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How Social Security Keeps Older Persons Out of Poverty across Developed Countries

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INTRODUCTION

Social Security[1] is a major retirement income source[2] for older persons in the United States and other developed countries. Without Social Security income, a large portion of the older population would live in poverty in all developed countries. This report analyzes how or to what extent Social Security keeps older persons out of poverty across developed countries by examining changes in poverty rates of older persons with and without Social Security income.[3] The data we used to carry out this analysis are from the Luxembourg Income Study (LIS) database.[4] The LIS contains the information needed to construct comparable poverty measures for about two dozen countries. It provides data that allow comparison of the level and trend of poverty across several nations.

Poverty Measures in International Comparisons of Poverty

Relative Poverty Threshold

Poverty, as an economic deprivation, can be either an absolute or relative measure.

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[1] Here we use "Social Security" to refer to the popular name of the United States Old Age and Survivors Insurance (OASI) program, which in international terms is a "social retirement program." This usage is in contrast to the European usage of "social security" to encompass their entire income maintenance systems. The Social Security referred to throughout this paper is the U.S. definition.

[2] Most countries in the Organization for Economic Cooperation and Development (OECD) have retirement income schemes that consist of three tiers. The first tier is the retirement pension benefits the state provides through Social Security schemes. The second tier is the occupational plans that employers provide. The third tier is individual pension schemes and private savings provided by individuals. Most countries also have anti-poverty programs as part of Social Security pension systems (Gillion, Turner, Bailey, and Latulippe, 2000).

[3] This is only a hypothetical analysis. It does not consider how individuals or governments would change their economic behavior when a country lacks Social Security protections. The purpose of this analysis is to illustrate the static variation of the effects of Social Security income on the poverty of older persons in developed countries.

[4] The Luxembourg Income Study (LIS) is a non-profit cooperative research project with a membership that includes 25 countries on four continents: Europe, America, Asia and Oceania. The LIS project began in 1983 under the joint sponsorship of the government of the Grand Duchy of Luxembourg and the Centre for Population, Poverty and Policy Studies (CEPS). The project is mainly funded by the national science and social science research foundations of its member countries. Recently, LIS and the Centre Universitaire (CU) de Luxembourg became partners, with offices being provided by the CU. The LIS database is a collection of household income surveys. These surveys provide demographic, income, and expenditure information on three different levels: household, person, and child (see: http://www.lisproject.org).

Absolute poverty measures define poverty as either income or consumption below some absolute level that represents a minimum decent standard of living (Ruggles, 1990). Like the official poverty measure in the United States, if an individual's family income falls below the absolute thresholds, the individual would be in poverty. Absolute thresholds generally carry the connotation that they are developed by "experts" with reference to basic physiological needs (e.g., nutritional needs). In contrast, relative poverty measures define poverty as either income or consumption below certain standards that can be expressed as a proportion of the actual expenditure or income of the population as a whole (Ruggles, 1990).

A typical approach is to select a cutoff point in the distribution of total family income, say, one-half the median family income (Citro and Michael, 1995). In most international comparisons, poverty is usually a relative concept.[5] A majority of cross-national studies defined the relative poverty threshold as one-half of the national median income (Smeeding, Rainwater, and Burtless, 2002). In this study, we selected the same relative poverty threshold, i.e., one-half of the national median household income.

Unit of Analysis

For an international comparison of poverty, the household is the single best unit for income aggregation. It is the only comparable income-sharing unit available for most nations (Smeeding, Rainwater, and Burtless, 2002). Although the household is the unit used for aggregating income, the person is the unit of analysis. Household income is assumed to be equally shared among individuals within a household. Poverty rates are calculated as the percentage of all persons who are members of households with incomes below the poverty line (Smeeding, Rainwater and Burtless, 2002).

Disposable Household Income

Poverty measurement is based on the broadest income definition that still preserves comparability across nations. The best current definition is disposable income (Smeeding, Rainwater and Burtless, 2002), that is, all money income minus direct income[6] and payroll taxes. The money income includes all cash and near-cash transfers, such as food stamp and cash housing allowances and refundable tax credits, such as the Earned Income Tax Credit.

Equivalency Scale Adjustment

In order to make comparisons of well- being between households of different sizes, equivalence scales are used to adjust household income for differences in needs related to household size and other factors, such as the age of household members. A variety of equivalence scales have been used in cross-national comparisons. The equivalence scale used for this study, as is the case in most cross-national studies, is a single parameter scale with square-root-of-household-size scale factor. The adjusted household income equals the household's disposable income divided by the square root of the number of persons in the household.[7]

In short, in this research, we define a person in poverty as a person in a household having adjusted household income below 50 percent of the national median adjusted household income.

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[5] Relative poverty measurement is in line with a well-established theoretical perspective on poverty. Such a measure is now commonly calculated by the European Commission, by the OECD, and other international groups (Smeeding, 2001).

[6] Personal Income Taxes.

[7] The calculation formula is: Adjusted income=Disposable income/Size^{E}.
The size is the number of persons in the household.
E is the equivalence elasticity or "equivalence factor," which varies between 0 and 1. In this study, we selected an E value of 0.5, similar to that used by the OECD.

Current Poverty Rates for Older Persons[8] Across Developed Countries

Based on our estimate, the average poverty rate of persons age 65 and older for 15 selected developed countries[9] was 13.3 percent, 3.5 percentage points higher than that for the entire population on average (see Table 1). Except for Canada, France, Luxembourg, and the Netherlands, poverty rates of older persons were higher than for the overall population in the other 11 developed countries. Among the 15 countries, Australia had the highest poverty rate of older persons (29.4 percent), the United States ranked the second highest (24.7 percent) with Ireland close behind at 24.5 percent. Luxembourg had the lowest percent of older persons living in poverty (3.7 percent).

Table 1
Relative Poverty Rates for Total Population and Persons Age 65 and Older Among Developed Countries

Country	Year	Below 50% Median Income		
		Total Population	Persons Age 65 and Older	
		Family Income	Family Income	Family Income Without Social Security Income
		%	%	%
Australia	1994	14.7	29.4	57.8
Austria	1997	8.7	12.0	71.5
Belgium	1997	8.4	12.3	85.6
Canada	1998	11.4	7.8	59.0
Finland	2000	5.4	8.5	32.1
France	1994	8.0	7.8	85.2
Germany	2000	8.3	9.8	77.0
Ireland	1996	12.4	24.5	67.1
Italy	2000	12.7	13.7	58.3
Luxembourg	2000	6.0	3.7	57.4
Netherlands	1999	8.8	4.8	65.9
Norway	2000	6.4	11.9	77.4
Sweden	2000	6.5	7.7	88.5
United Kingdom	1999	12.5	20.9	63.6
United States	2000	17.0	24.7	55.6
Average		**9.8**	**13.3**	**66.8**

Data Source: Luxembourg Income Study database, wave IV and wave V.

[8] In this research, we defined "older person" as a person age 65 and older, even though each country has its own retirement age.

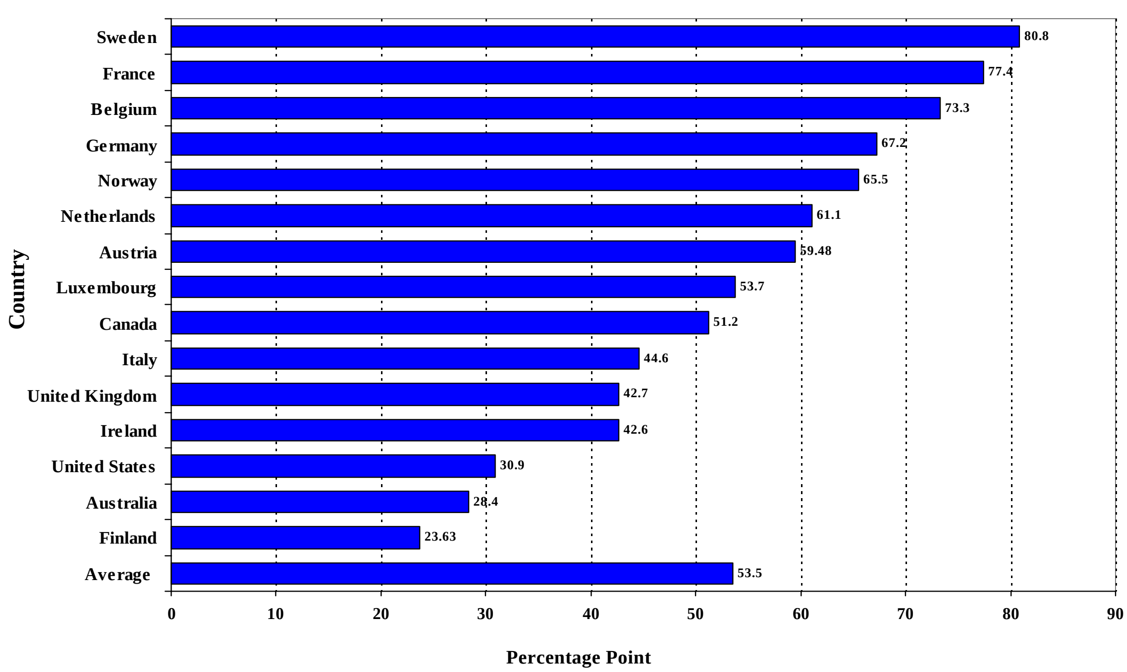
Poverty Rates for Older Persons if Social Security Income Is Excluded from Family Income

Without Social Security income, an average of two-thirds of older persons (66.8 percent) would be in poverty among the 15 countries. For all selected countries except Finland, more than half of older persons would be poor without Social Security benefits. In three countries (Sweden, Belgium and France), the poverty rates for older persons would be more than 80 percent without Social Security income.

Figure 1 presents the percentage point reduction in poverty rates of older persons due to Social Security income across the 15 countries. Social Security income reduced the poverty rate by an average of 53.5 percentage points for older persons in the 15 countries. Social Security income reduced the poverty rate by almost 80.8 percentage

Figure 1

Percentage Point Reduction in Poverty Rates for Persons Age 65 and Older by Social Security Income Across Developed Countries



Note: Data Source: Table 1

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9 This study selected 15 developed countries, for which the most recent year micro data are available in LIS (wave IV and V) (see http://www.lisproject.org).

points in Sweden, 77.4 percentage points in France, and 73.3 percentage points in Belgium, but by only 23.6 percentage points in Finland, 28.4 percentage points in Australia and 30.9 percentage points in the United States (see Figure 1).

Poverty Rates of Older Persons by Gender and Age

Gender

The poverty rate for older women was higher than that for older men in all selected countries. The average poverty rate for older women was 16.6 percent, 7.5 percentage points higher than that for older men (9.1 percent) (see Table 2). The difference in poverty rates between older women and older men varied by country, ranging from 24.5

Table 2
Relative Poverty Rates for Persons Age 65 and Older by Gender in Developed Countries

Country	Year	Men		Women	
		Below 50% Median Income		Below 50% Median Income	
		All Family Income	All Family Income Without Social Security Income	All Family Income	All Family Income Without Social Security Income
		%	%	%	%
Australia	1994	24.1	51.9	34.4	61.1
Austria	1997	6.7	61.5	13.4	67.1
Belgium	1997	12.3	84.5	12.4	86.1
Canada	1998	5.4	55.0	9.5	62.0
Finland	2000	3.2	22.7	11.8	38.1
France	1994	7.8	85.6	11.2	85.0
Germany	2000	7.7	71.9	13.3	74.3
Ireland	1996	10.5	58.6	35.0	72.4
Italy	2000	10.3	56.2	16.1	59.5
Luxembourg	2000	2.4	56.2	4.2	57.9
Netherlands	1999	4.4	59.7	5.7	70.1
Norway	2000	5.1	69.5	16.7	82.9
Sweden	2000	4.1	83.5	10.3	92.2
United Kingdom	1999	13.8	59.4	26.2	66.7
United States	2000	19.0	49.4	28.5	59.5
Average		**9.1**	**61.7**	**16.6**	**69.0**

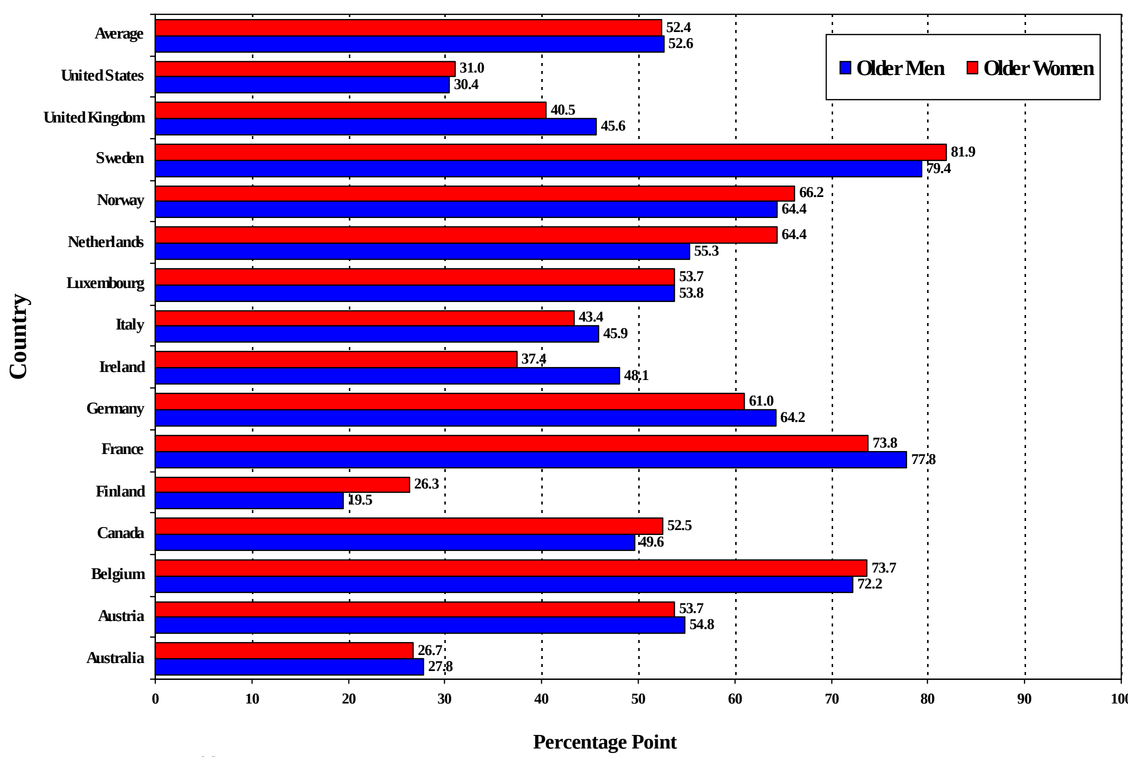
Data Source: Luxembourg Income Study database, wave IV and wave V.

percentage points in Ireland to 0.1 percentage points in Belgium. Without Social Security income, more than half of older men and older women would be poor, except in

Finland.[10] In Belgium, France and Sweden, without Social Security income, poverty rates would be above 80 percent for both older men and older women.

Overall, Social Security income reduced poverty rates by almost the same for both older men and older women across the 15 countries (52.6 percentage points for older men and 52.4 percentage points for older women). In some countries, Social Security income alleviated poverty more for older women than for older men. Figure 2 shows that in the Netherlands, Social Security income reduced the poverty rate by 64.4 percentage points for older women, while it reduced the poverty rate by 55.3 percentage points for older men. In Belgium, Canada, Finland, Norway, Sweden and the United States, Social Security income also alleviated poverty more for older women than it did for older men.

Figure 2
Percentage Point Reduction in Poverty Rates for Older Men and Older Women by Social Security Income Across Developed Countries



Note: Data Source, Table 3

[10] The exception also includes the United States (49.5 percent of older men in poverty)

Age

Among the selected countries, persons age 75 and older were more likely to be poor than persons age 65 to 74, except in the Netherlands. The results from our analysis show that the poverty rate on average for persons age 75 and older was 16.1 percent, 5.9 percentage points higher than that for persons age 65 to 74 (10.2 percent) (see Table 3). In Australia,

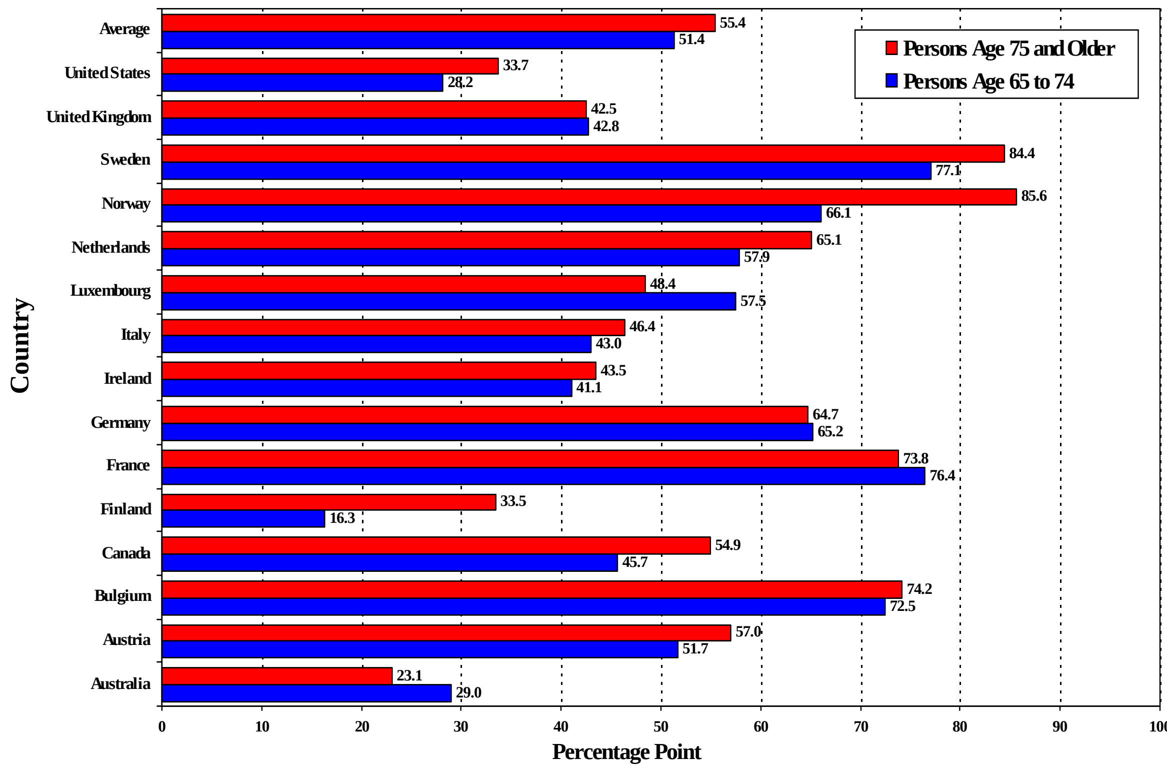
Table 3
Relative Poverty Rates for Persons Age 65-75 and Persons Age 75+
Across Developed Countries

Country	Year	65 to 74		75+	
		Below 50% Median Income		Below 50% Median Income	
		All Family Income	All Family Income Without Social Security Income	All Family Income	All Family Income Without Social Security Income
		%	%	%	%
Australia	1994	23.6	52.6	40.4	63.5
Austria	1997	8.2	59.9	14.5	71.5
Belgium	1997	10.6	83.1	15.0	89.2
Canada	1998	5.3	51.0	6.6	61.5
Finland	2000	4.4	20.7	14.0	47.5
France	1994	7.5	83.9	13.3	87.1
Germany	2000	9.2	74.4	11.5	76.2
Ireland	1996	19.9	61.0	30.0	73.5
Italy	2000	13.0	56.0	14.6	61.0
Luxembourg	2000	2.0	59.5	5.6	54.0
Netherlands	1999	6.1	64.0	3.8	68.9
Norway	2000	2.0	68.1	5.6	91.2
Sweden	2000	4.1	81.2	11.0	95.4
United Kingdom	1999	17.1	59.9	25.9	68.4
United States	2000	20.0	48.2	29.6	63.3
Average		**10.2**	**61.6**	**16.1**	**71.5**

Data Source: Luxembourg Income Study database, wave IV and wave V.

the poverty rate for persons age 75 and older was 40.4 percent, 16.8 percentage points higher than that for persons age 65 to 74 (23.6 percent). In contrast, in the Netherlands, 3.8 percent of persons age 75 and older lived in poverty, 2.3 percentage points lower than the comparable figure for persons age 65 to 74. When Social Security income was excluded, the average poverty rate increased from 16.1 percent to 71.5 percent for persons age 75 and older, and from 10.2 percent to 61.6 percent for persons age 65 to 74 (see Table 3). Social

Figure 3
Percentage Point Reduction in Poverty Rates for Persons Age 65-74 and 75+ by Social Security Income Across Developed Countries



Note: Data Source, Table 3

Security income reduced the poverty rate by 55.4 percentage points for persons age 75 and older on average in 15 countries, which was 4.0 percentage points more than that for persons age 65 to 74 (51.4 percentage points) (see Figure 3). In 10 of the 15 countries (except Australia, France, Germany, Luxembourg and United Kingdom), the reduction in poverty for persons age 75 and older was greater than that for persons age 65 to 74. The range of the differences varied from 19.5 percentage points in Norway to 1.7 percentage points in Belgium (see Figure 3).

Conclusion

The results of this study indicate that, without Social Security income, more than half of older persons would be in poverty on average in the 15 selected countries. In some Nordic countries (Sweden and Norway) and some Continental European countries (Austria, Belgium, France, Germany, Luxembourg and the Netherlands), Social Security provides more generous benefits for older persons than in some English-speaking countries (the United States, United Kingdom and Australia). In addition, Social Security benefits are more likely to keep older women and persons age 75 and older out of poverty than older men and persons age 65 to 74.

These results are subject to an important caveat. Without Social Security protection, economists believe individuals would change their economic behavior and governments would adjust their policies to increase older persons' retirement income. However, it is undeniable that Social Security makes up a large portion of the incomes of the older population in the developed countries. Social Security, as social insurance, provides a base of income protection for older persons, particularly for older women and older persons who live longer. Social Security systems are facing financial challenges in many countries now.[11] Economic capacity, declining fertility and increasing longevity will be the most important factors behind the aging of societies during the coming decades. How to maintain the adequacy of older persons' retirement income is a great challenge for government policy, not only for Social Security reform but also for entire retirement income maintenance systems.

[11] Especially in those countries with a Social Security system financed predominantly on a pay-as-you-go basis.

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