Javier Olivera Angulo

History

The current situation of the elderly in Peru, a population showing continuous growth, reflects the extension of the living conditions they experience during their economically active periods to their elderly years. A significant portion of this population faces a situation of unmet needs and difficulties sustaining themselves economically, which limits their ability to retire from the labor market. The traditional pension system covers one-fourth of the population aged 65 and older, with even less coverage of those who live in rural areas and in the poorest regions of Peru.

Profile of the Elderly

Although Peru is currently classified as a country in the moderate stage of population aging, the continued increase in life expectancy and the fall in fertility (figure 13.1 and table 13.1) will accelerate its rate of aging. Currently the population aged 65 and older is about 6 percent of the total population, a percentage that is expected will increase to 17.1 percent in 2050 and to 29.9 percent in 2100 (CELADE 2011). Additionally, the share of the eldest individuals (persons age 80 and older) will grow substantially, from less than 1 percent of the population today to more than 12 percent in 2100.

On the one hand, the shift toward a lower fertility rate means that the elderly will have few children to support then, and on the other, the longer life expectancy will mean that adult children's cost of caring for their parents will stretch over a longer period. These two forces will necessarily reduce the value of the children as social insurance, which is more important as a substitute for social security for poor populations and of traditional values than in terms of parents' care.

The living conditions of the current generation of the elderly have been determined in good measure by the opportunities that they had in the past. Table 13.2 reveals the uncertainty surrounding these past opportunities for the elderly that today are between 65 and 80 years old. The high level of illiteracy and the low level of educational achievement among this generation, especially for women,

Figure 13.1 Population Structure, by Large Age Groups, 1950–2100

Source: Based on Centro Latinoamericano y Caribeño de Demografía (CELADE) 2011.

Table 13.1 Evolution of Demographic Indicators, 1950–2100

	1950	1975	2000	2025	2050	2075	2100
Total fertility rate	6.85	5.38	2.8	2.05	1.75	1.79	1.89
Life expectancy at birth	43.90	58.53	71.61	76.33	79.68	82.44	84.27
Percentage of population 65+	3.46	3.56	4.83	8.76	17.10	25.70	29.89
Percentage of population 80+	0.33	0.34	0.78	1.87	4.67	9.23	12.45

Source: Based on Centro Latinoamericano y Caribeño de Demografía (CELADE) 2011.

Table 13.2 Characteristics of Persons Aged 36–51 Years in the 1981 Census *Percent*

Description	Men	Women	Total
Illiteracy	12	35	24
Primary education or less	67	77	72
Piped potable water within the dwelling	44	45	45
Piped sewer drainage within the dwelling	35	36	36
Dwelling walls made of good quality materials	37	36	37

Source: Based on 1981 Population Census, Instituto Nacional de Estadísticas (INEI).

stand out and have played a large part in determining their opportunities and current situations.

Additionally, we can observe the differences in education by region and level of poverty of the elderly. The literacy rate for individuals from 65 to 69 years old in urban areas is 86.2 percent, whereas in rural areas it is 49.3 percent. This indicates that the distribution of opportunities in the past has been noticeably unequal across the country (figure 13.2).

In terms of age group, the poverty rate among persons aged 65 and older is 28.4 percent, which is less than the national average of 30.8 percent. Children exhibit the highest poverty rate among all age groups. Until age 13, the poverty rate remains above 40 percent and then drops, only to increase again between 25 and 40 years old and after age 60 (figure 13.3). Significant differences are seen between poverty measured in urban and rural areas: Levels are much higher in the latter. In 2010 the urban poverty rate was 20 percent, whereas the rate in rural areas was 61 percent. For persons aged 65 and older, the poverty rate was 16.7 percent in urban areas and 58.0 percent in rural areas.

Figure 13.4 shows rates for extreme poverty by age and by urban or rural area. The patterns by age and area are similar to those for the total poverty rate, but the incidence of extreme poverty in rural areas is much higher compared to urban areas. Essentially, extreme poverty affects the country's rural population much more. For persons aged 65 and older, the extreme poverty rate was 2.0 percent in urban areas and 24.5 percent in rural areas.

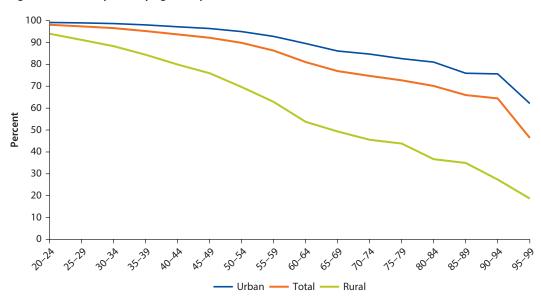
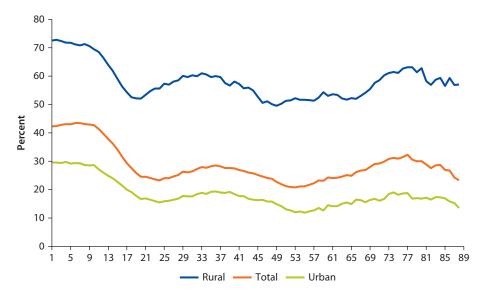


Figure 13.2 Literacy Rate, by Age Group and Area, 2007

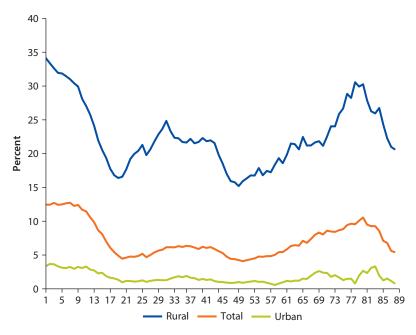
Source: Based on 2007 Population and Housing Census, Instituto Nacional de Estadísticas e Informática (INEI).

Figure 13.3 Poverty Rate, by Age and by Urban or Rural Area



Source: Based on National Household Survey, Encuesta Nacional de Hogares (ENAHO) 2010.

Figure 13.4 Extreme Poverty Rate, by Age and by Urban or Rural Area, 2010



Source: Based on National Household Survey (ENAHO) 2010.

Similarly the differences among regions can be quite obvious. Although the incidence of poverty among individuals aged 65 and older exceeds 50 percent in Apurimac, Huancavelica, Puno, Huanuco, Cajamarca, and Ayacucho, it is below 13 percent in Lima, Tumbes, Ica, and Madre de Dios. Similarly, extreme poverty among the population as a whole can reach levels above 25 percent of the population (Apurimac and Huanuco) or less than 1 percent (Tumbes and Madre de Dios) (table 13.3).

Health is an important component of well-being, especially among the elderly, because their quality of life can deteriorate rapidly if their illnesses and discomforts are not treated adequately and opportunely. In particular, untreated illnesses can worsen and affect an elderly person's independence and autonomy. Peru faces a high percentage of the elderly that do not seek medical attention for their illnesses or they do so inadequately: They go to pharmacies or use

Table 13.3 Total Poverty Rate and among 65+ Population, by Region, 2010Percent

	Tota	al population		Population	n age 65 and older
Region	Poverty	Extreme poverty	Region	Poverty	Extreme poverty
Huancavelica	63.0	21.8	Apurimac	64.0	30.2
Apurimac	62.0	24.1	Huancavelica	57.8	22.7
Cajamarca	55.2	23.0	Puno	56.3	23.3
Huanuco	54.7	22.1	Huanuco	51.0	25.5
Amazonas	50.5	18.6	Cajamarca	50.4	24.8
Loreto	49.8	19.5	Ayacucho	50.4	22.9
Puno	48.6	15.8	Loreto	44.8	15.4
Ayacucho	48.2	17.0	Pasco	42.1	17.1
Piura	44.3	9.6	Cusco	42.1	15.8
Cusco	42.7	12.4	Piura	41.9	8.1
Lambayeque	38.2	4.6	Lambayeque	41.2	7.5
San Martin	36.9	10.1	Amazonas	39.0	10.8
Pasco	36.3	8.5	San Martin	34.5	5.9
La Libertad	31.4	9.7	La Libertad	27.5	6.7
Junin	28.4	3.9	Junin	26.8	4.5
Ancasch	27.1	4.4	Ancash	24.6	5.6
Ucayali	21.7	4.2	Moquegua	19.6	3.4
Tumbes	19.7	0.2	Tacna	16.2	3.3
Lima	16.2	1.0	Ucayali	15.3	2.3
Moquegua	14.3	1.4	Arequipa	14.2	2.7
Tacna	14.2	1.1	Ica	12.6	0.5
Arequipa	13.6	1.9	Lima	11.9	1.1
Ica	12.4	0.2	Tumbes	11.3	0.3
Madre de Dios	5.0	0.5	Madre de Dios	3.1	0.0
Total	30.8	7.6	Total	28.4	8.3

Source: Based on National Household Survey (ENAHO) 2010.

traditional medicines. Indeed, 60 percent of the population aged 65 and older belongs to this category. However, significant differences are seen when the elderly population is categorized by poverty level: 82 percent, 72 percent, and 54 percent of the extremely poor, non-extreme poor, and non-poor, respectively, do not seek treatment for their illnesses or seek insufficient treatment. Differences also appear by geographic area; 54 percent of the elderly population does not seek medical attention for their illnesses or seeks insufficient attention in urban areas, and this percentage increases to 73 percent in rural areas.

With the help of population projections by region from the INEI (2010a) for 1995–2025, it is possible to estimate the survival rate for each age cohort for various years. Table 13.4 shows the probability of survival for the cohort of individuals that were 65 years old in 2012. For example, for each 100 people in Lima in 2012 that were aged 65, 74 would survive until 2025. In contrast, in Huancavelica, only 48 of 100 individuals would survive until 2025. The correlations between the survival rate until 2025 by region and the poverty rates are

Table 13.4 Probability of Survival to Age 65, Calculated in 2012 Percent

rereent				
Region	2012	2015	2020	2025
Lima	100.0	95.4	86.3	73.6
Callao	100.0	94.5	85.1	72.5
Arequipa	100.0	94.7	84.7	72.1
Lambayeque	100.0	94.6	84.8	72.1
La Libertad	100.0	94.7	84.2	71.0
Ica	100.0	94.7	83.6	70.5
Moquegua	100.0	94.5	83.0	68.3
Tacna	100.0	93.7	82.3	68.0
Ucayali	100.0	93.0	78.9	63.4
Puno	100.0	93.6	80.0	64.0
Ancash	100.0	93.0	78.9	63.4
Tumbes	100.0	91.5	78.5	62.8
Huanuco	100.0	92.7	78.4	62.7
Piura	100.0	91.6	78.2	62.5
Madre de Dios	100.0	91.5	78.1	62.0
Junin	100.0	91.8	77.9	61.8
San Martin	100.0	91.4	76.8	60.6
Cusco	100.0	92.1	77.1	59.9
Cajamarca	100.0	92.0	76.1	58.8
Pasco	100.0	90.7	74.8	57.1
Loreto	100.0	90.9	74.8	56.9
Apurimac	100.0	91.5	74.5	56.6
Ayacucho	100.0	91.9	74.8	55.9
Amazonas	100.0	90.4	73.1	54.3
Huancavelica	100.0	89.1	69.9	48.2

Source: Based on Instituto Nacional de Estadísticas e Informática (INEI) 2010a.

negative and significant,² which means that higher poverty and elderly mortality are associated.

One especially interesting aspect of the difficulties facing the elderly population is that the lack of regular income, for example, from a pension, forces individuals to work until they have exhausted their abilities at the expense of their health and integrity, or for their entire lives. This has been defined as "ceaseless toil" by Benjamin, Brandt, and Fan (2003) when analyzing the labor supply of the elderly in rural China. Kassouf, Rodriguez, and Aquino (2011) confirm that without the noncontributory pension in Brazil, the elderly would not be able to retire from the labor market. In Peru the employment rate of the elderly is much higher in rural areas than in urban areas. Figure 13.5 (with a three-unit moving average) shows that the difference between elderly men in a condition of extreme poverty in rural areas and men not living in poverty in urban areas grows with age up until about 78 years old. From 65 to 75 years of age the employment rate remains between 90 percent and 100 percent for men in rural areas, but it drops to between 70 percent and 40 percent for non-poor men in urban areas. This could indicate that individuals in rural areas cannot retire from the labor market like those living in urban areas are able to do and are forced to continue working.4

The figures from table 13.5 complement figure 13.5. Comparing the employment rates between the elderly population in extreme poverty and the population not living in poverty—without differentiating by area—we observe that 94 percent of extremely poor men between 65 and 69 years old are working

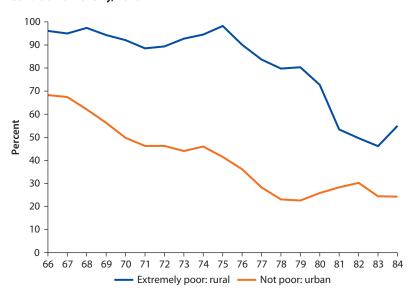


Figure 13.5 Male Population Aged 65 Years and Older, by Age, Area, and Condition of Poverty, 2010

Source: Based on National Household Survey (ENAHO) 2010.

whereas the corresponding rate is 71.3 percent for men in the same age group that are not living in poverty. This means there is a gap of 22.7 percentage points between the two groups. This gap grows to 48.4 points if we compare the extremely poor and nonpoor in the 75–79 years old age group. If we analyze these gaps in rural and urban areas, we find that the gaps are more significant in urban areas than in rural areas.

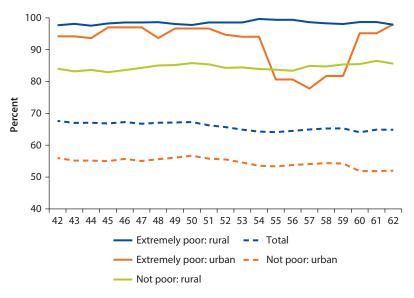
The problem of low pension coverage among the elderly has its counterpart among persons who are almost old enough to join this age group (figure 13.6). Approximately two-thirds of the population between 44 and 64 years old is not enrolled in a contributory pension system. Even among those who are enrolled, not all of them will gain access to a pension because they do not

Table 13.5 Male Population Aged 65 and Older, by Age Group, Area, and Condition of Poverty, 2010 Percent

	Urban					Rural				Total			
	Non-					Non-				Non-			
	Extreme	extreme	Non-		Extreme	extreme	Non-		Extreme	extreme	Non-		
Age	poor	poor	poor	Total	poor	poor	poor	Total	poor	poor	poor	Total	
65–69	78.3	73.0	65.7	67.1	96.6	94.2	95.4	95.3	94.0	81.6	71.3	74.9	
70–74	66.0	56.8	45.9	47.8	89.9	96.8	91.4	93.0	84.4	78.0	55.1	61.6	
75–79	92.0	51.3	32.4	36.4	87.9	89.1	84.6	87.1	88.4	68.1	40.0	50.7	
80 and older	74.9	36.2	22.1	26.1	51.9	73.2	68.5	66.0	58.3	53.2	29.5	36.9	

Source: Based on National Household Survey (ENAHO) 2010.

Figure 13.6 Population Not Enrolled in Any Pension System, by Age, Area, and Condition of Poverty, 2010



Source: Based on National Household Survey (ENAHO) 2010.

contribute regularly. Individuals younger than 65 years old that live in extreme poverty in rural areas are the most unlikely to be covered by a pension program, with percentages near 100 percent. The non-poor rural population exhibits a similar lack of coverage, with more than 80 percent not enrolled in a formal pension system. In total, this could indicate a social protection problem that affects both the current population of elderly as well as those who will soon form part of this group.

Development of Social Security

The structure of the current Peruvian pension system dates to 1993 when Decree-Law no. 25,897 created the Private Pension System (Sistema Privado de Pensiones [SPP]), which is based on individually funded accounts. Additionally, this system coexists and "competes" with the National Pension System (Sistema Nacional de Pensiones [SNP]), which was created in 1973 as the result of the merger of sectoral funds that had been created decades before and is organized as a public defined benefit system. There are also pension regimes designed to cover specific groups, such as the Military and Police Personnel Regime (Régimen del Personal Militar y Policial), and those that have already been closed to new workers but continue to pay pensions, such as the Social Benefits Fund for Fishers (Caja de Beneficios Sociales del Pescador) and the fund for government workers called Living Credential (Cédula Viva, Decree-Law no. 20,530).

The SNP offers pensions calculated based on its pension rules. These rules include a minimum contribution period of 20 years, minimum and maximum pension values, and a replacement rate that depends on the number of contributions made and the cohort of birth of the beneficiary. As with any defined benefit system, the financial sustainability of the SNP is mainly based on the ratio of contributors to pensioners.

Conversely, the SPP is a self-financing system because it is based on individually funded accounts. Each insured member has to choose from one of four existing Pension Fund Administrators (Administradoras de Fondos de Pensiones [AFPs]) that will manage and invest his or her contributions and the returns they generate. At retirement age, the member has access to the final balance of his or her account and must choose one of several pension options offered by different insurance companies in the market or from the AFP that administered the account. These options include scheduled withdrawals, full annuities, or annuities combined with withdrawals and different percentages for spousal pensions.

The retirement age for women and men is 65 years in both systems. The contribution rate is a fixed percentage of total monthly salary. Currently this rate is 13 percent for the SNP and 10 percent for the SPP. The AFP charges a commission and an insurance premium as a percentage of the insured's salary, which total about 3 percent. The SNP offers a minimum pension to all insured members as long as they meet certain requirements. In contrast, the SPP guarantees a minimum pension for individuals born before 1945 that have contributed on a salary base of at least one minimum salary for at least 20 years in any pension system.

Performance of the Pension System

At the end of 2010, the economically active population affiliated with any pension system was 7.2 million people, of which 4.6 million belonged to the SPP and 2.6 million to the SNP, equivalent to 29.6 percent and 16.3 percent of the labor force, respectively. This means that less than half of the labor force was insured by a pension system. However, if we consider only contributors, that is, those members that regularly contribute to the pension system, only 19.2 percent of the labor force effectively contributes and could access a pension in the future. This low regular participation of workers inside the pension system in Peru lays the foundation for the vulnerability that these individuals will suffer when they join the elderly population, because they will have fewer tools to face old age. The SPP pension fund added up to S/. 87.296 billion, equivalent to US\$31.088 billion or 20.4 percent of GDP.

Given that social security generally follows the Bismarckian model, which is based on insurance through formal paid work, this system offers limited coverage in economies with a highly informal labor market, as is the case in Peru. This is one of the principal causes of the persistent low coverage of the pension system, even after the structural pension reform undertaken at the beginning of the 1990s. In 2010 just 26 percent of individuals aged 65 and older were receiving a pension (Rofman and Oliveri 2012). Although participation in the pension system increases along with the income quintile, we take note that the participation rate never reaches a very high level, even in the highest income quintiles. For example, in 2010 among the richest 20 percent of the population, only 58 percent of the elderly were covered by a pension system (table 13.6).

Table 13.6 Coverage Rates for the Elderly, by Per Capita Family Income Quintile, 1995–2010

Percent					
Year	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
1995	6.78	15.37	25.76	37.83	56.00
1998	4.02	10.69	29.75	43.94	61.86
1999	2.59	18.00	24.76	45.13	67.35
2000	2.58	15.39	26.78	34.43	61.32
2001	2.12	10.35	23.83	40.70	53.4
2002	0.85	8.27	23.32	40.42	56.49
2003	0.95	8.27	22.22	41.51	58.46
2004	2.14	10.30	24.09	42.21	55.95
2005	3.22	9.20	22.60	38.24	62.57
2006	1.98	9.16	25.90	40.20	61.50
2007	1.03	9.34	26.36	38.64	58.79
2008	1.43	9.62	25.45	40.84	56.67
2009	1.83	7.20	20.35	39.38	56.66
2010	1.50	7.88	23.65	38.32	58.43

Source: Rofman and Oliveri 2012.

Table 13.7 Evolution of the Coverage Rate among the EAP, Employed Persons, and the Elderly, by Region, 1995–2010

Percent

	Cor	ntributors	:/EAP	Contri	butors/er	nployed		Beneficiaries/65 and older population		
Year	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	
1995	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	28.36	6.70	40.59	
1996	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	24.50	5.34	36.59	
1997	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	27.47	7.00	38.49	
1998	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	29.85	6.73	41.97	
1999	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	31.52	9.63	42.10	
2000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	28.40	5.09	40.67	
2001	13.70	3.06	19.16	14.24	3.09	20.46	25.91	5.21	37.22	
2002	13.88	3.73	19.07	14.41	3.79	20.32	25.74	4.74	37.01	
2003	14.83	3.78	20.74	15.24	3.85	21.85	26.19	5.72	38.80	
2004	14.68	3.93	20.24	15.21	4.02	21.57	26.91	5.44	40.06	
2005	12.42	3.35	17.27	13.08	3.40	18.69	27.16	6.42	39.48	
2006	13.96	3.34	19.40	14.61	3.38	20.81	27.67	5.69	40.15	
2007	15.96	3.68	22.14	16.59	3.69	23.45	26.79	6.94	38.42	
2008	16.82	3.98	23.30	17.37	4.00	24.48	26.65	5.93	38.75	
2009	18.33	4.65	25.34	18.92	4.65	26.66	25.09	5.72	37.17	
2010	18.48	4.65	25.41	19.05	4.66	26.64	25.93	5.60	38.05	

Source: Rofman and Oliveri 2012.

Note: EAP = economically active population; n.a = not applicable.

Table 13.7 also shows very marked differences between pension coverage in urban and rural areas. In fact, 5.60 percent of the population aged 65 and older in rural areas received a pension in 2010, but this percentage reached 38.05 percent in urban areas. Similarly, contributors make up 4.65 percent of the economically active population (EAP) in rural areas and 25.4 percent in urban areas.

When we disaggregate the percentage of the elderly that receive a pension from the contributory system by region and age, we observe a marked asymmetry. Figure 13.7 shows that older individuals are those that are more likely to have a pension. Of the total of elderly from ages 65 to 69, only 22 percent receive a pension, whereas 39.7 percent of individuals aged 80 to 84 receive one. The differences between regions are also very noticeable. For example, 28.8 percent of individuals aged 65–69 in urban areas receive a pension, but this percentage falls to 3.8 percent for the same group in rural areas.

The differences among the elderly in terms of having a pension disaggregated by condition of poverty and gender are also significant. Only 0.7 percent of the elderly in extreme poverty have a pension, but that percentage is 10.4 percent for the non-extreme poor and 36.6 percent for the non-poor (table 13.8). Only 0.5 percent of the elderly living in extreme poverty in rural areas have a contributory pension, meaning that there is an enormous social protection gap for this group. In contrast, 42.1 percent of the non-poor elderly that live in urban

70 60 50 40 20 10 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 Age
— Urban — Total — Rural

Figure 13.7 Elderly with Any Contributory Pension, by Age, 2010

Source: Based on National Household Survey (ENAHO) 2010.

Table 13.8 Population Aged 65 and Older with Any Contributory Pension, by Gender, Area, and Poverty, 2010

Percent

		Total			Men		Women		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
Extreme poverty	0.7	1.4	0.5	1.4	2.9	1.1	0.1	0	0.1
Non-extreme poverty	10.4	17.2	2.8	15.4	24.0	5.2	6.1	11.1	8.0
No poverty	36.6	42.1	9.0	45.6	52.7	12.7	28.7	33.0	5.3
Total	28.4	37.6	4.9	36.0	47.3	7.6	21.7	29.3	2.4

Source: Based on National Household Survey (ENAHO) 2010.

areas have a contributory pension. In terms of gender, we observe even more pronounced inequalities. Just 0.1 percent of women aged 65 and older living in extreme poverty in rural areas have a contributory pension, which is a negligible coverage rate. In contrast, 45.6 percent of non-poor elderly men living in urban areas have a pension. It is important to stress that, in terms of survival, there is a positive correlation (0.58 and significant) between the percentage of individuals aged 65 and over with a pension in each region and the probability of survival until 2025.

Even while recognizing some of the advantages of a regime like the SPP, it must be mentioned that its implementation has been very costly. On the one hand, the government has approximately S/. 13 billion in recognition bonds that have been delivered or are pending delivery to enrolled members that

switched from the SNP to the SPP. On the other hand, the government Treasury must also transfer funds to pay SNP pensioners because the members who would be paying these pensions have transferred to the SPP. For the latter concept, the government has disbursed approximately S/. 26.4 billion since 1995, which is equal to about 6.2 percent of GDP. In recent years, the Treasury has paid on average the equivalent of about 0.5 percent of GDP annually. These transfers from the Treasury will continue and will even increase during the coming years because the SNP's contribution base, after being reduced by the creation of the SPP, is not sufficient to pay the pensions. The most recent calculation of the SNP's actuarial reserve—which is equivalent to how much the government should "save" today to pay future pensions—is S/. 100 billion, or 23.4 percent of GDP.

Recent Reforms Aimed at Improving Pension Coverage

Social security based on the Bismarckian model, that is, insurance through formal paid employment, has limited coverage in economies with highly informal labor markets, as is the case in Peru. This is one of the principal causes behind the pension system's persistent low coverage levels. In recent years a series of proposed and implemented reforms have taken place with the goal of extending coverage to the elderly population. The launch of the Pension 65 program stands out among these reforms. This program offers coverage to the elderly that do not have a pension and live in extreme poverty.

The Reforms

Lev Mype

Since the SPP was created, the government has made various regulatory changes mainly focused on the system's efficiency, costs, and investments. Similarly, in 2004 the government made important changes to the public systems, especially with the closure to new workers of the Living Credential program that had covered public servants (Law no. 20,530), and a series of changes to the SNP's pension rules. In 2008 the government issued a regulation with the goal of expanding pension coverage via the SME Law (Ley Mype, D.S. no. 007-2008-TR), which created social pensions for workers in microenterprises.

The idea behind the law is that microenterprises and their workers should join the Social Pension System (Sistema de Pensiones Sociales)—based on individual accounts—and contribute an established minimum amount, on top of which the government would add another contribution. This was one interesting initiative and the first that sought to expand coverage, but it was not implemented, and it did not have the necessary political support.

SPP Reform Law of 2012

In November 2011 a technical group of experts was created to recommend reforms to the SPP with the goals of improving the system's efficiency and increasing pension coverage. This group was made up of academics and

public servants. The closest counterpart to the formation of this commission is the Marcel Commission in Chile, which carried out a broad reform of the Chilean pension system in 2008. Up to now there has not been an official document produced by the Peruvian commission, and it stopped meeting in March 2012. Congress passed the reform bill sent by the Ministry of the Economy and Finances (Ministerio de Economía y Finanzas [MEF]), which among other things seeks to expand pension coverage in two main ways. On the one hand, the reform would make it mandatory for all self-employed workers under age 40 to join an AFP or the National System. On the other hand it would create social pensions for workers that earn up to 1.5 times the Minimum Living Wage (Remuneración Mínima Vital). These pensions are based on a matching contributions scheme, that is, the government would pay a subsidy for each contribution that a worker makes.

The pension reform bill has not been free of controversy given that its introduction to Congress and debate has followed an unusual path. Much criticism has been seen in the news media of the virtues of the approved reform, both technical as well as legal, and the way in which it was carried out, which have eroded its legitimacy to some extent. Currently, the Constitutional Tribunal is evaluating a lawsuit alleging unconstitutionality due to the new form of paying funds management fees (based on the balance) and the bidding for the flow of new members.

Social Pensions

In July 2010 the Gratitude Bonus (Bono Gratitud) social pension pilot program was created, and it began to function in October of that year. Under this program, all elderly over age 75 and living in poverty receive a pension of S/. 100 per month, equal to about US\$36. This was the first attempt to create noncontributory pensions in Peru, but the number of registered users was reduced and a series of accusations surrounded the delivery of benefits to individuals that did not meet the requirements. In August 2011 the Gratitude program had 21,783 beneficiaries nationally and was found in the following regions: Amazonas, Ancash, Apurimac, Ayacucho, Cajamarca, Cusco, Huancavelica, Huanuco, Junin, Puno, La Libertad, Lima, Callao, and Piura. The last four regions have a significant population living in urban areas and experiencing less poverty.

The Pension 65 program was created October 19, 2011, and began operations in November. Beneficiaries of the Gratitude program were absorbed into the Pension 65 program. To be a beneficiary of the Pension 65 program, an individual must fulfill a series of requirements, including being 65 years old and above; living in extreme poverty according to the Household Targeting System (Sistema de Focalización de Hogares [SISFOH]); and not receiving any pension or grant from any public or private entity, including Social Health Insurance (Seguro Social de Salud [ESSALUD]) as well as other social programs, except for Comprehensive Health Insurance (Seguro Integral de Salud [SIS]), the National Movement for Literacy Program (Programa Nacional de Movilización por la Alfabetización), and the Reparations Programs from Law no. 28,592 (for victims,

and their family members, of the violence from 1980 to 2000). As of May 2012, the program had registered 126,787 beneficiaries.

The pension amount is low, but its relative weight varies depending on the region and the indicator for comparison. The transfer of S/. 125 (approximately US\$46) represents 33 percent of the national per capita spending, but the relative weight of this transfer is much greater in rural areas (table 13.9). The transfer represents 53 percent of per capita spending for families in rural areas, whereas in urban areas this percentage is just 22 percent. Additionally, the pension amount represents 60 percent of the rural poverty line and 91 percent of the rural extreme poverty line.

Additionally, the program contemplates connecting existing health care services among the managing institutions (Ministry of Health, public health centers, posts, etc.) and the beneficiary elderly of the social pensions. Another component that comes with the program is the promotion and strengthening of the social support networks for the elderly.

The Political Economy of Pension Reforms

The policy debate on pensions in Peru is characterized by several distinct features. First, the country does not have many experts on the subject, and the variation in opinions on normative issues is minimal. Second, the topic is complex, but despite that thought leaders and authorities support specific social security policies without considering the effects they will have. In effect, there is not enough academic research on the subject of pensions in Peru, and society does not value the important efforts put forth by the institutions with significant roles dealing with the problems. Moreover, there is limited microeconomic and administrative information available on members and pensioners that could enable researchers to undertake better academic and independent research

Table 13.9 Monthly Poverty Lines in 2010 and the Pension 65 Benefit

	Urban	Rural	National
Amount in nuevos soles			
Poverty line	293	208	264
Extreme poverty line	155	137	149
Per capita expenditure	571	263	454
Minimum pension ^a	484	484	484
Minimum living wage ^a	750	750	750
Percentage that Pension 65 represents = S/. 125			
Poverty line	43	60	47
Extreme poverty line	81	91	84
Per capita expenditure	22	53	28
Minimum pension	26	26	26
Minimum living wage	17	17	17

Source: Based on Instituto Nacional de Estadísticas e Informática (INEI) 2011 and National Household Survey (ENAHO) 2010.

a. Values in 2012.

projects, nor are specialized surveys available on topics related to pensions. The regulations sent by the MEF and the Superintendent of Banking, Insurance, and AFP (SBS) to Congress are complex and are not completely explained. Outside the more specialized Economy Committee, congresspersons continue proposing regulations without considering the adverse effects they could create. At the same time, the more technical regulations are approved with little debate and without understanding their effects very well.

Third, the debate is emotional and is rooted in political positions and values. The public debate provoked as a result of the noncontributory Pension 65 proposal during the last electoral campaign from February to May 2011 is interesting. One persistent idea in the debate was that persons who had never contributed to a pension system did not deserve to receive a pension from the government. On the other hand, opinion makers and authorities estimated enormous costs for the noncontributory pension with the goal of weakening the proposal. However, it should also be mentioned that complete information was not available on the program's design. Three former Ministers of Economy expressed such views. The estimated costs that were published in the news media varied from S/. 3 billion to S/. 14 billion (from 0.7 percent to 3.3 percent of GDP). However, once the proposal is implemented, it is expected to cost around S/. 400 million, or 0.09 percent of GDP.

Perceptions of what is right on the subject of pensions are based on more general values about how society should be organized and the exchanges that take place within it. In some ways, it is not surprising that one of the most popular arguments against Pension 65 has been that those who have not contributed do not deserve a pension. Table 13.10 presents the results of the last version of the World Values Survey in selected Latin American countries. We observe that Peru is the country where most people believe that "each person should individually assume more responsibility in order to make his or her own living" in contrast to "the government should assume more responsibility for providing a living to everyone." Support for this value is the majority position in both lower and upper social classes.

Table 13.10 Percentage of People Who Think "Each Person Should Individually Assume More Responsibility in Order to Make His or Her Own Living"

	Brazil	Colombia	Uruguay	Chile	Argentina	Guatemala	Mexico	Peru
Upper middle class	43.0	n.a.	46.3	41.5	41.5	n.a.	n.a.	56.0
Lower middle class	30.3	n.a.	33.2	35.8	42.2	n.a.	n.a.	57.0
Working class	27.1	n.a.	37.6	37.6	38.1	n.a.	n.a.	54.6
Lower class	29.3	n.a.	29.5	34.9	32.7	n.a.	n.a.	53.3
Total	29.0	33.3	35.6	37.2	39.3	44.9	47.0	55.5

Source: Based on the World Values Survey, fifth wave (2004-08).

Note: For the survey question, the respondent should express his or her position on a scale of 1–10 between "The government should assume more responsibility for providing a living to everyone" (=1) and "each person should individually assume more responsibility in order to make his or her own living" (=10). The figures in the table indicate the percentage of people that expressed a score from 6 to 10. n.a. = not applicable.

Finally, in Peru we do not find a comprehensive vision for the pension system. This observation is validated by the way in which the social security institutions are organized. The SBS supervises the AFPs, the Office of Social Security Regulation (Oficina de Normalización Previsional) regulates and administers the SNP and other public systems, the MEF regulates the public systems and the SPP in terms of laws, the Central Bank (Banco Central de la Reserva del Perú) sets some operational investment limits for the AFPs and manages the Consolidated Reserves Fund (Fondo Consolidado de Reservas) for the public system, the Superintendent of Taxes Administration (Superintendencia de Administración Tributaria) collects contributions for the public systems, and the Ministry of Development and Social Inclusion (Ministerio de Desarrollo e Inclusión Social [MIDIS]) manages the noncontributory Pension 65 program.

As a result of this multiplicity of institutions, a comprehensive pension policy does not exist. Each institution defends its jurisdiction and regulates without a global vision. Even inside the MEF—an institution that could help unify the visions in some way—the section in charge of the private system is in a different vice ministry than the section in charge of the public systems.

Pension 65 Targeting

The Pension 65 program's targeting strategy has two stages. First, geographic targeting is applied (selection of districts) based on the 2009 poverty map from the National Statistics Institute (Instituto Nacional de Estadísticas [INEI]). Within these districts, a second stage uses the targeting system applied in other social programs (known as Sistema de Focalización de Hogares [SISFOH]), which maintains a General Household Registry (Padrón General de Hogares [PGH]) with information on all of the households considered eligible for social programs. SISFOH sends the program the list of potential users created based on the PGH and also sends the socioeconomic categorization of those potential users identified by the program. Based on this information, the program proceeds to verify compliance with the requirements and whether potential beneficiaries are alive. The verification that Pension 65 beneficiaries are still living is carried out in coordination with municipalities and other entities. This verification can also be performed by comparing the registry of users with the National Identification and Civil Status Registry (Registro Nacional de Identificación y Estado Civil). The program can also request that SISFOH reevaluate its users.

Nonetheless, we must specify that because the SISFOH system has not yet registered all households, there is an exception rule for individual targeting in those districts where the program has already begun to operate. This rule states that potential beneficiaries that live in urban districts with more than 50 percent extreme poverty or in rural districts with more than 30 percent are considered eligible without the need to verify their individual socioeconomic conditions. This rule will continue to be applied in those districts where implementation is already underway even if the SISFOH database is completed. In contrast, in the districts where implementation is not yet underway, individual targeting

will apply. According to estimates from MIDIS, the number of potential users could reach 273,529 in 2012 and 323,672 in 2018.

Although the program began operations recently at the end of 2011, some information is available that allows us to see its fast growth. It reached 54,122 users in January, 78,657 in March, and finally 126,787 in May 2012. Additionally, the program has been able to establish links with geriatric health care services between users and the Ministry of Health, but no data are available regarding this service yet. In terms of the effects of the program, the authorities plan to carry out a baseline measurement in 2012 with the goal of obtaining an impact measurement in 2013.

In terms of targeting, with the data currently available, we can observe only the geographic targeting component, that is, at the district level. Based on the last user registry from May 2012 and the 2009 Poverty Map (INEI 2010b), it is possible to see the level of poverty in the districts where Pension 65 beneficiaries live. Figure 13.8 shows the cumulative number of beneficiaries on the vertical axis and the incidence of existing poverty (ordered from least to greatest) in the respective districts on the horizontal axis. Thus, it is easy to observe that approximately 20 percent of the program's beneficiaries live in districts with 50 percent or less of the population in a condition of poverty. This could indicate a certain level of leakages, but we must remember that Pension 65 inherited some beneficiaries from the old Gratitude program, who lived in urban districts with lower

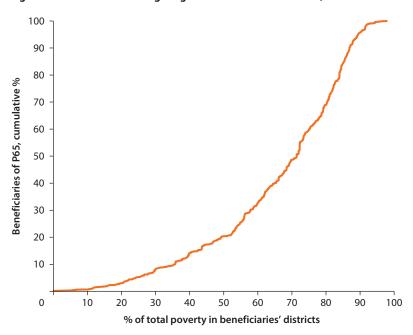


Figure 13.8 District-Level Targeting of Pension 65 Beneficiaries, 2012

Source: Based on Instituto Nacional de Estadísticas e Informática (INEI) 2010b; Pension 65 user registry. **Note:** Only districts with at least one beneficiary are considered.

poverty rates. Additionally, the analysis based on geographic targeting is limited because it does not account for the concentrations ("pockets") of poverty in urban cities, which are diminished by the statistical effects of measuring poverty for an entire district.

Figure 13.9 allows us to observe how the Gratitude program affects the targeting of the Pension 65 program and if the way in which the program operates has meant an improvement in terms of targeting. As before, we constructed the ratios between the cumulative number of beneficiaries and the level of poverty in the districts in which they live. The blue curve represents the beneficiaries of the Gratitude program, and the orange curve represents those of the Pension 65 program (i.e., the old Gratitude beneficiaries and the new enrollees). We can observe a clear improvement in targeting. After the curves intersect, which occurs approximately in the districts with 50 percent poverty, Pension 65 includes more beneficiaries in the poorest districts. It is also clear that before this intersection, the Gratitude program included more beneficiaries from the less poor districts.

In terms of the program's coverage, a total of 55.7 percent of districts do not have a single beneficiary. If we were to consider only the districts with an incidence of poverty of at least 50 percent, the district subcoverage rate would be

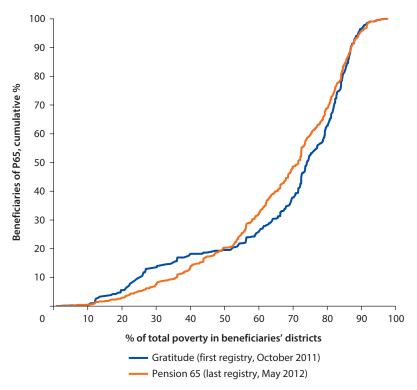


Figure 13.9 District-Level Beneficiary Targeting for Pension 65 and Gratitude

Source: Based on Instituto Nacional de Estadísticas e Informática (INEI) 2010b; Pension 65 user registry. **Note:** Only districts with at least one beneficiary are considered.

Table 13.11 Districts with Pension 65 Beneficiaries, by Poverty Level, 2012

Incidence of poverty in the district	Districts with no beneficiaries	Districts with beneficiaries	Total	Percentage of districts without beneficiaries
Less than 10%	35	28	63	55.6
10–20%	109	40	149	73.2
20-30%	157	52	209	75.1
30-40%	159	62	221	71.9
40-50%	144	58	202	71.3
50-60%	147	90	237	62.0
60-70%	113	145	258	43.8
70-80%	110	163	273	40.3
80-90%	41	138	179	22.9
Greater than 90%	7	38	45	15.6
Total	1,022	814	1,836	55.7

Source: Based on Instituto Nacional de Estadísticas e Informática (INEI) 2010b, 2010c; Pension 65 beneficiary registry.

42.1 percent. An approximate measure of the penetration rate comes out to 28.3 percent, which indicates the percentage of districts with at least 50 percent poverty that have at least one program beneficiary. Table 13.11 presents further details.

Program Costs

The program is not costly in fiscal terms. With the data about potential beneficiaries it is possible to simply and rapidly obtain the cost of the program, at least of the portion corresponding to transfers to the elderly. It can be estimated that in 2012 Pension 65 will cost approximately S/. 410 million, or 0.09 percent of GDP, without including the program's administrative costs. If the pension amount remains the same and we assume a conservative GDP growth rate of 3 percent, then during the coming years the program's cost would remain around 0.08 percent of GDP. Additionally, the population aged 65 and older covered by the program will be 14.8 percent in 2012 and will decrease slightly in the coming years (to 14.2 percent in 2018).

Other Services for the Elderly

Contributory pensions provide links for access to health care services and other social programs. Furthermore, as we mentioned, Pension 65 has a component that connects with health care services from the Ministry of Health with an emphasis on geriatric care and a component to strengthen the social support networks for the elderly through the promotion of a greater priority for the elderly in the community agenda and the connection with social services.

Health Care Attention

Health is an important dimension of well-being for the elderly because their quality of life can deteriorate rapidly if their illnesses and discomforts are not

treated adequately and in a timely manner. Because contributory pensions in Peru are generally accompanied by health insurance (ESSALUD), the limited coverage of pensions also results in low health insurance coverage. Nonetheless, although approximately two-thirds of the elderly are enrolled in the SIS, the data show that many of them do not visit health care facilities to treat their illnesses because they do not have enough money and the facilities are located too far from their homes. Additionally, the lack of health care coverage for one-third of the elderly is a serious problem because this group will have more difficulties facing the risks that come with old age.

Approximately one-third of the elderly do not have any health insurance, whether they are poor or not poor; and among those elderly that are covered differences are found in the type of insurance (table 13.12). About 67.5 percent of extremely poor adults are enrolled in the SIS and 0.9 percent in ESSALUD.⁸ In contrast, 45.9 percent of the elderly that are not poor are covered by ESSALUD and 18.2 percent by the SIS. Additionally, according to insurance status by region, we observe that the SIS has greater coverage among the extremely poor in urban areas than those in rural areas.

The interesting element of Pension 65 is that by including a health care component the program resembles a social security scheme, which generally includes

Table 13.12 Health Insurance among the Population Aged 65 and Older, 2010 Percent

		Total				Urbar	1			Rural			
Type of insurance	Extreme poor	Non- extreme poor	Non- poor	Total	Extreme poor	Non- extreme poor	Non- poor	Total	Extreme poor	Non- extreme poor	Non- poor	Total	
ESSALUD	0.9	15.1	45.9	36.1	2.7	25.2	52.2	47.4	0.5	3.6	13.5	7.0	
Private health insurance	0.0	0.0	3.2	2.3	0.0	0.0	3.7	3.1	0.0	0.0	0.3	0.1	
Health care services entity	0.0	0.0	0.1	0.1	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	
Armed forces/ police insurance	0.0	0.8	3.2	2.4	0.0	1.5	3.6	3.2	0.0	0.0	0.9	0.4	
Comprehensive health insurance (SIS)	67.5	52.2	18.2	29.0	76.4	40.5	11.9	17.3	65.7	65.4	50.8	59.3	
University insurance	0.2	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.1	0.0	0.0	0.0	
Private school insurance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Other	0.0	0.1	0.1	0.1	0.0	0.2	0.1	0.1	0.0	0.0	0.2	0.1	
No insurance	31.4	31.8	29.3	29.9	20.2	32.6	28.3	28.7	33.7	31.0	34.3	33.0	
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	

Source: Based on National Household Survey (ENAHO) 2010.

Note: ESSALUD = Seguro Social de Salud; SIS = Seguro Integral de Salud.

a pension and health insurance. Additionally, this scheme is justified as a way to alleviate the high levels of inequality of opportunity experienced in the past that were not corrected over time (Olivera 2011).

Social Support and Other Services

A series of initiatives and services for the elderly exist beyond income and health care protection. However, the elderly population's participation is not significant, and in some cases these services are directed to specific groups, such as pensioners or insured members of the public pension system.

In turn, the noncontributory pension programs are focused on providing economic security to the elderly, given the limitations that old age imposes on individuals. But another important process also takes place during aging: the weakening of social networks due to the loss of a spouse, groups of friends, and family members. The exchange of support is the basis of the existence of social networks. In a context of high informality and faced with minimal development of social security institutions, social support networks became an important element for individuals to gain protection and satisfy unmet needs (Lomnitz 1994). Additionally, apart from the economic aspect, emotional needs are also a motivation for belonging to a network.

Social support for the elderly has positive effects on their well-being through the reduction of feelings of isolation and indirectly through the promotion of healthy behaviors that provoke an increase in the resources and options related to health and well-being through direct emotional support (Pillemer et al. 2000). Additionally, according to Antonucci and Akiyama (1987), what really matters is the accumulation of communications from other individuals about how valuable, capable, and important a person is (or continues to be), and not so much the specific support. In this sense, the Barros (1991) study, with information from the elderly in Santiago de Chile, detected that belonging to an organization of elderly people contributed to the exchange of information on how to better take care of oneself, provided companionship and affection, and contributed to improving family relationships, as long as the elderly became more independent. In terms of health, it has been established that people that have more social support networks can face illnesses, depression, stress, and other difficulties better (Antonucci and Akiyama 1987). Some studies find a negative relationship between social support for the elderly and mortality and morbidity (Antonucci and Jackson 1990; Berkman 1984; Blazer 1982). In the Salinas, Manrique, and Téllez Rojo (2008) study on individuals that received the elderly component of the Opportunities program in Mexico, researchers found that the size of the network had a significant impact on the availability of support, and on economic, instrumental, and emotional support. Additionally, the authors point out that among the elderly population affiliated with the Opportunities program, having small and undiversified networks—which indicates excessive pressure on the network's members—the program's economic transfers and medical checkups become vitally important.

In this sense, the positive effects of a noncontributory pension program on the elderly's well-being could be strengthened if it were possible to incentivize the reinforcement of the elderly's social support networks in some way. In Peru the elderly can benefit from the following initiatives.

Comprehensive Centers for Attention to the Elderly (Centros Integrales de Atención al Adulto Mayor [CIAM])

These centers seek to increase the social inclusion of the elderly and their family members. They seek the elderly population's active and organized participation with other community members. They offer recreational, educational, and social activities, as well as health campaigns and the like. The Ministry of Women and Vulnerable Populations (Ministerio de la Mujer y Poblaciones Vulnerables [MIMDES]) promotes the creation of these centers, but it is the responsibility of provincial and district municipalities to create and operate them. Law no. 28,803 of 2006, the Law of the Peruvian Elderly (Ley del Adulto Mayor Peruano), mandates the creation of these centers. This law establishes that district and provincial municipalities, in coordination with the Directorate of Elderly People of MIMDES, should create the CIAMs. According to the most recent figures from MIMDES's portal, the creation of CIAMs in just 95 districts has been ordered, of the more than 1,800 districts that exist in Peru, which represents approximately 5 percent of districts.

Directorate of the Elderly (Dirección de Personas Adultas Mayores [DIPAM])

This MIMDES department is in charge of designing, monitoring, and following up on social policies directed at the elderly population. The DIPAM is responsible for promoting, coordinating, supervising, and evaluating the policies, plans, programs, and projects aimed at the elderly population, particularly for persons that suffer discrimination, social exclusion, poverty, and extreme poverty.

Center for the Elderly (Centro del Adulto Mayor [CAM])

The CAMs are centers where the elderly can receive educational workshops on emotional intelligence, art, productive activities, etc. They also organize elderly volunteers to help other elderly persons and offer prevention and treatment for illnesses, providing basic medicines. CAM services have no cost, but are directed only to the ESSALUD pensioner population (public system) that is elderly (older than 60 years). CAM offices are located in all regions throughout Peru, with a total of 121 centers in 2010. In 2010 the centers served 141,105 elderly persons.

Elderly Circles (Los Círculos del Adulto Mayor [CIRAM])

These are a social gerontological service offered by ESSALUD to insured elderly members, organized in associations in geographic areas where a CAM does not exist. The CIRAM's basic set of activities are occupational, artistic, physical, self-help, social tourism, and socio-cultural workshops. In 2010 the CIRAMs served 12,460 participants.

Elderly Club (Club del Adulto Mayor)

The Elderly Club is a department that exists within the Comprehensive Family Development Centers (Centros de Desarrollo Integral de la Familia [CEDIF]) that are administered by the National Comprehensive Family Well-Being Program (Programa Integral Nacional para el Bienestar Familiar). Twenty-three CEDIFs are located in the provinces and 13 in Lima. The clubs are directed to individuals over 60 years old that live in poverty, extreme poverty, or without contact from family members. The purpose of the club is to provide the elderly with a set of activities that allow them to share experiences and moments of recreation and relaxation, which help raise their self-esteem and improve their quality of life. According to figures from 2011, the CEDIFs served a monthly average of 33,350 people, of which 2,139 were age 60 or older.

Residential Attention Centers for the Elderly (Centros de Atención Residencial para Personas Adultas Mayores [CARPAM])

These centers serve as homes for the elderly and offer social, medical, and psychological support to their residents. MIMDES is in charge of supervising and regulating these centers. According to available figures, 21 of these centers are registered in Lima, and only six of them are public.

National Registry of Organizations for the Elderly (Registro Nacional de Organizaciones de Personas Adultas Mayores)

MIMDES promotes the registration of organizations for the elderly or that work with this population with the goal of developing collaboration among the members of this group and building social networks that offer emotional support. By enrolling in the Public Registries, these organizations can join in the Participatory Budget in their community. Additionally, this registry is a means to formalize the association and register it with the local government as part of the municipal organizations. According to the most recent figures, there are 240 organizations that have a total of 30,706 members, of which 20,853 are women and 9,853 are men.

Conclusions

The goal of increasing pension coverage is positive in and of itself because it allows the elderly to retire from the labor market and pay for their needs during old age. Achieving this vision with just a contributory social security model in a context of high labor informality is not possible. Peru has 1.8 million elderly, of which only one-fourth receive a pension, with around half a million elderly are poor.

The Pension 65 program seeks to cover the gap left open by the contributory systems to supply the elderly with secure incomes that allow them to retire from the labor market and improve their living conditions. This presupposes, therefore, that the elderly necessarily require this transfer to be able to retire from the

market smoothly. Therefore, the program should identify the elderly that should be targeted, generally those that live in conditions of poverty.

Based on other experiences and the elderly population's specific needs, the creation of the health care and social network components is positive for Pension 65 beneficiaries. We have seen that very few of the elderly who live in poverty, and above all in rural areas, use health care services. Additionally, the initiatives that exist to promote social and health care services for this population group are scarce or limited to those insured by the public system. Therefore, connecting health care services and social networks as a part of Pension 65 is a positive step. Nonetheless, we need more evidence to understand the effects of the noncontributory pension on the elderly and their families. The baseline measurement and impact studies planned during 2013–14 will shed more light on the program's effects and allow policy makers to put in place the necessary changes.

Another alternative to the targeted pension would be the creation of a universal benefit, but that would require the government to evaluate its cost and fiscal sustainability. It is important to offer social protection to the elderly, but the generosity and scope of the program should be decided within the framework of fiscal sustainability. One option for the government would be to promote and reinforce formality in the labor market so that individuals can contribute to a pension system, but this policy can require an extended period of effort before it demonstrates results. However, it is necessary that such a measure be accompanied by social pensions for the elderly populations that had few opportunities to save for old age in the past.

Individual participation in a contributory pension system can definitively lessen the fiscal burden in the future. Without such participation, the government must face growing costs to attend to the needs of the elderly without coverage. This is particularly relevant in the current context of aging, in which the population aged 65 and older today represents 6 percent of the total population and in 2050 and 2100 will be 17.1 percent and 29.9 percent, respectively. These demographic changes will signify large movements in the population's consumption and productivity patterns, at the same time that it will exert pressure on the government to direct public spending toward older age groups.

Notes

- 1. Moving averages of five observations are used to adjust the series in the figure.
- 2. The correlations between the probability of survival until 2025 and the poverty rate, the extreme poverty rate, and the poverty rate among those age 65 and older and the extreme poverty rate of said group are -0.7205, -0.7058, -0.5738, and -0.5681, respectively, with 99 percent confidence.
- 3. The employment rate is defined as the number of employed persons of a certain age divided by the total population of the same age.
- 4. We use statistics only for men because the percentage of women who are unemployed or without paid work can be very high (because of the traditional division of labor in the household), especially in rural areas.

5. This is associated with the fact that individuals that receive a pension are in general richer than those that do not receive a pension. They also have a higher level of education and greater access to health care services. All of this greatly affects an individual's probability of survival. In this sense, it is likely that the people with a greater probability of surviving to older ages are pensioners.

- 6. Based on the legalistic definition (workers that in their jobs are not forced to join social security or pay contributions) of formality described in Chong, Galdo, and Saavedra (2008), approximately 70 percent of jobs would be informal.
- 7. See Valladares (2012) for a political analysis of this reform and the path it followed.
- 8. SIS is a health insurance program administered by the government that prioritizes enrolling vulnerable populations that are living in poverty. ESSALUD refers to employees' health insurance, which are mostly provided for those in formal salaried jobs.

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