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The Meaning of Retirement: Cross-national Patterns and Trends

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The Meaning of Retirement: Cross-national Patterns and Trends

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"The Meaning of Retirement: Cross-National Patterns and Trends"

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What is the meaning of retirement? One would be hard pressed to find a less murky term in research concerned with public policy and the elderly. Is retirement like pornography, i.e., hard to define, but we know it when we see it? Is it a state behavior or a transitional behavior? From the perspective of individual welfare and well-being, does retirement connote social uselessness and lack of productivity; or does retirement connote the pursuit of leisure, hobbies, gardening, grandchildren, and carefree travel? From a social policy point of view, does retirement connote poverty and the inability to meet basic economic needs, or does retirement mean the high budgetary costs of social retirement passed on to younger generations and businesses via higher social insurance taxes; or is retirement a tool of social and business policy which can be used to buy off older workers and thereby create new job openings for younger, cheaper and/or more productive workers? Are workers pushed or pulled into the state of retirement, do they go willingly or unwillingly? Is health a major or minor factor in the retirement process? And finally then from a simple statistical/social indicator point of view, does retirement mean receipt of benefit, or exit from the labor market, or both? Once older workers leave the labor market, do they return? If so, where, doing what, and for how long? Does receipt of retirement benefits mean stoppage of work? What is "early retirement?" Is it measured by age, tenure on a job, proportion of life spent working? Just what is retirement anyway?

The goal of this paper is much more modest than to answer these questions. Rather, the goal is to demonstrate the complexity of defining retirement within a country, across countries, and over time. We will create several definitions of "retirement" and examine the patterns across

nations. We will look at patterns of the absence of earnings mixed with and separate from receipt of retirement income. We will investigate the impact of retirement on one aspect of economic well-being, poverty, or low income. (Other papers, e.g., Rainwater and Rein, 1990, go into more depth on this issue.) Finally, we will look more broadly at the variation in retirement over time. As my colleague, Barbara Torrey, often writes, this paper asks more questions than it answers. But if it leads the reader to ask herself/himself to think carefully about what they really mean by retirement before they make analytical use of the term, the paper will have served its purpose.

I. Data and Definitions

The data used in this paper come from the Luxembourg Income Study (LIS). The surveys used in this paper are briefly described in Table A-I. A more complete description of LIS can be found in Coder, Rainwater, Smeeding (1988) and Smeeding, Rainwater, and Simpson (1989). The main countries used in the paper are from the most recently entered (second round) LIS datasets: Australia (reference year, 1985), Canada (1987), Sweden (1987), USA (1986) and West Germany (1984). These data allow us to separately identify earnings and retirement income receipt for family heads, spouses, and other adults.[1] Each of these countries also has an earlier wave of data, allowing trend analyses.[2] To these countries we have added initial round data from France (1979), and the United Kingdom (1979).[3] Later this year, we plan to add identical second round datasets for each of these countries to the LIS database.

The major variables used to define retirement are lack of earnings and/or receipt of retirement income. Earnings include cash compensation from all types of employment (wages and salaries, self-employment and farming). Retirement income is here defined to include all forms of social pensions, occupational pensions, and all types of government employee pensions. It also is defined to include long-term disability pensions and other types of special pensions offered to redundant workers by enterprises and/or governments. While long-term disability benefits could be excluded, they serve as an early retirement device in most nations. Retirement income does not include unemployment compensation or short-term worker disability benefits as retirement income; nor does it include means-tested or "welfare" benefits (except in Australia where all "old age pensions" can be termed means tested.)

The first four tables define the retirement status of families based on characteristics of the "head" of the family (which is the male in two adult families). Families are generally defined to include all persons related by blood, marriage, or adoption. Single persons living alone or with or without other unrelated persons are called one-person families (Coder, 1990). The final two tables employ a family-based retirement and earnings definition of retirement.[4] Depending on ones purposes for measuring retirement, one might prefer one definition to the other. Rainwater and Rein (1990) use still another concept, men's earnings, to investigate labor market withdrawal and early retirement using first round LIS datasets.

We concentrate on family status (defined either by head or family characteristics) because most individual welfare comparisons are a function of family status. While retirement may be an individual phenomenon,

analysts are generally concerned about the way that retirement effects economic status. Since lack of earnings or receipt of retirement income by an individual head may or may not coincide with family low income, we concentrate on families or persons in families as the main unit of analysis in all comparisons.

To measure poverty or low income, we adopt a relative measure based on equivalence adjusted disposable cash income. Disposable cash income includes all forms of money income received by the family including retirement income, earnings, all forms of transfers and property income net of direct income and payroll taxes. All family disposable incomes are normalized to the income of a three-person family using an equivalence scale with family size adjustments which weights the first person at 1.0 and each additional person as .5. Hence a three-person family has its income divided by 1.0, a single person by .5, persons by .75, five by 1.5, etc.[1] Poverty is defined as all persons living in families with adjusted incomes less than half of the median adjusted income.

II. Results

We begin by investigating families ranked by age of head and head's earnings and retirement income patterns in five countries between 1984 and 1987 (Table 1). Four possible definitions of retirement are presented:

TABLE 1 HERE

families with heads having zero earnings (Panel I), families with heads receiving retirement income (Panel II), families with heads having both zero earnings and head receiving retirement income (Panel III), and families with

TABLE 1
Patterns of Earnings and Retirement Income in the Mid-1980s
Among Families Defined by Characteristics of Family Heads
in Five Countries (Percent of Families with Heads
Having Given Characteristics in Each Cell)

Country	Year	55-59	60-64	65-74	75+
I. Heads with Zero Earnings[1]					
Australia	1985	29	57	88	95
Canada	1987	23	43	81	94
Sweden	1987	7	21	41	59
USA	1986	21	39	74	92
West Germany	1984	19	55	92	98
II. Heads with Retirement Income[2]					
Australia	1985	14	40	85	91
Canada	1987	21	44	98	100
Sweden	1987	23	57	100	100
USA	1986	24	50	93	96
West Germany	1984	16	59	96	96
III. Heads with both Zero Earnings and Retirement Income[3]					
Australia	1985	10	35	79	89
Canada	1987	11	32	80	93
Sweden	1987	6	19	41	59
USA	1986	12	32	71	89
West Germany	1984	13	51	90	93
IV. Heads with Retirement Income and Zero or Low Earnings[4]					
Australia	1985	11	37	82	90
Canada	1987	13	37	89	96
Sweden	1987	12	34	79	93
USA	1986	15	40	81	92
West Germany	1984	14	53	92	94

Notes:
[1]Percent of families with head who has zero earnings during the survey period. Labor force status is unknown.
[2]Percent of families with head who is receiving retirement income.
[3]Percent of families with head who has both zero earnings and head is receiving retirement income.
[4]Percent of families with head who has both retirement income and low earnings. Low earnings is defined as heads with zero earnings or earnings less than .25 family disposable income.

heads having both zero earnings and head earning less than 25 percent of family income (Panel IV).

The first definition of "retirement" is lack of earnings. Because not all LIS datasets measure head's labor force status, it is not possible to discern whether the family with a nonearning head is unemployed or not looking for work. Because of this weakness, zero earnings may be a poor proxy for retirement. However, spouse's earnings and family retirement income can be used to supplement this definition.

The second definition requires that the family have a head who is receiving retirement income (Panel II). This definition says nothing of the labor force status of the head or her/his earnings. They may have a job in addition to having retirement income. For those interested in the budgetary cost of retirement to society (in the case of social retirement outlays) and/or the effect of retirement on capital markets, savings, or job status (occupational retirement), this definition of retirement may be preferred.

If one wants to <u>really</u> make sure that a head is fully retired, one could look only at families whose heads are both zero earners and in receipt of retirement income (Panel III). Such a definition produces many fewer retired families in the younger age ranges, as one might expect. Of course, we cannot tell if the head will ever return to work. Analyses of panel data in the United States indicate that less than 10 percent of those in this state will return to work (Burkhauser and Quinn, 1990). Comparable German panel data indicates a much lower fraction of Germans will return to work (Merz, 1990).

For those who feel that retirement is a matter of degree and not a discrete variable, one can find a point between these extremes, and define

retired as families whose head receives retirement income, but earns less than some fraction of family income. Here we are likely to have in mind a family with a younger head who receives occupational retirement, but also remains active in the labor market. We arbitrarily chose less than twenty-five percent of disposable income here; other definitions could be chosen. Clearly, as the definition moves lower on the percent of earnings scale, the closer it gets to Panel III, while dropping the earnings condition altogether moves the numbers back towards Panel II.

The entries in this table display considerable heterogeneity across countries, particularly at younger ages. The only generalizable conclusion to be reached here is that retirement, however defined, increases with age. The imposition of dual criteria (Panels III and IV) reduces the variance in the single criteria measures (Panels I and II) considerably. Still, the intercountry variation is large, particularly in the 60-64 age bracket where the fraction retired is large and quite variable. The intracountry variance is more difficult to discern in this table, given the way that it is presented. However, West Germany appears to have the least variance across definitions, while other nations show considerably more variance at younger ages.

The next two tables are based on Table 1. They are designed to show that zero earnings among older heads does not always infer receipt of retirement income (Table 2), while receipt of retirement income by a family head does not always infer zero earnings (Table 3). In these cases, the

TABLES 2, 3 HERE

TABLE 2

Do Families with Nonearning Heads Always Get Retirement Income?
(Percent of Families with Heads Who are Zero Earners
Who Also Have Retirement Income)

Country	Year	Age Head			
		55-59	60-64	65-74	75+
Australia	1985	34	61	89	93
Canada	1987	50	76	99	100
Sweden	1987	88	91	100	100
United States	1986	58	83	97	98
West Germany	1984	69	92	98	98

Note:

[1]Ratio of Panel III, Table 1 to Panel I, Table 1.

TABLE 3

Does Retirement Mean Total Work Stoppage?
(Percent of Families with Heads Receiving Retirement Income Where the Head Also has Zero Earnings)

Country	Year	Age Head			
		55-59	60-64	65-74	75+
Australia	1985	72	85	92	98
Canada	1987	53	73	82	94
Sweden	1987	28	34	41	60
United States	1986	51	64	77	92
West Germany	1984	83	87	94	98

Notes:

[1]Ratio of Panel III, Table 1, to Panel II, Table 1.

variance is large across all countries. Hence absence or presence of one characteristic should not be used to infer another, particularly for those heads between 55 and 64 years of age.

Zero earnings for the head (Table 2) correlates highly with receipt of retirement income only among Swedes in the youngest age group (55-59), with the addition of Germany and perhaps the United States in the second youngest group (60-64 year olds). In other nations, zero earning heads must receive income support from some source other than retirement income. At older ages, zero earnings is a much better proxy for retirement.

The fraction of families with heads for whom receipt of retirement income means work stoppage is large only in West Germany and in Australia among those 55-64 (Table 3). Work after retirement is uncommon in Germany, and the Australian income superannuation scheme is means tested leading to reduced work effort among Australians in the 55-64 age range. In Canada, Sweden, and the United States, high fractions of heads with retirement income continue to work.

Perhaps the most important question asked about "retirement" is its effect on poverty status. Regardless of whether they are pushed or pulled out of the labor market, are retirees significantly more (or less!) likely to be among the low income population. To examine this question, we have prepared Table 4 which shows the rate of low income or poverty among persons

TABLE 4 HERE

living in all families (Panel I) and in two of our "retirement" groups. Poverty is defined as being in a family with adjusted income less than half the median adjusted income for all families. The first is all of those with heads having retirement income (Panel II); the second adds the condition of

TABLE 4

Does Retirement Mean Impoverishment?
(Percent of Persons Living in Families with Head Having Various Characteristics Defined as Poor[1])

Country	Year	Age of Head 55-59	60-64	65-74	75+	All Ages
I. Whole Population						
Australia	1985	7.5	8.7	8.4	4.9	10.6
Canada	1987	13.2	13.6	4.8	3.7	12.4
Sweden	1987	6.4	5.6	6.0	7.9	8.8
United States	1986	16.1	14.4	18.8	27.4	19.2
West Germany	1984	7.0	4.7	6.1	13.6	8.0
II. Head Receives Retirement Income						
Australia	1985	7.7	7.1	6.0	4.0	
Canada	1987	9.6	10.5	4.3	3.7	
Sweden	1987	3.3	3.0	6.0	7.9	
United States	1986	13.5	14.3	18.2	25.8	
West Germany	1984	15.5	5.2	4.5	11.4	
III. Head with both Zero Earnings and Retirement Income						
Australia	1985	7.1	7.4	6.1	4.1	
Canada	1987	14.9	13.6	4.4	3.8	
Sweden	1987	1.9	2.5	1.9	7.7	
United States	1986	31.7	24.0	24.7	28.7	
West Germany	1984	18.6	5.5	4.8	11.3	

Notes:

[1]Poor are persons in families with adjusted incomes below half of median adjusted income.

[2]All persons in all families.

[3]Persons in families with head receiving retirement income.

[4]Persons in families with head having both zero earnings and head receiving retirement income.

zero earnings.[6] The population variance across countries appears to be much larger than the variance across age groups within countries. In practically every country, the poverty rate among those families with heads who have retirement income (Panel II) is at or below the overall population rate in each cell (Panel I). Even the poverty rates for those with retirement income and zero earnings (Panel III) are, with the exception of Canadians and Germans aged 55-59, not much different from the overall national rates for each age group.

In the United States, double digit poverty is commonplace. Double digit poverty is much less frequent in other countries, except for younger early Canadian retirees. In Sweden and Australia, poverty never reaches double digits. Ignoring the U.S., "early retirement" in the form of work stoppage and receipt of retirement income only raises poverty to double digit levels in West Germany.

Based on these data, one would be hard pressed to argue that families with heads at or near retirement age who fall into these "retired" categories are particularly disadvantaged relative to others in the same age group or among the population at large.[7]

Family Retirement Definitions. The final two tables add additional depth and perspective to the various definitions of retirement examined above. The estimates in Tables 5 and 6 are all based on family, not head of family, characteristics. They include estimates for two addition countries not examine above (France and the U.K.) and data for the other five countries for an earlier year.

The panels of Table 5 contain a large amount of information. Moving from head to family characteristics does little to reduce the variance in

TABLE 5 HERE

TABLE 5
Patterns of Retirement Among Families
(Percentage of Families in Each Situation)

Country	Year	55-59	60-64	65-74	75+
I. With Retirement Income					
Australia	1981	13	35	83	97
	1985	21	51	88	97
Canada	1981	22	33	98	100
	1987	27	51	98	100
Sweden	1981	25	61	100	100
	1987	30	66	100	100
United States	1979	16	26	91	96
	1986	31	57	94	97
West Germany	1981	30	65	95	96
	1984	25	64	96	97
France	1979	27	63	91	94
United Kingdom	1979	23	53	98	99
II. With Retirement Income and Zero Earnings					
Australia	1981	7	24	68	87
	1985	11	35	73	86
Canada	1981	5	12	61	82
	1987	7	25	67	86
Sweden	1981	5	11	50	85
	1987	5	14	50	85
United States	1979	6	12	54	77
	1986	8	22	59	82
West Germany	1981	14	42	79	91
	1984	9	37	80	88
France	1979	7	26	58	76
United Kingdom	1979	6	24	71	87
III. With Retirement and Zero or Low Earnings					
Australia	1981	8	25	72	89
	1985	12	39	77	87
Canada	1981	7	15	72	89
	1987	9	30	78	92
Sweden	1981	9	20	73	97
	1987	7	25	65	92
United States	1979	8	14	64	84
	1986	10	29	69	86
West Germany	1981	15	45	82	93
	1984	10	40	83	90
France	1979	9	32	65	82
United Kingdom	1979	6	26	77	89

Notes:
[1]Families with at least some retirement income.
[2]Families with at least some retirement income and no earnings.
[3]Families with at least some retirement income and zero or low earnings.

estimates across categories (panels) or countries. If anything, the differences between having retirement income (Panel I) and being "fully retired" (i.e., retirement income and zero earnings in Panel II) are even wider now. This is mainly due to spouses and other family members earnings. In particular, there is a wide variance within the 60-64 age group where most of the recent early retirement literature has focused. Similarly, some differences appear between the fully retired group (Panel II) and retirement income but zero or low earnings group (Panel III) in the 65-74 age group. In all countries and age groups below 75, there appears to be a substantial amount of earned income in households that also have retirement income. The addition of two major European nations does not appear to allow us to discern a "European" pattern from the data presented here.

Trends in Retirement. Hidden in Table 5, but clearly discernable in Table 6, is the almost universal trend toward earlier retirement, particularly among those 60-64 in the United States, but also in Australia

TABLE 6 HERE

and Canada over this period. The pattern toward increased receipt of retirement income is, however, a bit more pronounced than is the pattern of increased retirement income and zero or low earnings. In the United States, the differences are large. While we must remember that the German data are from two different surveys in two different years, these estimates indicate that only in Germany and perhaps in Sweden has their been a stoppage (or reversal) of the trend toward early retirement using any of the definitions presented here.

TABLE 6

Changing Patterns of Family Retirement (Percent in Each Category in Second Period Minus Percent in First Period)[4]

Country	Period	55-59	60-64	65-74	75+
I. With Retirement Income[1]					
Australia	1985-81	8	16	5	0
Canada	1987-81	5	18	0	0
Sweden	1987-81	5	5	0	0
United States	1986-79	15	31	3	1
West Germany	1984-81	- 4	- 1	1	1
II. With Retirement Income and Zero Earnings[2]					
Australia	1985-81	4	11	5	0
Canada	1987-81	2	13	6	4
Sweden	1987-81	0	3	0	0
United States	1986-79	2	10	5	5
West Germany	1984-81	- 5	- 4	1	- 3
III. With Retirement Income and Zero or Low Earnings[3]					
Australia	1985-81	4	14	5	- 2
Canada	1987-81	2	15	6	3
Sweden	1987-81	- 2	5	- 7	- 4
United States	1986-79	2	15	5	2
West Germany	1984-81	- 5	- 4	1	- 3

Notes:

[1]Families with at least some retirement income.

[2]Families with at least some retirement income and no earnings.

[3]Families with at least some retirement income and zero or low earnings.

[4]Differences may not exactly correspond to Table 5 due to rounding error.

III. Discussion

The rich variation in patterns of retirement noted above do more to whet ones appetite than to satiate it. However, two important patterns seem to emerge from these data. First of all, the retirement of a family head in the countries studied does not seem to connote an increased risk of poverty or low income compared to others at similar ages or the population at large in the countries studied. While this conclusion need be tempered by our lack of sensitivity analyses to just how far out of poverty these families are, the conclusion is robust. If so, it seems that whatever "deindustrialization" and "disadvantaged worker" stories about older workers being forced into retirement that could be told 10 or 15 years ago cannot be told today. These situations appear more likely to be isolated incidents than general patterns by the mid to late 1980s in the countries studied.

Secondly, patterns of retirement income receipt and work are intermingled across and within nations. In most countries receipt of retirement income does not always denote work stoppage. While the trends of the 1980s are increasingly toward earlier retirement, this need not always be the case. As the labor market surplus of the late 20th century turn into shortages in the early 21st century, there appears to be flexibility to scale back retirement ages and to encourage later retirement. To the extent that the pro-early retirement policies of both governments and firms in the late 1970s and early 1980s encouraged early benefit receipt, current policy actions to reduce early retirement benefits in the U.S. and Germany may help to arrest it. If tight labor markets in the latter part of this decade boost wages for older workers and thereby increase the opportunity cost of early retirement, these policies will be even more effective.

IV. Additional Work

The potential of LIS for cross-national analyses of retirement should by now be evident. The papers by Palme (1990) and Rainwater and Rein (1990) also demonstrate the usefulness of LIS for this type of research. Several additional analytical components need to be added to this paper.[1] A more complete analysis will separate income by its component parts to see how important pensions are to zero earners who receive them and will add unemployment insurance as a source of early retirement income. A more careful analysis of the role of head vs. other earnings in supplementing retirement income is called for. Similarly, in several countries we will be able to separate the influence of various types of retirement benefits: social retirement and disability benefits vs. public and private occupational superannuation. To complement our study of heads (mainly men), the retirement patterns of spouses and women can also be studied. In addition, data from Netherlands (two waves), Luxembourg, and Italy can be added along with later period data from the U.K. and France. Within two years consistent German national income cross-section data will be added to LIS as well. The addition of an institutional explanation of the intent and design of the public and private retirement programs that generate this income, and an analysis of "work after retirement" in these nations would fill at least one book if not two.

Much work clearly needs to be done. But if this paper has heightened our awareness to the complex and changing nature of the retirement process, and the rich cross-national variation in the nature and extent of retirement, it will have achieved its aim.

Endnotes

[1]For these countries, family means all persons related by blood marriage and adoption. The Australian, German, Canadian, and U.S. datasets use the same family definition. The Swedish family definition is more narrow, treating al unmarried units aged 65 and over as separate persons. For an analysis of the older segment of the population, this might make a marginal, though not significant difference. For more on LIS family definitions, see Coder (1990).

[1]The U.S., Canadian, Australian, and Swedish datasets are repeated cross-sections of the same survey. The German datasets are less comparable; the first being a survey of transfer incomes; the second, the initial wave of the German Socioeconomic Panel dataset.

[1]The data for France (1979) is based on income tax records and tax units combined into households, while the U.K. (1979) has the same family definition as does the other datasets. Again, see Coder (1990) on this topic.

[1]Because head and spouse retirement benefits were not separately recorded on the first wave LIS datasets, we cannot independently measure head's retirement as compared to spouse's or other adults' retirement income. Differences in family "retirement" status based on family earnings and retirement income vs. retirement based on family head's earnings and retirement definitions are consistent across countries. A larger proportion of families have heads with zero earnings than do families with zero earnings by 2-15 percent in all countries at all age levels, while a larger fraction of families have retirement income by 0-10 percent than do families heads alone. See Table A-2. Because we never mix apples (families with retired heads) with oranges (retired families) in this paper, we can use both definitions; the reader should likewise separate the two.

[1]The entire equivalence scale is as follows:

Family Size	Adjustment Weight	Equivalence Scale (Normalized to a 3-Person Family
1	1.0	.50
2	1.5	.75
3	2.0	1.00
4	2.5	1.25
5	3.0	1.50
6	3.5	1.75
7 or more	4.0	2.00

Equivalence adjusted income is derived by dividing family income by the equivalence scale corresponding to the family's size.

[9]Rainwater and Rein (1990) handle poverty among zero earnings (our first definition in Table 1). Poverty rates among heads with retirement income and zero earnings are not much different than those with retirement income and low earnings (i.e., earnings less than .25 family income) and hence are not shown.

[10]However, this may not everywhere be the case. The United Kingdom has a very high overall elderly early retiree poverty rate. See Rainwater and Rein (1990) and Smeeding and Torrey (1990) on this topic.

[11]Our suspected problem with the Swedish dataset will also be corrected.

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TABLE A-1

An Overview of LIS Datasets Used in this Paper

Country	Dataset Name, Income Year (and Size[1])	Country Contacts	Population Coverage[1]	Basis of Household Sampling Frame[1]	Participation of National Government[11]
Round I (1979-1983)					
Australia	Income and Housing Survey 1981-82 (16,000)	Peter Saunders Bruce Bradbury	97.5[4]	Dicennial Census	CSO
Canada	Survey of Consumer Finances, 1981 (15,136)	Michael Wolfson Roger Love	97.5[4]	Dicennial Census	CSO
France	Survey of Individual Income Tax Returns 1979 (11,000)	J. Suesser	97.5[12]	National Tax Register and Household Survey	CSO
Germany	Transfer Survey, 1981[5] (2,800)	Richard Hauser Ingo Fischer Gunther Schmaus	91.5[7]	Electoral Register and Census	FUND
Sweden	Swedish Income Distribution Survey, 1981 (9,600)	Peter Hedstrom Stefan Wahlstrom	98.0[8]	Income Register	CSO
U.K.	Family Expenditure Survey,[3] 1979 (6,900)	Frank Cowell	96.5[6]	Electoral Register	CSO
U.S.A.	Current Population Survey, 1979 (15,200)	John Coder Tim Smeeding	97.5[4]	Dicennial Census	CSO
Round II (1983-1987)					
Australia	Income and Housing Survey, 1986 (9,000)	B. Bradbury	97.0[4]	Dicennial Census	CSO
Canada	Survey of Consumer Finance, 1987 (71,000)	R. Love M. Wolfson	98.1[4]	Dicennial Census	CSO
U.S.A.	Current Population Survey, 1986	J. Coder	97.6[4]	Dicennial Census	CSO
W. Germany	German Panel Survey, 1985 (4,800)	W. Dobroshke-Kohn R. Hauser	96.0[7]	Electoral Register	FUND
Sweden	Swedish Income Distribution Survey, 1986 (9,400)	K. Lundeqvist	98.1[4]	Income Register	CSO

Notes:

[1] Dataset size is the number of actual household units surveyed.

[2] The U.K. and German surveys collect subannual income data which is normalized to annual income levels.

[3] As a percent of total national population.

[4] Excludes institutionalized and homeless populations. Also some far northern rural residents (inuits, eskimos, laps, etc.) may be undersampled.

[5] Excludes rural population (those living in places of 2,000 or less), institutionalized, homeless, people in kibbutzum, and guest workers.

[6] Excludes those not on the electoral register, the homeless, and the institutionalized.

[7] Excludes foreign-born heads of households, the institutionalized, and the homeless.

[8] Sampling Frame indicates the overall base from which the relevant household population sample was drawn. Actual sample may be drawn on a stratified probability basis, e.g., by area or age.

[9] Excludes nonresident foreigners but includes foreign residents and the institutionalized.

[10] Limited to families with one or more children under the age of 16.

[11] Excludes top party officials and military and police.

[12] Excludes the homeless, institutionalized, and those living in mobile homes.

[13] Participation of National Government is coded as CSO = Official Central Statistical Office Survey; OTH GOV = other government agency survey; FUND = survey funded by national governmen but data controlled by research organization; OTH = other, private research organization, et

na = not available at this writing

TABLE A-2

Differences in Head vs. Family Based Definitions of Earnings and Retirement (Percent of Families having Heads with a Given Chararteristic Minus Percent of Families Having Characteristic)

Country	Year	Age			
		55-59	60-64	65-74	75+
I. Zero Earnings					
Australia	1985	6.8	8.6	8.3	5.3
Canada	1987	9.5	11.3	13.3	7.6
Sweden	1987	1.7	5.5	11.5	2.2
United States	1986	8.0	13.0	13.4	6.6
West Germany	1984	7.7	14.9	10.4	5.9
II. Receipt of Retirement Income					
Australia	1985	-7.7	-10.3	- 2.1	-1.4
Canada	1987	-5.2	- 6.6	- 0.2	0
Sweden	1987	-7.0	- 9.0	- 0.2	0
United States	1986	-7.3	- 6.3	- 1.4	-0.4
West Germany	1984	-9.2	- 5.6	- 0.6	-0.3