.

The four variants on a proxy means test are as follows:

- Model 1 is a ‘generic’ or baseline formula, using the standard sorts of variables and techniques common in the field;

- Model 2 uses formulae calculated separately for households with and without elderly. This could improve the accuracy of prediction if, for example, the relationship of assets and welfare is different for the elderly and for the non-elderly, as might be the case if elderly had accreted good housing over their lifetime and were enjoying its benefits but had relatively low income compared to younger home-owners.
- Model 3 uses a single formula with augmented information about the presence, number, and contribution of the elderly in the household; and household structure.
- Model 4 has both the augmented information set and separate formulae for households that do and do not contain elderly.

For the pure means test the household per capita income is used as welfare measure in all four countries. Income definitions are different but all four countries take into account non monetary and agriculture production income. For this method, the poorest 20% households according to this welfare measure are classified as poor.

We simulate then the effects of a tested social pension based on each of the targeting mechanisms as well as the effect of a universal pension (not targeting) . In each scenario the potential beneficiaries are all elderly (age 65 or more) household members. The social pension budget is fixed and equally divided among potential beneficiaries selected by each targeting approach., Thus the size of the transfer varies from scenario to scenario with the number eligible. We use a budget representing 0.5% of per capita GDP for Kyrgyz Republic, Niger and Yemen; and 0.1% of per capita GDP in Panama. For the targeted scenarios, these budgets give transfers in the range common for social pensions [provide range]. Nonetheless, 0.5 percent of GDP is relatively large for a single program which can serve only a small share of poor households. We judge the outcomes by the impact on the Foster-Greer-Thorbecke family of poverty measures and by a measure of cost effectiveness the reduction in poverty gap (in local currency units) for each local currency unit spent. In summary, there are six policy alternatives:

- Universal Social Pension **[[change terminology in table to USP from UBT – in the book we are using interchangeably Universal pension, basic pension, or universal social pension]]**: all potential beneficiaries are eligible to receive transfer;
- Means tested social pension: all potential beneficiaries living in the poorest 20% households according to household per capita income distribution are eligible to receive the transfer;

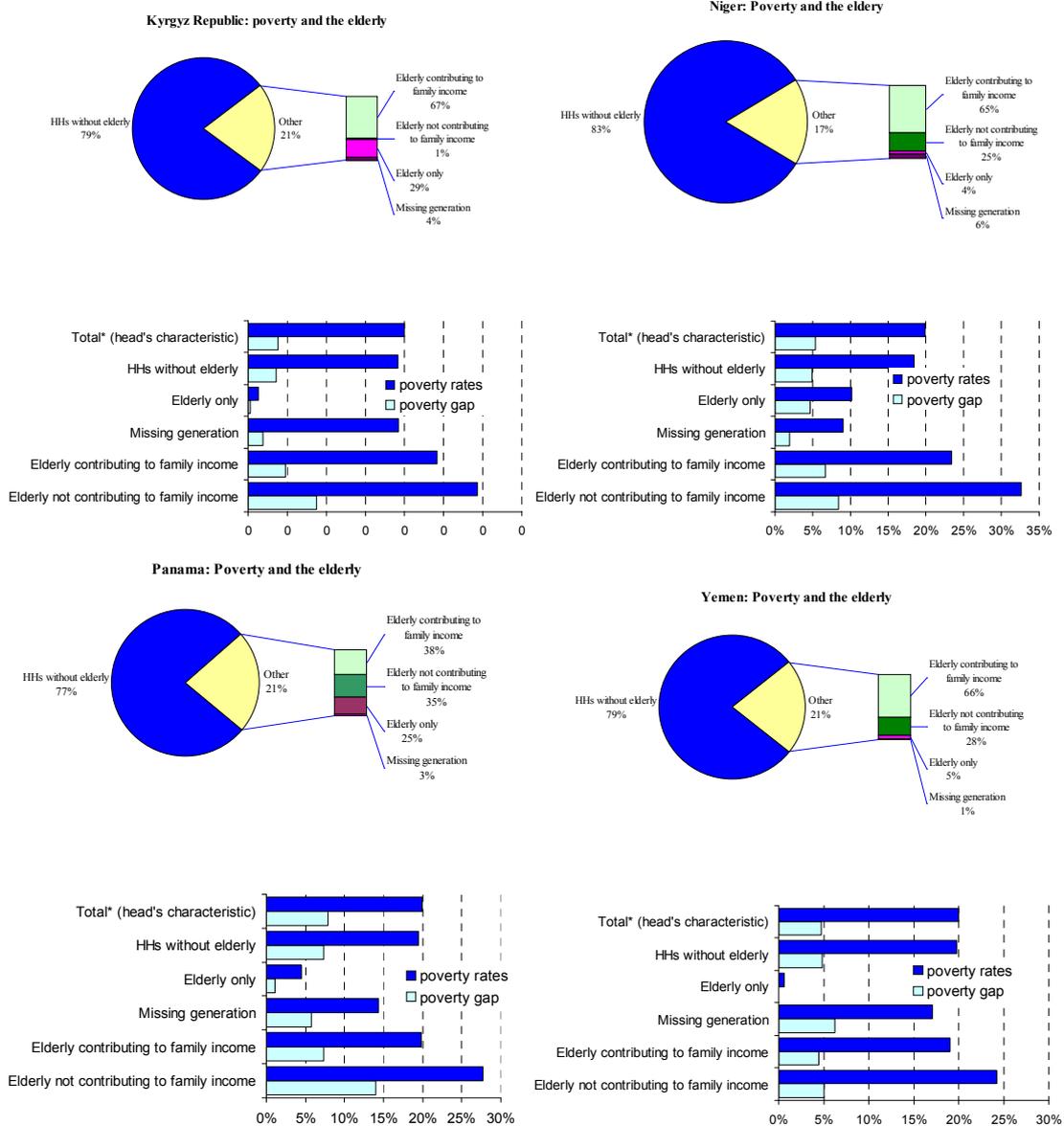
- Proxy means-tested social pension: Models 1, 2, 3 and 4: All potential beneficiaries living in the poorest 20% households according to the PMT counterfactual household per capita expenditure distribution are eligible to receive the transfer.

Results

We turn first to see how poor are the elderly, how this varies by their living situation, and how it compares to the rest of the population. Country specific results are shown in Figure 1. Though the magnitudes vary a bit by country, there are a number of commonalities.

- Only about 1 in 5 households includes an elderly member.
- Most elderly live in households with working-age adults. In Yemen only 6 percent of the elderly live without such support, in Niger only 10 percent. Households anchored by the elderly are more common in Kyrgyz Republic and in Panama, with almost a third of elderly live in households without working age adults in these countries.
- Many elderly contribute to household income. In the poorer countries with less formal labor markets, about two thirds of the elderly contribute income to the household. In Panama, only a third of the elderly contribute to household income.
- The differences in poverty rates between households that contain elderly and those that do not are variable. Households with elderly are somewhat poorer than households without elderly in Kyrgyz Republic and Panama, more markedly so in Niger, but not in Yemen.
- The highest poverty rates are found in households with elderly who do not contribute to income. These rates are indeed worryingly high, but account for only a quarter to a third of households with elderly, and less than ten percent of all households [interesting. This is high relative to other countries in MENA and also India].
- The poverty rates among the elderly living alone are sharply lower in every country than for other household structures [we also find the same in other countries in MENA. Those living alone seem to be those who afford it].

Figure 1: Poverty levels and household composition



If a social pension were to be universal in these countries, it would be mildly progressive in its targeting because households with elderly are somewhat poorer than average, but a substantial share of the benefits would go to the non-poor, because many of the elderly live in households that are not poor. In all countries more than 80% of elderly population lives in non-poor households. In Kyrgyz Republic, 85.4% of about 300,000 elderly are non-poor; in Niger 80.2% of about 355,000 elderly are non-poor; in Panama, 88% of about 211,000 elderly are non-poor;

poor; and in Yemen, 83.4% of about 688,000 elderly are non-poor. Moreover, the universal social pension would address only a part of overall poverty as an important share of poor households do not have any elderly members – 79% in Kyrgyz Republic; 78% in Niger; 79% in Panama; 80% in Yemen.

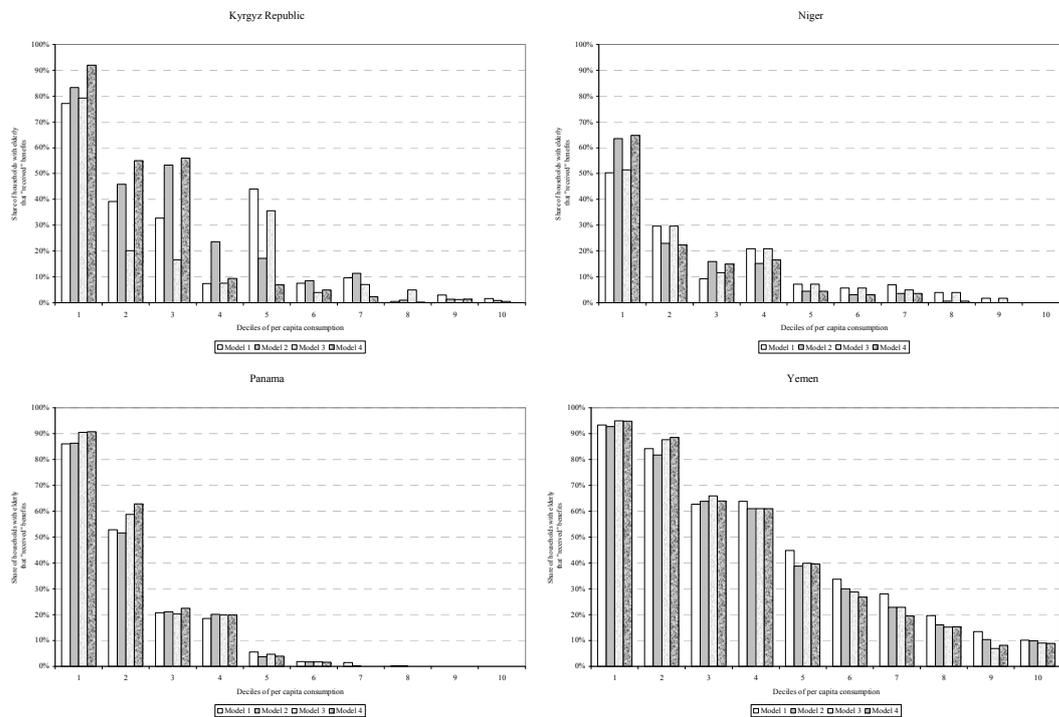
If a social pension were to be targeted via a proxy means test, by definition, fewer of the non-poor would benefit, but there would be some errors of exclusion. These are quantified in Table 5. Figure 2 provides a visual portrayal of the distribution of coverage. There are three important things to note:

- The elderly are not excluded more often than the non-elderly, indeed in some cases, they are excluded less often. Thus concerns that the proxy means test might not work as well for the elderly as for the general population are not supported, at least for these countries and the elderly as a whole.
- Extra attention to issues pertinent to the elderly in the definition of the proxy means tests - either through augmenting information or through estimating the formulae separately or both - improve performance with respect to the elderly and do not harm it for the non-elderly. They are nearly costless improvements to targeting.
- As ever, targeting does induce exclusion error and reduces inclusion error. When the target group is set to the poorest 20% of the population, as many as 40 percent of these may be excluded, though the exclusions happen most often around the threshold of eligibility. Coverage in the poorest decile is quite high, with only around 10 exclusion errors in Kyrgyz Republic, Panama and Yemen. Errors of exclusion are higher in Niger, the poorest country in the sample. Inclusion errors are low, with only 5 to 20 percent of households predicted to be poor not actually being poor. Again, performance is substantially better in Panama than among the poorer countries, and the worst in Niger [some insights as to why?].

Table 5: Inclusion and Exclusion Errors from Simulated Proxy Means Tests

		Poorest 20%					
		Household with elderly		Household without elderly		All households	
		Exclusion error (%)	Inclusion error (%)	Exclusion error (%)	Inclusion error (%)	Exclusion error (%)	Inclusion error (%)
Kyrgyz Republic							
	Model 1	39.5	16.0	41.0	8.9	40.6	10.3
	Model 2	33.0	18.0	43.2	8.2	40.9	10.1
	Model 3	33.4	11.5	40.2	9.4	38.7	9.8
	Model 4	24.0	13.5	39.5	8.1	36.0	9.2
Niger							
	Model 1	38.0	19.0	53.5	10.8	49.4	12.3
	Model 2	28.7	16.0	52.3	10.5	46.1	11.5
	Model 3	38.2	18.9	53.6	10.9	49.6	12.4
	Model 4	29.9	16.7	52.3	10.4	46.4	11.6
Panama							
	Model 1	29.3	5.3	23.6	7.1	24.8	6.8
	Model 2	29.7	5.1	22.6	6.9	24.0	6.5
	Model 3	24.1	4.8	22.1	6.5	22.5	6.1
	Model 4	22.0	5.2	22.6	6.4	22.5	6.2
Yemen							
	Model 1	44.6	14.5	50.3	11.6	48.9	12.3
	Model 2	42.6	10.9	47.9	12.0	46.7	11.7
	Model 3	42.7	12.5	45.8	10.9	45.1	11.3
	Model 4	37.9	10.9	45.8	11.0	43.9	11.0

Figure 2: Coverage rate when PMT is used for targeting



The erroneous exclusion of poor households from a program is a troubling thing. Is the reduction in errors of inclusion sufficient to justify it? We approach this by simulating the impacts on poverty and examining the cost effectiveness of the policy scenarios, as shown in Table 6.

Key findings of the policy simulation are:

- Generosity of simulated programs varies according the number of beneficiaries selected for the program because budget is fixed.
- The universal social pension has lower effect on poverty and lower cost- effectiveness ratio since large majority of elderly are not poor in all four countries.
- As judged by the cost-effectiveness ratio, the universal social pension, followed by means test, is the less efficient program design. [nice – but it would be good to add a column with a fixed measure of generosity (transfer as a share of GDP per capita) one that does not vary with the average consumption of the beneficiaries]
- The PMT models also have better results than either the universal transfer or means test for all measures of poverty.

- The cost effectiveness increases for all countries but Kyrgyz Republic by estimating model separately for households with / without elderly.
- The cost effectiveness increases for all countries but Niger when the model is calibrated for the elderly population.
- Exclusion and inclusion errors for households with elderly remain relatively stable for both calibrated model but separated estimation (model 4) reduces exclusion errors of households with elderly in all countries, despite increase of inclusion errors increase in Kyrgyz Republic and Panama [this should go to the previous section, so that this one focuses on cost-effectiveness].
- Overall, the calibration of the proxy means towards the elderly population improves targeting, have higher impact on poverty reductions and improves the cost effectiveness ration in all countries. This one can be merged with the first bullet of the page.

Table 6: Simulated Results of Alternate Policies

	Cost (0.5% of per capita GDP)	Number of beneficiaries	Generosity ⁵	FGT(0) ²	FGT(1) ²	FGT(2) ²	Cost benefit ³	
Kyrgyz Republic (potential beneficiaries 46,946)								
UBT	3,913.3	321,247	3%	7%	14%	19%	0.14	
Means test	3,913.3	33,530	21%	16%	34%	40%	0.561	
Model 1	3,913.3	46,177	18%	17%	46%	63%	0.686	
Model 2	3,913.3	53,391	17%	19%	44%	61%	0.738	
Model 3	3,913.3	43,039	20%	22%	53%	68%	0.697	
Model 4	3,913.3	51,934	18%	27%	51%	67%	0.809	
Niger (potential beneficiaries 70,473)								
UBT	7,439.5	355,409	4%	11%	15%	20%	0.18	
Means test	7,439.5	56,058	25%	9%	22%	29%	0.188	
Model 1	7,439.5	61,738	20%	18%	36%	46%	0.461	
Model 2	7,439.5	74,211	23%	23%	37%	48%	0.465	
Model 3	7,439.5	63,094	21%	18%	35%	44%	0.462	
Model 4	7,439.5	75,867	23%	23%	35%	47%	0.465	
Panama⁴ (potential beneficiaries 24,058)								
UBT	66.1	210,679	1%	1%	2%	2%	0.11	
Means test	66.1	28,948	11%	6%	9%	12%	0.779	
Model 1	66.1	19,130	14%	8%	11%	16%	0.802	
Model 2	66.1	19,986	15%	8%	12%	17%	0.809	
Model 3	66.1	20,904	14%	8%	11%	16%	0.818	
Model 4	66.1	20,787	13%	9%	12%	17%	0.823	
Yemen (potential beneficiaries 114,552)								
UBT	122,273.5	688,216	3%	8%	15%	20%	0.15	
Means test	122,273.5	205,038	14%	7%	14%	18%	0.099	
Model 1	122,273.5	117,230	18%	21%	36%	45%	0.331	
Model 2	122,273.5	101,233	22%	24%	39%	48%	0.330	
Model 3	122,273.5	111,396	20%	22%	40%	51%	0.350	
Model 4	122,273.5	109,315	22%	24%	43%	54%	0.350	

1: Errors defined under hh per capita consumption and the targeting method for households with elderly.

For means test is the poor is always classified according its per capita consumption and potential beneficiaries according its hh per capita income

For proxy-means test is the poor is always classified according its per capita consumption and potential beneficiaries according its hh predicted per capita consumption

2: Poverty measures computed for the household per capita consumption setting elasticity of consumption equal to 1. Only households with elderly are considered here.

3: \$ reduction in the poverty gap for each 1\$ spent in the program.

4: Cost set as 0.1% of per capita GDP.

5: Generosity is calculated as the ratio of the average per capita benefit received and the average per capita household consumption of those who had received the benefit.

Potential beneficiaries are elderly (aged 65 or more) living in poor households.

Transfer equals to 20% of household per capita consumption.

Poverty line equals to the Q1 maximum household per capita consumption.

: Correlation of hh per capita consumption and targeting method.

For means test is the correlation between hh per capita consumption and hh per capita income

For proxy-means test is the correlation between hh per capita consumption and hh predicted per capita consumption

Conclusions

The issues around targeting social pensions are not far different than for other parts of social policy. It is important to consider the situation of the target group itself and vis-à-vis others and to consider available options.

Much of the general know-how with respect to targeting systems and proxy means testing for social assistance will carry through to application in social pensions programs, though some specific attention to the elderly in defining the formulae for proxy means tests is useful.

As for the wider social assistance field, targeting choices are situation specific and entail significant errors. Universal pensions reach all the poor, but most resources go to the non-poor and so are not very cost-effective. In a budget constrained environment, this means that the benefit level is likely to be so low that the policy cannot provide adequate benefits to the poor it does reach. Targeted social pensions are much more cost-effective per dollar spent, and with fewer beneficiaries could, for a fixed budget, convey a higher benefit. But they entail some errors of exclusion, with the rates quite variable by country. In this, they replicate the conundrum of all of social assistance.

Would also add a conclusion regarding whether there should be special programs for the elderly or the general safety net should be used.

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Appendix I : Variable definition to Proxy means test

Dependent variable	Logarithm of household per capita consumption. No adult equivalence scales and health/travel expenses not included
Head's Characteristics	Age, educational level and gender
Household's demographics	Household size, number of children and number of elderly
Household's infra-structure	Type of household, number of rooms, material of outer walls, material of roof, type of toilet, source of water, combustibile to cook, possession of telephone and access to electricity.
Variables used to calibrate model toward elderly population	Type of family: no elderly, elderly alone, missing generation, elderly contributing to income and elderly not contributing to income; number of elderly classified as parent of head; number of elderly who contribute to household income; and share of elderly
Durable goods	Possession of Freezer; Washing machine, TV, Car, sofa, wardrobe, ...
Presence of livestock	Possession of Cow, Sheep, Goat, Horse, ...
Source of household income	Auto consumption, agricultural production, wages in private/public sector, Property/equipment rents, Public/private Pensions and remittances, donation and other.
Infra-structure of the region	Distance to hospitals, distance to schools, distance to road, and distance to communication services (post - offices/telephone).
Regional component	Dummies for region
Source of household income	Auto consumption, agricultural production, wages in private/public sector, Property/equipment rents, Public/private Pensions and remittances, donation and other.
Infra-structure of the region	Distance to hospitals, distance to schools, distance to road, and distance to comunication services (post - offices/telephone).
Regional component	Dummies for region

Appendix II: Customizing proxy-means test for the elderly

	# obs	# var	R ²	MSE		# obs	# var	R ²	MSE
Kyrgyz Republic					Niger				
Bishkek					Niamey				
Model 1	753	25	0.5069	0.090	Model 1	776	31	0.693	0.143
Model 2					Model 2				
hh with elderly	214	30	0.800	0.038	hh with elderly	113	35	0.826	0.068
hh without elderly	539	29	0.5327	0.089	hh without elderly	663	32	0.731	0.135
Model 3	753	40	0.6027	0.073	Model 3	776	34	0.698	0.142
Model 4					Model 4				
hh with elderly	214	36	0.869	0.026	hh with elderly	113	38	0.849	0.068
hh without elderly	539	37	0.6063	0.073	hh without elderly	663	32	0.731	0.130
Urban					Urban				
Model 1	2,141	35	0.5122	0.109	Model 1	957	43	0.551	0.232
Model 2					Model 2				
hh with elderly	416	32	0.742	0.066	hh with elderly	154	34	0.664	0.194
hh without elderly	1,725	28	0.509	0.109	hh without elderly	803	39	0.580	0.218
Model 3	2,141	39	0.609	0.088	Model 3	957	48	0.559	0.229
Model 4					Model 4				
hh with elderly	416	53	0.833	0.045	hh with elderly	154	35	0.679	0.192
hh without elderly	1,725	46	0.6185	0.084	hh without elderly	803	39	0.580	0.218
Rural					Rural				
Model 1	1,849	38	0.545	0.105	Model 1	4,528	49	0.368	0.283
Model 2					Model 2				
hh with elderly	459	19	0.598	0.100	hh with elderly	779	35	0.416	0.238
hh without elderly	1,390	36	0.579	0.096	hh without elderly	3,749	40	0.369	0.288
Model 3	1,849	38	0.564	0.096	Model 3	4,528	48	0.368	0.282
Model 4					Model 4				
hh with elderly	459	34	0.747	0.065	hh with elderly	779	40	0.426	0.236
hh without elderly	1,390	46	0.6137	0.089	hh without elderly	3,749	41	0.369	0.288

Continue

	# obs	# var	R ²	MSE		# obs	# var	R ²	MSE
Panama					Yemen				
Urban					South - Urban				
Model 1	3,373	16	0.668	0.185	Model 1	1,532	17	0.387	0.102
Model 2					Model 2				
hh with elderly	670	17	0.638	0.201	hh with elderly	398	18	0.388	0.100
hh without elderly	2,703	17	0.687	0.176	hh without elderly	1,134	28	0.433	0.098
Model 3	3,373	25	0.701	0.167	Model 3	1,532	35	0.481	0.088
Model 4					Model 4				
hh with elderly	670	21	0.678	0.176	hh with elderly	398	20	0.468	0.084
hh without elderly	2,703	21	0.714	0.160	hh without elderly	1,134	31	0.510	0.085
Rural					South - Rural				
Model 1	2,521	18	0.607	0.194	Model 1	835	20	0.322	0.180
Model 2					Model 2				
hh with elderly	593	18	0.502	0.235	hh with elderly	267	19	0.385	0.152
hh without elderly	1,928	18	0.641	0.181	hh without elderly	568	19	0.361	0.181
Model 3	2,520	25	0.645	0.176	Model 3	835	26	0.358	0.171
Model 4					Model 4				
hh with elderly	592	18	0.591	0.194	hh with elderly	267	25	0.417	0.147
hh without elderly	1,928	20	0.667	0.168	hh without elderly	568	23	0.391	0.174
Indigenous					North - Urban				
Model 1	350	13	0.446	0.258	Model 1	4,386	32	0.362	0.118
Model 2					Model 2				
hh with elderly	74	9	0.412	0.285	hh with elderly	803	29	0.383	0.130
hh without elderly	276	13	0.476	0.249	hh without elderly	3,583	38	0.370	0.114
Model 3	343	18	0.485	0.230	Model 3	4,386	41	0.398	0.112
Model 4					Model 4				
hh with elderly	71	11	0.572	0.212	hh with elderly	803	47	0.435	0.122
hh without elderly	272	12	0.491	0.234	hh without elderly	3,583	43	0.401	0.108
					North - Rural				
					Model 1	3,606	37	0.352	0.135
					Model 2				
					hh with elderly	767	30	0.371	0.129
					hh without elderly	2,839	40	0.359	0.137
					Model 3	3,606	49	0.395	0.127
					Model 4				
					hh with elderly	767	44	0.435	0.118
					hh without elderly	2,839	50	0.396	0.129

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