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RETIREMENT, HOUSEHOLD INCOME, AND ECONOMIC VULNERABILITY OF OLDER GROUPS

Armando Barrientos

University of Hertfordshire

ABSTRACT

This paper examines retirement behaviour and household income for older persons in Chile. It pays close attention to the sources of household income, income inequalities, and the economic vulnerability of older persons. This is important in order to evaluate whether labour market and social security reform in Latin America will improve the welfare of older groups, and especially their vulnerability to economic risks.

Address for Correspondence:

University of Hertfordshire Business School

Mangrove Road

Hertford

Herts

SG13 8QF

United Kingdom

e-mail: a.barrientos@herts.ac.uk

INTRODUCTION

The welfare of older persons and their households in Latin America is an issue of intrinsic interest, and set to acquire greater importance given current population trends in the region. It is also of considerable importance to the design of pension and health reforms in the region. The retirement behaviour of older persons, their income levels and sources, and their vulnerability to economic risks ought to be crucial inputs into the design and implementation of social security reform.[1] In fact, these issues have been largely ignored in the spread of pension reform in Latin America. This paper aims to consider these issues in the context of Chile.

The paper examines household income levels and composition for older groups in Chile. It compares household income levels with measures of income adequacy, and studies how the sources of household income vary with the age, sex, and economic status of the head of household. It also considers the extent of inequality in income levels for older households. The empirical analysis relies on data for households with a head aged 55 and over extracted from the *Caracterización Socio-Económica Nacional* (CASEN) Survey collected in November 1994 (MIDEPLAN 1996).[2]

The findings from this study will help to elucidate two matters of crucial importance for social security reform in the region. Firstly, it is important to examine retirement behaviour, and its implications for household welfare. The timing, mode, and determinants of retirement behaviour are of crucial importance to the evaluation of pension plan, and pension benefit, design. It is important to investigate whether retirement behaviour in Latin America approximates to the norms which apply in developed countries, in order to assess whether standard models of retirement and the information their application there has yielded, can be applied to Latin America. This has a direct relevance to the evaluation of recent pension reform in Latin America, and the lessons that other nations can learn from it (World Bank 1994; Barrientos 1998).

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[1] I use the term social security to mean the system of social protection programs. In Latin America, these have developed along social insurance lines, that is programs financed from payroll contributions securing insurance against specified contingencies. Social assistance programs, which in some of the literature are referred to as social security in a stricter sense, are less developed in the region.
[2] The CASEN Surveys are large nationwide survey collected for the purposes of evaluating the impact of public programs on poverty. I am grateful to MIDEPLAN for allowing access to the data. PAHO (1990) reports on an earlier 1984 survey of living conditions of the elderly, but its database is not available.

Secondly, it is important to assess the economic vulnerability of older persons and their households by reference to the level and sources of their income (Börsch-Supan 1998). The sources of income and consumption of older persons change in significant ways with their age and economic status. Pension retirement income, private and public transfers, and accumulated assets are expected to replace labour earnings at retirement, and to replace each other as the economic conditions change and older persons age. To the extent that these different sources of income and consumption are substitutes within the incomes of older groups, they are better able to withstand economic risk. But the reverse is also true, and the vulnerability of older groups rises hand in hand with their inability to modify their income sources and therefore diversify economic risks.

This is of immense relevance to the reform of social security in the region. Labour market and social security reforms have the effect of changing access to, and the extent of, households' insurance against economic risk. The net impact of labour market reform on older groups is difficult to assess. The labour market changes in the 1980s led to a steep deterioration in the labour market opportunities of skilled and unskilled older males, yet at the same time the growing flexibility of labour markets may cater for older workers' labour supply preferences better than in the past.[3] Social Security reform has downgraded pay as you go social insurance, and replaced it with funded individual pension plans and private health insurance. This will inevitably lead to changes in the sources of income for older persons. It is important to investigate whether these changes have contributed, and will contribute, to making older households more or less vulnerable to economic risks.

The paper is organised as follows. The next section analyses retirement by considering the main characteristics and determinants of retirement status observed among older groups. The section that follows looks at the income of older households, their level, composition and inequality. Another section discusses the vulnerability of older households to economic risks. A final section concludes.

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[3] These issues are discussed in Barrientos (1999).

I.   RETIREMENT BEHAVIOUR

The conventional view of retirement is the total withdrawal of a worker from the labour force, normally occurring at the retirement age specified in pension schemes by the start of pension benefit entitlements. In actual fact, retirement as a process can take many different forms, ranging from a substantial reduction in hours of work or a qualitative job change, to the simple receipt of pension entitlements (Honig and Hanoch 1985; Lazear 1986). There has been considerable discussion in developed countries of the factors shaping the retirement process, principally aimed at explaining recent early retirement trends (Nalebuff and Zeckhauser 1985; Mallier and Shafto 1992; Rein and Jacobs 1993).

The retirement models constructed to explain retirement in developing countries focus mainly on the determinants of the timing of retirement, which is assumed to be an irreversible state. Within a standard single period labour supply model, it is possible to identify what factors may be responsible for retirement. It is a stylised fact in the human capital model that workers' productivity declines with age as human capital depreciates. The decline in labour market opportunities for older workers may push them out of the labour force, as their wage offers fall below the reservation wage. In addition, the availability of pension benefit entitlements at the retirement age may allow workers to move along their indifference curve to a corner solution. In the case of social security pension benefit entitlements, these can be accessed from retirement age. In the case of employer provided pensions, the pension benefit entitlement formula is normally designed to push workers into retirement at the retirement age (Lazear 1986). Occupational and social security pension plans have been identified as key factors in the retirement process (Gohmann and Clark 1989; Disney, Meghir et al. 1994; Ruhm 1996; Blundell and Johnson 1997). Workers covered by pension plans retire earlier than those who are not; and their retirement takes place at or around the pension plan retirement age. Job heterogeneity has also been identified as an important fact in explaining retirement, which is also reflected in the pattern of employer provided pension plans (Hurd and McGarry 1993; Filer and Petri 1998).

In developing countries these issues have received much less attention. While social security pension plans have retirement benefit entitlement regulations that are not

dissimilar to those of developed countries, there are important reasons to think that retirement would exhibit different features in Latin America. Here, social security and employer provided pension plans are more recent and have restricted coverage. Labour contracts and labour markets in general are less regulated and as a consequence employment relationships show greater heterogeneity. In Latin America, the proportion of the population close to subsistence income thresholds, and therefore vulnerable to poverty, is many times larger than in the developed world (Morley 1995; Altimir 1997). Given differences in household formation, size, and composition, these factors are likely to play a stronger role in retirement decisions for older workers in developing countries, than in developed ones. The expectations are that conventional retirement would be less prevalent in Latin America; that attachment to, and exit from, the labour market would be more heterogeneous, and probably extend to a later age; and finally that household factors would play a stronger role in older workers' retirement behaviour.

It is not possible to identify the timing of retirement from the CASEN data. The lack of longitudinal survey data in Latin America makes this an issue for future research. The analysis will therefore concentrate on examining the determinants of retirement as a distinct state. This is done by estimating a logit model of retirement for two different identifiers of retirement status, and a multinomial logit with three separate states: Retired, Active and a residual state. The models were estimated using a sample of 55 to 75 year olds extracted from the CASEN data. The age range for the sample was chosen to capture the extended retirement window, and prolonged labour market activity, of older workers, which is characteristic of Chile (Barrientos 1999). The objective is to examine the determinants of retirement status, and more specifically to establish the extent to which age, social security, household, and income factors influence retirement. The results from the estimation are presented in Table 1 below.

Table I

Considering first the results from the logit models, two different identifiers of retirement were used. The first identifies the retired as those who are receiving retirement pension benefits. The second identifies the retired from their self-reported status. Neither of these identifiers is problem-free. As noted above, retirement is conventionally taken to be the complete withdrawal of an individual from the labour market. In the case of Chile, and I would suspect most other Latin American and developing countries, there is a large measure of overlap between labour market activity and retirement. It is difficult to distinguish in this situation which is the primary state of an individual. The first retirement identifier may include individuals who are receiving a pension but whose primary state is in active employment. In principle, the second identifier does not suffer from this problem, but the routing of the questions in the CASEN Survey was such that those who reported having a current job were not asked whether they considered themselves to be retired.

In any event, the results from the estimation of the logit models are very similar. The probability of being retired increases with age, and is higher for males, single persons, and heads of household. The impact of education is not significant in the first model, but more years of education raise the probability of being self reported as retired. As regards the impact of household variables, belonging to a larger size of household reduces the probability of receiving pension benefits, or self-reporting as retired. This is an interesting finding in the context of the issue of whether larger households are able to pool income and insure against consumption risks more effectively than alternative institutions (Hayashi, Altonji et al. 1996; Uthoff 1999). On the same point, the probability of being retired rises with household income.

In terms of social security and private pension and health insurance, affiliation to public and private pension plans raises the probability of being retired. The results are less robust as regard the affiliation to private pension plans. This is in part because their introduction took place in 1981 and therefore these plans were less attractive to older workers, and in part because affiliation to these may have been forced on workers coming to the labour force at a late age and having insufficient funds to retire. The estimates connecting the affiliation to the armed forces and police pension plan with retirement reflect the fact that it is usual for these plans to encourage members

to retire earlier than workers in civilian employment. Finally, affiliation to a health plan increases the probability of being retired.

The estimation of a multinomial model provides information on the relative probabilities of being in a particular state relative to another. This is because it is important to take account of the incidence of labour market activity at later ages. The model distinguishes three states. The Retired group includes all those individuals who self-report as such. The Active group includes all individuals who are either in a job or unemployed and actively seeking employment (the ILO definition of unemployment). An Other group includes all those not in any of the other two states. The proportions of these three groups among 55 to 75 year olds are 21.7 percent, 36.7 percent and 42.6 percent respectively.

The results confirm the findings from the logit models, and add further information about the relative probabilities of being retired as compared with activity or inactivity. As expected, age is associated with increasing probabilities of retirement relative to labour market activity. Being male, single, or head of household increases the probability of being active than being retired, although it raises the probability of being retired than being inactive. The larger the households size the more likely that an individual member is retired rather than active. The higher the per capita household income, the more likely it is that an individual will be found to be active rather than inactive, or retired.

As regard the impact of affiliation to pension and health insurance plans, belonging to the public pension scheme increases the probability of retirement relative to labour market activity. When affiliation is to private pension plans, the effect is reversed (for the reasons noted above). Affiliation to the armed forces pension plan raises the probability of retirement relative to activity as expected. Similarly, affiliation to health plans, either public or private, reduces the probability of being active, compared to either being inactive or retired. Retirement probabilities are raised by affiliation to health plans.

The conclusions from this section are that retirement is only available to a minority of the respective age group. If self-reported status is taken as the identifier, only one in five of the age group selected is retired. As regards the determinants of retirement, as

expected age is an important factor. Retirement as a state is also dependent on access to pensions and health insurance, and therefore on past labour market attachment. It is also dependent on income, and particularly on household income. At the same time, household size appears to be inversely related to the probability of being retired, pointing to the possibility that belonging to a larger households may be an alternative to other sources of retirement income and consumption insurance.

I.   SOURCES OF INCOME IN RETIREMENT

This section examines income levels and sources for older persons. It especially considers the variations in income and income sources with age and gender, and the extent of inequality in the distribution of incomes for older groups. It also evaluates whether their incomes are adequate relative to minimum income standards. As the objective of the analysis is to examine the economic vulnerability of older persons, the focus ought to be on the household. To this end the income analysis that follows concentrates on older persons, aged 55 and over, who are heads of household. The preferred measure of income in the analysis below is the total monetary income of the household, which is a measure of the total household income excluding imputed rent, a cash in hand type of measure.[4] [5] Household income is very unequally distributed in Chile (Cowan and De Gregorio 1996), and it is therefore informative to examine the variables of interest across quintiles of per capita household monetary income.[6] Table 2 below presents the main statistics used in this section.

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[4] A disadvantage of this approach is that intra-household inequalities in the distribution of income and consumption are not considered.

[5] All reported income sources in CASEN 94 were adjusted for both non-reporting and under-reporting to enforce consistency with household income estimates from National Income Accounts. Non-reporting adjustments include, for example, imputing assistential pension benefits to those respondents who report receiving it but fail to report the actual amount. Under-reporting adjustments include, for example, multiplying reported income from self-employment by a factor taking account of the difference existing between aggregate self-employment income from National Income Accounts and CASEN 94 (in this case the adjustment factor was 1.601). The details of, and rationale for, the adjustment are set out in MIDEPLAN (1996).

[6] Per capita total household income was selected as the ranking variable in preference to total household income. This is because the focus here is on income as a measure of the relative welfare of households and differences in the size of households induce a bias on total household income as a measure of welfare. The correlation of total household income quintiles with per capita total household income quintiles is 0.642. On the other hand, per capita household introduces the implicit assumption that income is evenly distributed across members of a household, which is also problematic. Different measures of per capita household income, such as per capita independent household income, per capita monetary household income (includes public transfers), and per capita total household income (includes public transfers and imputed rent) are all strongly correlated. For example the correlation of per capita total household income and per capita independent household income is 0.953.

Table 2. Income sources, income inequality and vulnerability of older persons and their households. Household characteristics, income level, composition, and inequality across quintiles of per capita monetary household income[a]

	Quintiles of per capita household monetary income				
	1st	2nd	3rd	4th	5th
Household characteristics:					
age	65.98	67.35	67.94	67.11	66.22
number in household	4.66	4.00	3.41	2.87	2.67
% male	0.66	0.67	0.68	0.68	0.73
Head of household activity and pension receipt status:					
% active	0.38	0.36	0.36	0.43	0.53
% receiving retirement pension	0.20	0.36	0.44	0.50	0.48
% receiving survivor pension	0.11	0.12	0.12	0.11	0.11
% receiving disability pension	0.07	0.08	0.07	0.05	0.03
% receiving social assistance pension	0.16	0.10	0.07	0.05	0.02
Income level and adequacy:					
Total household monetary income	64058.2	116240.5	154650.0	199124.2	637027.7
Total household monetary income per capita	15060.6	29067.9	44182.6	67559.3	244703.4
as % of minimum pension (70 years of age and below)	38.6	74.5	113.2	173.2	627.4
as % of minimum wage	28.8	55.7	84.7	129.5	469.2
Composition of household monetary income:					
labour income	0.640	0.665	0.627	0.529	0.176
retirement pension income	0.163	0.198	0.235	0.256	0.178
survivor pension income	0.051	0.044	0.039	0.035	0.028
disability pension income	0.051	0.042	0.033	0.022	0.008
private transfer	0.013	0.009	0.007	0.006	0.004
public transfers	0.081	0.039	0.023	0.011	0.002
capital income	0.000	0.002	0.035	0.140	0.603
Inequality of household monetary income:					
ratio to 5th quintile	0.12	0.19	0.24	0.31	
ratio to median	0.48	0.78		1.29	4.12
ratio to 1st quintile		1.63	2.09	2.70	8.63
Inequality of household monetary income excluding labour income:					
ratio to 5th quintile	0.05	0.08	0.11	0.18	
ratio to median	0.46	0.70		1.63	9.10
ratio to 1st quintile		1.52	2.17	3.53	19.73
Inequality of household monetary income excluding retirement income:					
ratio to 5th quintile	0.12	0.18	0.23	0.28	
ratio to median	0.52	0.82		1.26	4.43
ratio to 1st quintile		1.56	1.91	2.40	8.47

Own elaboration from CASEN 94 data
Total household monetary income is total household income minus imputed rent.

a. Household characteristics and access to the labour market and pension benefits

The differences in the age of household heads across the income quintiles are not large. Neither is the proportion of male heads, except for the top income quintile in which there is a larger proportion of males. The differences in household size are by contrast significant. Low income households have, on average, two more members than high income households. This is a situation common to Latin American countries (IADB 1998). There are important differences as regard access to pension entitlements. The table shows that the proportion of the heads of household who are active in the labour market is highest in the top two quintiles. The proportion of heads of household receiving retirement pension benefits also rises with income quintile. The proportion of heads of household receiving non-retirement pension benefits is similar across income quintile groups, although the top quintile has a lower proportion of heads receiving disability benefit. As expected, the proportion of heads of household receiving social assistance pension is much greater for the low income group, and falls steadily towards the higher income groups.

b. Incomes of older households

The mean household monetary income and the corresponding per capita values across quintile groups are presented in Table 2. As can be observed from the figures there are significant inequalities in the distribution of income for older person's households, an issue which will be discussed in more detail below. It may be useful to evaluate these figures against available measures of income adequacy. Two of these measures are chosen: the minimum pension and the minimum wage. The minimum pension is set twice annually by the government and defines a minimum income level for pensioners.[7] Average per capita household income only reaches the minimum pension wage level at the 3rd quintile, and the minimum pension level at the 4th quintile of per

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[7] In the event that affiliates with 20 years of contribution to a pension plan reach retirement age, but their accumulated funds generate low pensions, the government provides a minimum pension guarantee equivalent to the difference between their pension and the minimum pension. The minimum pension is set at two levels. One for retirees of below 70 years of age, and another for those of 70 years of age and over. The paper uses the first level throughout.

capita household monetary income. The conclusion is that the incomes of a significant proportion of households with older heads are below minimum income levels.[8]

c.   Income sources of older persons and their households

The sources of income of older groups provide important information on their economic vulnerability. This section considers differences in income sources and level across quintiles of per capita total household income shown in Table 2.

Starting with income sources, it is apparent that labour income is by far the main income source for all income quintile groups except for the top one. For this group, capital income is the most important. For the first three income quintile groups, labour income accounts for around two thirds of their household income. The labour market constitutes the main form of support for the majority of households with older heads. The second most important income source is retirement pension income, which rises in importance across income quintile groups from 16 percent in the first quintile to 25.6 percent in the 4th quintile. The shares of non-retirement pension income, and of private and public transfers are very much as expected. They decline almost monotonically from the low income quintile groups to the top income group. Low income quintile groups are more dependent on private and public transfers than higher income quintile groups, but in absolute terms these are of minor significance. Capital income is only important for the top income quintile.

d.   Inequalities in household monetary income

There are significant inequalities in total household monetary income across quintiles. The ratios of total household monetary income of the 1st quintile to the median and the 5th quintile are 0.48 and 0.12 respectively. The ratios of the 5th quintile to the median, and to the 1st quintile are 4.0 and 8.2 respectively. The gaps existing between the lowest and highest quintiles to the median are more of less symmetric. The income gaps are clearly large but smaller than those reported for the population as a

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[8] It was not possible to use equivalence scales to account for the age of household members. The income adequacy of older persons is better is one concentrates on individual, rather than household income, especially as many older persons haven been able to accumulate income-yielding assets and have recourse to non-contributory income support. A study by MIDEPLAN using the same data but focusing on individual income finds that 13.7 percent of persons over the age of 60 lived in poverty (MIDEPLAN 1996).

whole. Cowan and de Gregorio (1996) measure the 5th to 1st quintile ratio for the population as a whole at 12.6.[9] It is not surprising that income differences are smaller for older age groups as labour income and capital accumulation, perhaps the two key sources of income differentials, are becoming less important. Perhaps more importantly, mortality is likely to affect low income groups to a greater extent as well as earlier in life.

The impact of specific sources of income on income inequality was identified by excluding first labour income, and then retirement pension income from household monetary income and recalculating the above ratios. Excluding labour income increases the income gaps between quintiles, and therefore income inequality. Without labour income the ratio of the household monetary income of the 5th to the 1st quintile more than doubles from 8.6 percent to 19.7 percent. The greater dispersion in household income can also be observed in the ratios of the lower quintiles to the median. This shows that labour income has a strong equalising effect on the income of households with older heads. By contrast, the impact of excluding retirement pension income is marginal, although in the, right, direction of equalising household incomes.

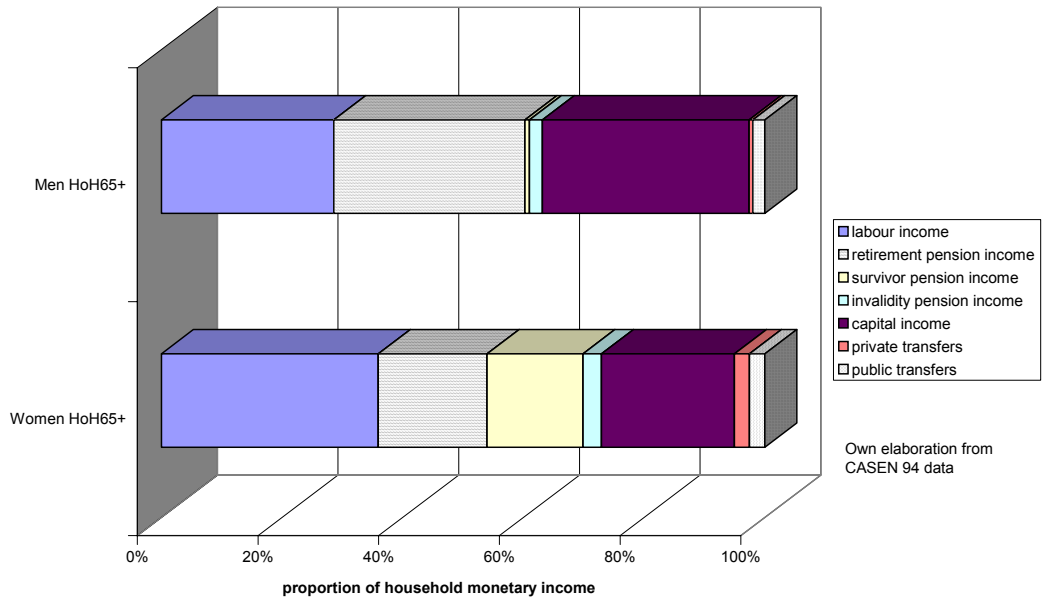e.   Gender differences in household monetary income

There are notable differences in household monetary income by gender of head of household. Looking at household income as a whole, and focusing on those households with a head over the age of 64, there is gender gap amounting to around 37.4 percent for total household monetary income, rising to 40 percent if only the independent household income is considered. The latter measure of household monetary income excludes government transfers, which have the effect of reducing the gap marginally. As the average household size of women heads of household is smaller, the gap is reduced to 27 percent if per capita independent household income is considered.

In terms of the composition of household monetary income, households with a woman head tend to draw a larger proportion of their income from non-retirement

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[9] Interestingly they also report the same ratio for 1990 at 13.1 and for 1992 at11.7, and predict economic

pension benefits and from private transfers than households headed by a man. Interestingly, households headed by a woman draw a relatively larger share of their income from labour, than households headed by a man. The latter draw a much larger share of their income from retirement pension benefits, and capital. This reflects largely the longer attachment to the labour market of males, and the range of employment opportunities open to them. Figure 1 shows the differences in income sources by sex.

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growth will ensure this ratio moves down to 10.6 by the year 2000 (Cowan and De Gregorio 1996).

Figure 1. Gender differences in sources of household monetary income by gender of head

These gender differences have implications for the relative vulnerability of households, as those headed by a woman are, on average, a lot more dependent on transfers, than those headed by men.[10] The proportion of women heads of household still active in the labour market is 8.2 percent compared to the same figure for men at 31 percent.

f.   Pre- and post-retirement income

It is an interesting issue whether retirement is associated with a fall in household monetary income. The timing of retirement cannot be identified from the data, so that a before and after analysis cannot be performed. Instead, Table 3 below shows the ratios of household monetary incomes for three age groups: 55 to 64 year olds, 65 to 74 year olds, and those over 75. Comparing the household incomes of these age groups can provide clues as to whether retirement is associated with a fall in income, to the extent that retirement probabilities rise with the age of the head of household.

Table 3. Household income differences by age group					
Age groups	Quintiles of total household monetary income				
ratio 65-74 to 55-64	1.11	0.95	0.86	0.83	1.02
ratio 75+ to 65-74	0.95	0.90	0.79	0.75	0.53
ratio 75+ to 55-64	1.06	0.86	0.68	0.62	0.54
	Quintiles of per capita household monetary income				
Age groups	1st	2nd	3rd	4th	5th
ratio 65-74 to 55-64	1.15	1.03	0.98	0.96	1.20
ratio 75+ to 65-74	1.09	1.12	1.02	0.90	0.63
ratio 75+ to 55-64	1.25	1.15	0.99	0.87	0.76
Own elaboration from CASEN 94 data					

The surprising finding is that falls in total household income are not very marked, and apply more strongly to the higher income quintile groups. The average total household monetary income of the top income quintile falls by one half from the younger age group to the older groups. At the other end, the average household monetary income of the lowest quintile group remains more or less steady. The lower set of figures

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[10] MIDEPLAN(1996) notes that there is also a gender difference in the extent of poverty. In 1994,

reflects differences in per capita household monetary income. As can be seen they have the effect of moderating the observed fall in income. Looked at from this measure of income there are only very marginal changes in the average incomes of households with age, and perhaps, retirement.

This is explained by a number of factors. There is, of course, the issue of differential mortality, and household composition to take account of. Lower income households have higher mortality than high income households, so that perhaps the poorer households disappear sooner, so to speak. On the other hand, higher income households are smaller, and more likely to become smaller with age, as children grow up and leave home. In addition, it is also likely that bequests are more important for higher income households than for poorer households. On the other hand, older persons in low income households have greater access to non-contributory pension entitlements as they age. A combination of these factors explains the differences observed in the lower part of the Table.

II.   ECONOMIC VULNERABILITY OF OLDER PERSONS

The preceding sections provide a snapshot of retirement and household income for older groups in Chile. There are large inequalities in both access to pension income, and in household income for these groups. These highlight the vulnerability of older persons to economic conditions. Vulnerability is here understood as the probability that the incomes, and therefore consumption, of older persons and their households would fall below subsistence levels (Boskin and Shoven 1987; Börsch-Supan 1998). The comparison of per capita household monetary income to the minimum pension and the minimum wage shows that a significant proportion of older persons and their households are vulnerable to economic conditions.

An examination of the sources of income for these households reinforces this point. Lower income households with older heads are also vulnerable to economic conditions because they rely to a greater extent on labour incomes, and on incomes from private and public transfers and non-retirement pension benefits, than middle

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women accounted for 59.3 percent of adults over the age of 60 classified as indigents.

and high income households. It might be helpful to consider this issue in more detail here by tracing the changes in the composition of household income both across income quintiles and age groups. Table 4 below shows the composition of household income for the bottom, middle and top quintiles, and for three age groups: 55-64 years of age, 65-74 years of age, and 75 years of age and over.

Table 4. Changes in household income sources with age			
	Age groups		
1st Quintile	55-64	65-74	75+
Labour income	82.9	59.7	42.2
Retirement pension income	4.4	20.1	31.0
Survivor pension income	3.5	5.2	7.2
Disability pension income	3.3	5.9	6.1
Private transfers	1.9	1.3	1.3
Public transfers	5.0	8.4	12.6
Capital income	0.0	0.0	0.0
	Age groups		
3st Quintile	55-64	65-74	75+
Labour income	83.0	60.6	49.1
Retirement pension income	7.7	24.2	33.9
Survivor pension income	2.1	4.9	7.0
Disability pension income	2.2	2.9	3.9
Private transfers	1.0	0.6	0.5
Public transfers	1.1	2.4	3.4
Capital income	3.0	4.4	2.1
	Age groups		
5st Quintile	55-64	65-74	75+
Labour income	22.9	13.2	16.8
Retirement pension income	7.1	16.3	29.5
Survivor pension income	1.9	2.1	6.4
Disability pension income	0.5	0.4	2.0
Private transfers	0.3	0.3	0.3
Public transfers	0.1	0.1	0.2
Capital income	67.2	67.6	44.7
Own elaboration using CASEN 94 data			

The Table shows an important rebalancing of the income package of the households of older heads. As can be seen, there is a decline in the share of household income

contributed by labour earnings. It is noticeable that the fall in the share of labour income is more pronounced for the bottom quintile, falling to around one half. For all quintiles, the share of income provided by retirement pension rises to around one third. Finally, public transfers come to be an important source of income for households in the bottom income quintile. For the top income households there is a drop in the share of capital income perhaps explained by the running down of accumulated assets and private transfers and bequests. Households in the lowest quintile have no income from capital. The income package rebalancing associated with ageing makes low income households more vulnerable as they come to depend to a greater extent on discretionary income sources. There is also the issue that variations in public transfers and labour income are positively correlated, thus compounding, instead of diversifying, economic risk.

This discussion points to the rising vulnerability of older groups as a result of social security reform, which in the provision of pension and health insurance has aimed to replace pay as you social insurance with individually contracted insurance from private providers. This will drastically reduce the redistributive features of pension schemes, as future pension will come to depend exclusively on the pension contributions made (net of fund management costs) and the investment returns secured. As was observed above, pension benefits (both retirement and non-retirement) have the effect of reducing income inequalities in old age. The reform of pension schemes will significantly reduce their capacity to have this redistributive impact in the future (Barrientos 1998). At the same time, the investment portfolios of pension funds have a high share of equity and other financial instruments with high expected variance. This will also raise the vulnerability of pensioner incomes to economic conditions in the future.

Inequalities in access of older persons to health insurance increase their vulnerability to economic risks (Miranda 1994; Fischer, Mizala et al. 1998; Barrientos 2000). In Chile the public health care sector is the insurer of last resort to those with low, or no, incomes. These can access health care only at public hospitals or clinics. For those with middle to high income, the choice is to insure themselves with the public health fund, FONASA, or with a private health insurance provider, the ISAPREs. FONASA affiliates can access private health care, but must make a copayment. In addition there

are some high income sectors with other private health insurance plans. Table 5 below shows health insurance coverage by income quintile. The majority of low income households have no health insurance, and are therefore extremely vulnerable to health risks. Private health insurers have largely avoided insuring older groups because of their higher health risks.

Table 5. Health insurance coverage for those aged 65 and over by per capita household income quintile (1994)

| Health Plan | Per capita household monetary income quintiles | | | | | |
	1st	2nd	3rd	4th	5th	All
	%	%	%	%	%	%
None	63.8	45.2	37.0	26.2	12.6	37.1
FONASA	29.8	47.1	54.4	63.3	51.2	48.9
ISAPRES	0.5	1.1	1.2	2.2	11.1	3.1
Armed Forces	0.4	1.1	1.4	3.1	11.6	3.4
Other	0.7	1.4	0.3	0.6	2.9	1.5

Own elaboration from CASEN 94 data. Columns do not round up to 100 because don't knows are not included.

The conclusion from this section is that there is a significant proportion of older persons and their households who are vulnerable to economic risk, including both consumption and health risks. This is a situation that is, unfortunately, common to many developing countries. It is also the case that the vulnerability of a significant proportion of older persons will increase as a consequence of social security reform in Latin America, and from pension and health reform in particular. This arises in part because the redistributive impact of social insurance will tend to disappear with the reforms which privilege a close correlation between contributions and benefits at the individual level (Barrientos 1998); and in part because of the changes in income sources and their expected variance.

CONCLUSIONS

The first two sections profiled the retirement and economic status and the incomes of older persons and their households in Chile. The main features of this profile are that firstly, retirement is a minority status among older persons in Chile, and that even at

older ages, work and household responsibilities, in the case of women, constitute primary economic activities for a substantial number of older persons. Secondly, this is reflected in the sources of income of households with older heads. Labour earnings, non-retirement pensions, and private and public transfers, provide the main sources of income for the majority of such households. Capital income is important only for higher income households. Thirdly, there are large inequalities in household income, which mirror in a reduced scale the inequalities for the population as a whole.

The last section discussed the economic vulnerability of older persons and their households. It would not surprise many that a significant proportion of older persons and their households are vulnerable to economic and health risks. Their vulnerability ought to be a cause for concern given the fact that they have much fewer opportunities to recover from adverse shocks than younger groups. Furthermore, the reform of social security now currently underway in many countries in Latin America is likely to increase their vulnerability to economic risks. To the extent that the findings from Chile apply to other Latin American countries, and a case that they do can be made with ease, it is important that pension and health reform take on board the task of reducing the vulnerability of older groups to economic risk.

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