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Poverty and Aging

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(for the *Handbook of the Economics of Population Aging*)

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Abstract

This chapter explores the relationship between poverty and aging, in terms of its measurement and trends, as well as its alleviation, with particular attention to the most vulnerable individuals at each end of the age distribution. The measurement addresses both the definition of poverty and its aggregation over various age groups. The trends highlight a significant reduction in poverty among the elderly and a gradual increase in poverty among children and working age individuals, both in the United States and across the greater developed world, over the past 50 years. Two important secular changes are also detected: a *college spike* and a *retirement dip* in poverty across the age distribution. The alleviation of poverty is then attributed to working in the labor market and to social expenditure and its associated policies, which have been especially effective for the elderly. A summary and a discussion follow that set forth an agenda for further research and policy.

Keywords: aging, children, distribution, elderly, income, labor market, poverty, public policy, retirement, social expenditure.

JEL Codes: D3, D6, H5, I3, J1, J2, J3.

Contents

1 Introduction

Poverty may be embodied in many different forms across the age distribution: from a small child, dependent upon the resources of his parents or guardian, which might not be enough to adequately cover the needs of multiple individuals; to a working-age adult, who may not have the skills necessary to find gainful employment, whose unemployment benefits were exhausted weeks earlier; to an older widow, who could be in poor health, no longer being able to maintain the lifestyle to which she was accustomed.

When the concepts of poverty and aging have previously been brought together, it has most often been in reference to only the oldest of these three examples, even though the child may be just as dependent on the resources of others and the working age individual might be just as deserving of policy attention. Even the field of the economics of aging itself typically refers only to the economics of the *aged*, rather than everyone undergoing the process of *aging*, which in its broadest form should include the economic lives of all individuals, from birth to death.

To our knowledge, this is the first handbook chapter exclusively devoted to the subject of poverty and *aging* from a broader perspective, weighing the importance of poverty and changes in poverty across the entire age distribution.[1] This distinction from the subject of poverty and the *aged* is an important one, because going beyond a discussion of older adults, either prior to or following retirement, allows for com-

[1]Several previous handbook chapters have addressed the subject of poverty and the aged, such as Smeeding (1990), Hurd (1997, pp. 948–960), and more recently, Reno and Veghte (2011). There are also several surveys and books that provide good background information on this issue, namely Clark et al. (1978, 2004) and Wolff (1997, 2009).

parisons to be drawn between the dependent groups of children and the elderly, while simultaneously relating their situations to those of the working age population.[2]

This emphasis on poverty and aging, rather than only on poverty among the aged, is due to the aging process being dynamic, calling attention to the critical transitions over one's lifetime: from dependence as a child to independence as a young adult, from being single to having a partner, from childlessness to parenthood, from education to work, from marriage to divorce, from employment to retirement. Many of these transitions can also be tied to the workings of the labor market and to government policies that assist with smoothing out such shocks.

This chapter mainly focuses on the empirical aspects of poverty and aging. It begins with the measurement of poverty (Section 2), answering two fundamental questions regarding its definition and aggregation, in addition to introducing the poverty measures used in the analysis that follows. The trends in poverty and aging are first analyzed for the United States (Section 3), which is the primary and most discussed example throughout the chapter. The US trends are then compared to that of other developed nations within the OECD (Section 4).[3] In both of these sections, the poverty trends are similarly displayed: for children, the working aged, and the elderly; over the entire age distribution; and by gender and age.

The focus then shifts to the alleviation of poverty with age. We begin by relating the trends in poverty and aging to the labor market (Section 5), including a look at the effect of work status on poverty, as well as significant labor market trends and

[2]In doing so, this chapter is similar to the approach and tone of Palmer et al. (1988a).

[3]An alternative focus on developing countries would be well-suited for a development handbook chapter.

policies that vary in impact across age groups. Social expenditure and its related policies are then introduced as an additional means of poverty alleviation across the age distribution (Section 6), with the impacts of social expenditure, multiple policies, and single policies examined by their poverty reductions across age groups. A summary of key contributions (Section 7) and a discussion containing recommendations for future research and policy considerations (Section 8) conclude the chapter.

2 Measurement of Poverty with Age

The measurement of poverty begins with two fundamental questions (Sen, 1979): How do we define who is considered to be poor in an objective way? And, once we define who is poor, how do we aggregate our populations of interest to best focus on those without adequate resources? The definition of poverty depends on several parameters including, but not limited to, the threshold of the poverty line and the resources used to construct that poverty line. The aggregation of poverty depends on whether the simplest and most common approach is followed, or whether further complexity is introduced.

2.1 *What is the threshold?*

A poverty line specifies a level of resources below which an individual or family is deemed to be poor. This threshold can be determined in an absolute way, such as being based on basic needs through the cost of a particular food bundle or other consumption requirement, or in a relative way, such as being based on a given per-

centile in the overall resource distribution across all persons. There are similarities and differences between these two approaches. One important difference is that absolute poverty lines typically do not change over time, while relative poverty lines change with the shape and scale of the resource distribution. In addition, only the relative measure relates to inequality, while the absolute measure has no relation to the overall resource distribution.[4]

One prominent example of an absolute poverty threshold is the official poverty line of the United States (US), which was developed in the 1960s by Orshansky (1963, 1965, 1966).[5] This needs-based measure, which is used for the US trends displayed within this chapter, is based on the gross before-tax income needed to pay for the cost of a minimum food diet. Given that an average family of four or more persons spent roughly one-third of its total income on food in the 1960s, this minimum food cost was multiplied by a factor of three to cover the additional expenditure on all nonfood items. This standard was then differentiated by family size, nonfarm status, gender, the number of children, and elderly status. This measure has been produced annually by the US Census Bureau since 1959.[6] In 2014, the poverty line for a family of four was $24,230 of annual before-tax income.

The international poverty line of the World Bank is another example of a widely used absolute poverty threshold. This measure was initially set at an income of

[4]While the measurement of poverty is focused on whether or not individuals are below some particular threshold of resources, the measurement of inequality has to do with summarizing the shape and scale of the distribution of resources. For more information regarding how the measurement of inequality relates to the measurement of poverty, see Atkinson (1987). For more information specific to the measurement of inequality, see Cowell (2000).

[5]Its origin story was well documented by Fisher (1992, 2008).

[6]The work of Barrington (1997) extended this measurement back to the 1940s.

roughly $1.00 per day by the World Bank (1990), based on the work of Ravallion et al. (1991) and with adjustments made using a common price index. This amount was increased to a priceadjusted amount of roughly $1.25 a day in 2008, based on the work of Ravallion et al. (2008). As covered extensively in Ackland et al. (2013), price adjustments are a necessity in the comparison of these types of poverty lines across nations.

The most commonly used relative poverty threshold is half of the median income in a given country, as suggested for total family income by Fuchs (1967). The Organisation for Economic Co-operation and Development (OECD) uses this definition of relative poverty for disposable household income, which is then used in the current chapter to compare the poverty situation of the United States to that of other developed nations. The European Union (EU) uses a similar relative measure, which is set at 60% of the national median of disposable household income. Notten and Neubourg (2011) compared this relative measure of the EU to the absolute measure of the United States and found that both benchmarks yield useful results, with information being lost when only one of the thresholds is used. Other examples of relative thresholds include the income cutoffs of the bottomdecile or the bottom two deciles of the distribution (Sen, 1979) or half of the mean or average income (O'Higgins and Jenkins, 1990).

While much of the literature considers an absolute threshold to be set too low and a relative threshold to be set too high, Foster (1998) suggested that these two concepts be combined. In this case, a parameter known as the income elasticity of the poverty line, or the elasticity of the poverty line with respect to the living standard,

determines how poverty lines change with income, with an absolute measure having an elasticity of zero and a fully relative measure having an elasticity of one.[7] Duclos and Gregoire (2002) instead found an ethical parameter that balances the influence of these two concepts with an application to countries from the Luxembourg Income Study. Even under well-defined relationships, the number of poor individuals can rise according to a relative threshold and fall according to an absolute threshold, which was found during periods of economic growth by Ravallion and Chen (2011) and shown to reverse during recessions by Morelli et al. (2015).

2.2 *What are the resources?*

The resources that a poverty threshold is based on are most often some form of income. While the US official poverty measure is seemingly based on consumption, the resource definition that is actually used is the income needed to buy those items, rather than consumption itself. The relative poverty threshold of the OECD is similarly based on income. However, the use of income as the resource to define poverty might be problematic when comparing individuals across age groups, as documented by Palmer et al. (1988b).

Poverty could instead be based on a combination of income with other resources, which is especially important to measure poverty among the aged because of their diverse economic situations (Quinn, 1987; Rendall and Speare, 1993). Fisher et al. (2009) identified the poorest older Americans using a combined resource definition, with poverty being jointly determined by income and consumption. Poverty could

[7]Madden (2000) found an upper bound of 0.7 for this parameter using Irish data.

also be solely defined by consumption, with Broda et al. (2009) reconciling what it is that households actually purchased with what prices they actually paid. With relation to aging, Meyer and Sullivan (2013) found that using a consumption-based definition tends to reduce the poverty rates among the elderly, relative to a definition that is income-based.

The resource definition could also include or be based solely on wealth or assets (Wolff, 1990; Caner and Wolff, 2004; Love et al., 2008; Brandolini et al., 2010). These assets might be especially important for lifting older adults out of poverty, as they have been accumulated over a lifetime. Roughly two-thirds of older adults own their own home outright, for example, as found for the United States (Fisher et al., 2007) and for Australia (Yates and Bradbury, 2010). But younger persons will not have had a lifetime to accumulate assets like older individuals, so many more would be considered poor when using wealth as the resource. The use of time could also be taken into consideration as a resource to define poverty, as nonmarket production is completely ignored under an income-based definition (Vickery, 1977).

The inclusion and exclusion of items from the resource definition is as important as the resource itself, with poverty among children being particularly sensitive to this concern (Iceland et al., 2001). Based on calls to go beyond the income needed to cover the cost of the minimum food diet in the official US poverty measure (Citro and Michael, 1995; Blank, 2008), the US Census Bureau began offering the experimental Supplemental Poverty Measure in 2010. This new measure adds the value of government cash and noncash transfers, including federal in-kind benefits that can be used to meet the needs of food, clothing, or shelter, as well as any tax credits

received. The measure also subtracts taxes paid, work expenses, and out-of-pocket medical expenses. These out-of-pocket medical expenses might drive some elders back into poverty when excessive (Short, 2012), but their inclusion could also overstate their poverty, with a health-inclusive measure seen as a potential future remedy (Korenman and Remler, 2013).

How household resources, like income, are shared among the various members within a household is also an important issue. These resources could be evenly split between all individuals. Alternatively, some individuals may be allocated more resources than others. As noted by Sen (1979, p. 304): "Because of variations of family size, economies of large scale in family consumption, and age-specificity of needs, the problem of converting families into 'equivalent adult' numbers involves serious difficulties." This can be taken into account through the use of equivalence scales, with a typical solution being to divide household resources by the square root of the number of individuals within the household. The OECD instead assigns the full amount to the first adult of a household, with half to every additional adult, and 0.3 to every child under the age of 14. These equivalence scales are especially important when comparing poverty by age (Morgan, 1965; Goedhart et al., 1977; Atkinson, 1992; Deaton and Paxson, 1995), poverty by gender (Findlay and Wright, 1996), and poverty across countries (Buhmann et al., 1988; Burkhauser et al., 1996; Bishop et al., 2014), as we do in this chapter.

2.3 *What is the aggregation?*

The aggregation of the poor typically begins with a simple headcount of the individuals whose resources are below the established threshold. These headcounts may also be grouped by differences in individual traits, such as age and gender. Once these headcounts have been determined, poverty can bemeasured by a headcount ratio, which is the percent poor among all individuals within a given group. We use this headcount form of the poverty rate as our preferred measure throughout the chapter for its simplicity and data availability, which allow us to compare its values across age groups and over time. In this chapter, the headcount poverty rate is typically calculated relative to all other individuals within a given age group for the United States and for the cross-national comparisons.[8]

This simple headcount approach ignores information that may be relevant for determining poverty status. For example, the depth or severity of poverty could be considered by taking the difference in resources between the threshold amount and the individual amount, and those differences can be aggregated to construct an income gap ratio. There are also more complicated measures available for this purpose. For example, Sen (1976) introduced an axiomatic measure that includes the income shortfall of individuals, while the Foster-Greer-Thorbecke measure is similar but additively decomposable (Foster et al., 1984).

Other aspects of poverty that are ignored by the headcount approach are the duration and frequency that an individual may be in this state, which can also be

[8]Given the importance of grouping by age in the current work, the more general relationship between poverty within subgroups and poverty in the aggregate is worth considering (see Foster and Shorrocks, 1991).

addressed with more complicated measures. For example, Rodgers and Rodgers (1993) offered an axiomatic and decomposable measure of chronic and transitory poverty, while Stevens (1999) used a hazard rate approach that incorporates the spell duration and quantity of spells. More recently, Hoy et al. (2012) compared and contrasted three different measures of lifetime poverty, and Mendola and Busetta (2012) offered an aggregate index of poverty persistence, which takes into account the depth, diffusion, duration, and recentness of poverty.

3 Poverty and Aging Trends in the United States

The relationship between aging and poverty in the United States can be displayed in several ways. The first approach we use is to simplify the age distribution into three broad age groups (children, working age, and elderly) and then compare the changes in their poverty rates over time. The second approach examines changes in poverty rates across the entire age distribution, using 5-year age bands. The third approach also looks at poverty rates over the age distribution, but does so by gender in two different time periods. Each approach appears within a unique subsection that follows. As mentioned in the previous section, poverty in the United States is officially defined with an absolute measure based on the income necessary for adequate consumption.

3.1 *Poverty by age group over time*

The age distribution can first be simplified into three different segments: the young being brought up from birth to the age of 17 by their working age parents, the working age portion of the population from 18 to 64 years old that may be caring for young or old dependents, and the elderly from the typical retirement age of 65 and beyond, whose care and pensions may rely on contributions from the working age group. Preston (1984) used these three age groups to bring awareness to the poverty situation of children and the elderly being intertwined, as public resources spent on one group are not spent on the other.

Historically speaking, US poverty rates were typically much higher among the oldest in the population (Moon, 1979). At the other end of the age distribution, child poverty remains prevalent and worrisome, even in a developed country such as the United States (Rainwater and Smeeding, 2003). In a comparison of both of these vulnerable populations, Smolensky et al. (1988) showed that children and the elderly experienced similar poverty reductions from 1939 to 1969, but their poverty trends diverged soon after that time.

Figure 3.1.1 presents the concentration of poverty across these three age groups for the United States, as percentages of all impoverished individuals within a given year, and how these concentrations evolve over time from 1959 to 2014. In 1959, the largest concentration of poverty among the three age groups was for those less than 18 years old, at roughly 45% of the poor (when they made up over 35% of the population). The working age group of 18 to 64 year olds was the next largest group of the poor, with just above 40% (when they were around 55% of the population),

and the elderly at 65 years or older had a concentration of just under 15% (when they made up less than 10% of the population). Therefore, roughly speaking, at the beginning of this time span, for every 20 individuals falling under the US poverty line, 9 were children, 8 were of working age, and 3 were elderly.

In the late 1960s, the concentration for the elderly was at its highest, roughly 20% of the poor, while at the same time, this concentration for the working aged was at its lowest, just below 40%, which was roughly the same for children. By the early 1980s, however, working age individuals made up 50% of those in poverty, children continued to make up 40%, and older adults made up only 10%. These concentrations persisted until the late 1990s. At the onset of the 21st century, the concentration of poverty moved slowly away from children, and less so from the elderly, and more toward the working age population. By 2014, about a third of impoverished individuals were children under the age of 18 (who now make up less than a quarter of the population), just over 55% of the poor were working age individuals between ages 18 and 64 (constituting more than 60% of the population), and around 10% of the poor were aged 65 or over (who are now around 15% of the population).

Figure 3.1.2 presents the trends in the official US poverty rates for children, working age individuals, and the elderly over the same time period. In 1959, the elderly poverty rate was by far the most stark of all three groups at roughly 35%, while the child poverty rate was around 27%, and the working age poverty rate was around 17%. During the War on Poverty throughout the 1960s, all three poverty rates were drastically reduced. By the mid-1970s, the elderly poverty rate had dropped below the child poverty rate, with both being around 15%, while the working age

rate held steady below 10%.

Following the two early 1980s recessions, both child and working age poverty climbed substantially, while elderly poverty mostly continued its descent. It was during the 1980s that the elderly poverty rate dropped below the working age rate, around a level of about 12%, while child poverty revisited its historic 1960s levels of over 20%. During the 1990s, each of the groups experienced a gradual decline in their poverty rates. However, from the early 2000s recession through to the Great Recession at the end of that decade, both the child and working age poverty rates rose, while the elderly poverty rate continued to fall.

3.2 *Poverty over the age distribution*

Beyond the comparison of children, working aged, and the elderly, poverty rates can also be shown across the entire age distribution and then compared across different periods of time. Radner (1992, 1993) may have been the first to draw out the poverty and aging relationship in this way for the United States, with his work being replicated in the handbook chapter of Hurd (1997). This is a powerful and effective tool to analyze the relationship between poverty and aging and evaluate how it evolves over time. However, comparisons of repeated static pictures of income poverty over time, such as this, are not without criticism (Christiaensen and Shorrocks, 2012).[9]

Figure 3.2.1 replicates the previous results from the literature using the same 5-year age bands, for the same years of 1967 and 1990, at the same 100% of the poverty

[9]Similar comparisons of inequality over the age distribution and time have been examined by Deaton and Paxson (1994), Lam (1997), and Heathcote et al. (2010).

line, and then updates this work with the latest snapshot in 2014, allowing for an examination spanning close to 50 years. As established by Radner (1992, 1993), the relationship of poverty over the age distribution is U-shaped, as poverty tends to be highest in the tails of the age distribution, at the youngest and oldest ages, and lowest in the middle of the distribution, during peak earning years. Put differently, the probability of an individual being in poverty decreases and then increases with age over one's own life cycle.

Over this almost 50-year period, this U-shape has widened and slowly rotated clockwise, mainly because of a gradual rise in child and working age poverty and a drastic decline in elderly poverty. In 1967, this U-shape exhibited a moderate, downward slope on the left-hand side and a steep incline on the right-hand side, with poverty among the working aged the lowest, among the elderly the highest, and the poverty of children in between. In 1990, the two ends of the U-shaped distribution became more proportionate to one another, with the poverty rates of children now matching that of the elderly. This widening and clockwise rotation of the U-shape continued to 2014, to the point where poverty is now much higher among the young and middle-aged than among the old.

Figures 3.2.2 and 3.2.3 show more detailed changes in poverty over the age distribution, first for the 1980s and 1990s, and then for the 2000s and 2010s, by comparing every third year from 1987 to 2014 for 10 representative years across the 5-year age bands. Using these 3-year gaps in time and splitting the time period into two halves, allows for the detection of cyclical changes in poverty, as described by Danziger and Gottschalk (1986), to be seen across the age distribution. The effects of the early

1990s recession and the Great Recession can be respectively seen by first comparing 1987 to 1990 and 1993, and then by comparing 2008 to 2011 and 2014. For both recessions, the downward sloping lefthand side of the U-shape representing poverty among children and working age individuals shifted upward, reflecting increased poverty rates across these ages, which are of slightly larger magnitude in the Great Recession. On the upward sloping right-hand side of the U-shape, however, representing poverty among older individuals, there was a continued shift downward at small magnitudes during both recessions, against the cyclical prediction.[10]

These figures also allow for the detection of two important secular changes in poverty over the age distribution, which have not been previously identified for the United States during this time period. The first of these appears on the left-hand side of the U-shape, which we characterize as a *college spike* in poverty. This is most pronounced around the ages of 20–24 years old, when there is a significant likelihood that one has graduated from high school and is either now a college undergraduate student or is seeking entry-level employment. While the term, college spike, is in reference to college-age individuals, it is not necessarily attributable only to individuals enrolled in college (or to college students at all). This college spike was not visible at the beginning of this series in 1987, nor was it visible for the 1967 trend in Figure 3.2.1. The college spike only began to first appear in 1990 and continued to grow as the 1990s progressed. Over the 2000s to 2010s, this spike became even greater and more pronounced. Given that the largest of these spikes occurred after the Great Recession, additional cyclical effects cannot be ruled out from this secular

[10]For more information about the specific effects of the Great Recession on poverty (and inequality) within the United States, see Thompson and Smeeding (2013).

movement.

The second notable secular trend appears on the right-hand side of the U-shape in poverty with age. We deem this to be a *retirement dip* in poverty between the ages of 60–64 to 65–69, with similar slopes leading up to and following retirement at 65. That said, this postretirement dip is seemingly coupled with a preretirement spike in poverty, so it is not entirely clear which term best describes it. Returning to Figure 3.2.1, there is no retirement effect anywhere to be found on the steep right-hand side of the U-shape in 1967. By 1990, however, not only had the poverty rates among older cohorts been significantly reduced, the retirement dip was already appearing. Throughout the 1990s, the right-hand side of the U-shape continued to shift downward, yet the dip became only slightly more pronounced, with poverty still increasing with age toward the end of the distribution. Over the 2000s and 2010s, the drop in poverty at retirement is similar and only slightly more pronounced, but postretirement poverty dropped to its lowest rates yet among individuals in their late sixties and beyond. This secular change and its related movements appear to be completely independent from the cyclical effects of recessions.

3.3 *Poverty by gender and age*

An additional and equally important way to examine poverty over the age distribution is by separating these profiles by gender. This follows from the concept of the *feminization of poverty*, a term that was likely coined by Pearce (1978) and was well summarized by McLanahan (1999). Smith and Ward (1989) showed that poverty was gender-neutral in 1940, with 90% of families containing a man and a woman.

However, poverty among women has since steadily increased relative to men, resulting in 62% of the poor being women by 1980, when one of every seven families was headed by a woman. Barrington and Conrad (1994) also provided evidence that the feminization of poverty was becoming a greater issue during the 1940s and 1950s. With respect to aging, Minkler and Stone (1985) identified the triple jeopardy situation of being old, poor, and female in the United States, and refer to a likely increase in the *graying* of this feminization of poverty. Hardy and Hazelrigg (1993) found evidence that the feminization of poverty is indeed the case among older women over the age of 55, especially for unmarried women living alone.

Further addressing household composition, Kniesner et al. (1988) showed how poor single women are likely to become poor single mothers, a phenomenon that also corresponds to racial differences, with the exception of divorce and remarriage, where racial groups appear to be similar.[11] McGarry (1995) documented that permanent poverty among widows was actually higher than previously reported because of measurement error. Bedard and Deschenes (2005) argued that ever-divorced women actually end up with higher household incomes than never-divorced women, once selection issues are taken into account. However, Ananat and Michaels (2008) showed that divorce plays a major role in increasing poverty for women with children, as it increased the percentage of women appearing in the tails of the income distribution.

Figure 3.3.1 compares poverty over the age distribution by gender in 1987. From ages 0–4 to 10–14, these poverty trends by gender roughly overlap, indicating no gender gap among children. From ages 15–19 to 25–29, however, male poverty decreases

[11]For a good overview of how race, ethnicity, and aging interact, see Williams and Wilson (2001).

by much more than for females, causing a large gender gap to arise. Although this gender gap continues through to late ages, it narrows during the peak earning ages of the thirties and forties and begins to widen once again, from around the age of 50 and beyond, especially deviating following the retirement age of 65. Males then experience a retirement dip in poverty before it increases into late ages, while female poverty rates continually rise through retirement, until the ages of 80–84. Once this additional retirement gap is created, it remains fairly constant until the end of the age distribution. While female poverty exhibits a very symmetrical U-shape over the age distribution, with only a slight college spike and no retirement dip, male poverty has no college spike and a very pronounced retirement dip, with the male U-shape displaying signs of the widening and clockwise rotation described earlier.

Figure 3.3.2 compares poverty over age for men and women in 2014. The profiles of poverty between male and female children again overlap, now continuing further up the age distribution to ages 15–19. The most stark difference between the genders, however, arises just after this segment of the age distribution. While the college spike had been only slightly documented for women in the previous figure for 1987, it is astounding how different these spikes in poverty are at present between the genders. While men and women both begin with a poverty rate of about 17% at ages 15–19, the poverty rate for women then rises to around 23%, while the rate for men stays constant. Once this gap has been created, it continues to persist until a narrowing between the ages of 35–39 and 65–69. Across this broad range of ages in 2014, the gender differences are much smaller than they were in 1987. The retirement dip in poverty is again associated with a larger decrease in poverty among men than for

women in 2014, although both genders now experience it. From retirement to the end of the age distribution, the female poverty rate gradually increases, while male poverty merely stagnates.

4 Poverty and Aging Trends in the OECD

Following the detailed evidence of the United States, these poverty and aging trends are now examined through cross-national comparisons and averaging among developed nations. Various subsets of middle and high income OECD countries are used, including the United States. Whereas an absolute measure defined poverty for the United States, a relative income measure is now used for comparative purposes across the OECD. The ordering of the evidence in this section parallels that of the previous US approaches. Poverty will first be displayed separately for children, the working aged, and the elderly, but it is now done on a country-by-country basis. Overall poverty rates are additionally compared by country across three different data sets. Second, poverty is examined across segments of the age distribution for a grouping of OECD countries, similar to what was done for the United States, but with broader age groups and fewer available years. Finally, OECD countries are again grouped together to examine poverty over the age distribution by gender for one time period.

4.1 *Poverty by age group over time*

Previous cross-national comparisons of developed nations, mainly using data from the Luxembourg Income Study (LIS), found the United States to be among the

highest with regard to overall poverty and for poverty among children and the elderly (Smeeding, 2006). Brady (2004) found that, while children and the elderly were more likely to be poor than the overall population, there was a strong correlation between child and overall poverty, as well as a weaker correlation between elderly and overall poverty using LIS data. Other studies have compared poverty cross-nationally among a specific age group, such as Chen and Corak (2008) for child poverty across LIS countries and Tsakloglou (1996) for elderly poverty in the European Union. There are also many country-specific studies that examine poverty for a specific age group, such as Crossley and Curtis (2006) for child poverty in Canada and several Canadian studies of elderly poverty (Osberg, 2001; Milligan, 2008; Veall, 2008). For more information on the dire situation involving Korea's elderly, see Lee and Phillips (2011).[12]

Table 1 compares the relative poverty rates across 30 OECD nations for the mid-2000s, including the United States. The OECD relative poverty threshold is one half of the median of equivalized household income in each country, which is simple and comparable across nations. This relative definition of course differs from the official absolute definition for the United States fromthe previous section, and cross-national comparisons of poverty will differ by whether an absolute or relative threshold is used (Blackburn, 1994). One of the reasons that these relative poverty results for the United States are so different from its previously shown absolute poverty results is because the relative poverty threshold also reflects inequality, so relative poverty will be higher where inequality is higher.

[12]Although the current chapter focuses on developed countries, there are studies that examine poverty and aging in developing countries as well (e.g., Deaton and Paxson, 1997).

The first three columns of the table display the relative poverty rates calculated by three different institutions: OECD, Eurostat, and LIS, with all countries ranked in an ascending order of the OECD rate.[13] The poverty rates across these three institutions differ only by a percentage point or two, with Germany, Ireland, the Netherlands, and the United Kingdom being the notable exceptions. The lowest relative poverty rate is 5%, a distinction shared by: Denmark and Sweden under the OECD; the Czech Republic, Finland, Iceland, and Sweden under Eurostat; and the Netherlands under LIS. The highest relative poverty rates, between 18% and 20% across the three sets, are found for the middle-income countries of Mexico and Turkey. However, the United States is the only developed country to have nearly as high a relative poverty at 17%, followed by Ireland, Korea, and Poland with a close relative rate of 15%.

The last three columns in Table 1 display the OECD poverty rates by age group, for children, the working aged, and elderly, as defined earlier in the chapter for the United States. The lowest poverty rates among children are 3% in Denmark, 4% in Finland and Sweden, and 5% in Norway. The highest poverty rates among children are found in Turkey at 25%, Mexico and Poland at 22%, and the United States at 21%. Among the working age population, the lowest poverty rate is 5%, found in the Czech Republic, Denmark, and Sweden; and the highest poverty rate is 15%, found in Mexico and the United States. There is much more variation in the elderly poverty rate across countries than in any of the other poverty rates listed in this table. At the top end of the spectrum are the Czech Republic, the Netherlands,

[13]When poverty (and inequality) are ranked in this way, the differences between countries with similar magnitudes may not be statistically significant from one another (Horrace et al., 2008).

and New Zealand, all tied with the lowest elderly poverty rate of 2%, with Canada, France, and Luxembourg additionally having rates of less than 5%. At the bottom end of the spectrum, Korea has the highest elderly poverty rate by far of 45%, with Australia, Greece, Ireland, Japan, Mexico, and the United States also exhibiting a rate above 20%.

4.2 *Poverty over the age distribution*

While Radner (1992, 1993) was likely the first to display poverty across the entire age distribution for the United States, the Organisation for Economic Co-operation and Development (2008, 2015a) may have been the first to examine poverty over the age distribution using cross-national averages. Unlike the detailed analysis we were able to offer for the US trends, however, we are now limited to replicating figures similar to those previously shown by their organization. The number of available age groups and years are also limited relative to that of the United States, with seven age bands of varying size (less than 18, 18–25, 26–40, 41–50, 51–65, 66–75, and 76 plus) over four different decades (mid-1980s, mid-1990s, mid-2000s, and mid-2010s). These decadal changes make it particularly difficult to disentangle cyclical effects from any perceived secular changes. However, these OECD data still allow for a more detailed view of poverty and aging beyond the three initial age groups, and the time period is similar to that of the detailed US analysis, spanning 30 years.

Figure 4.2.1 displays the relative poverty rates over the age distribution for a set of 18 OECD countries, including the United States, and shows how it changes over

four decades, from the mid-1980s to the mid-2010s.[14] It can immediately be seen that each of the relative poverty trends exhibits the U-shape with age, as previously demonstrated for absolute US poverty. That said, the overall U-shape for the OECD appears to be flatter at younger ages and steeper at older ages than the United States during this time period. The clockwise movement of the U-shape over time also appears to be happening only for the left-hand side of the age distribution, with the mid-2010s being the notable exception for the additional right-hand side movement, as well as the only decade with a visible widening of the U-shape.

Another striking similarity between Figure 4.2.1 and the previous figures for the United States is the emergence and rise of the college spike at ages 18–25 from decade to decade, which began around the same time. This may be even more pronounced for the OECD, however, because of the lower poverty rates among children. But there is not much of a retirement dip in poverty after the age of 65 for the OECD, at least up until the mid-2010s, when the poverty rates were constant across the ages of 41–50 to 66–75. This lack of a retirement dip is surprising, as Milligan (2013) found evidence of a preretirement spike in poverty for Canada, which seemingly led to a postretirement dip. This particular secular change might, therefore, be unique to North America. More generally, increased poverty rates for the elderly are sustained over time for the OECD, never dropping below that of children, until the last decade of the mid-2010s. This crude comparison would imply that children below the age of 18 were better off for the average OECD country than in the United States over this time period, but the elderly were far worse off, at least until very recently.

[14]The included countries in this OECD-18 are listed in the figure notes.

4.3 *Poverty by gender and age*

The feminization of poverty with age shown earlier in the chapter need not be unique to the United States and could exist in other nations as well. Goldberg and Kremen (1990) expanded the analysis of this feminization phenomenon from the United States to six other nations and found evidence that this also exists to some extent within Canada, France, Japan, Poland, the former Soviet Union, and Sweden. According to their cross-national work, the feminization of poverty is linked to increasing divorce rates, single motherhood, the labor market, and the ineffectiveness of social policies to address it. Wright (1992) examined this phenomenon separately for Great Britain and found that, while women are in fact overrepresented among the ranks of the poor, their status relative to men has not changed much over time, at least from 1968 to 1986. Gornick et al. (2009a,b) also compared this phenomenon across several countries, with a particular focus on the resources of widows, as women are more likely to be surviving widows than men.

In Figure 4.3.1, the gender differences in poverty across the age distribution are shown among 30 OECD countries in the mid-2000s, similar to the gender figures for the United States but, in this case, are available for only 1 year. That said, the number of countries has now increased to 30, from the 18 used in the previous figure.[15] The first similarity with the US trend is that the poverty rates of women dominate those of men throughout the age distribution. In general, the U-shape is much steeper at older ages for the OECD than for the United States, which was also true without the separation by gender. The second similarity with the United States

[15]The included countries in this OECD-30 are listed in the figure notes.

is that there is absolutely no gender gap in poverty among children, given that their rates are equal.

The third similarity is that the college spike in poverty at the ages of 18–25 is greater for women than for men but, although the spike exists for both genders, the gap between them seems smaller for the OECD in the mid-2000s than for the United States in 2014. This may be due to differences in employment prospects or earnings between the genders at these ages. The fourth similarity is that the gap created at college age remains throughout the age distribution. Overall, women are shown to be increasingly vulnerable to poverty during their peak child-bearing and child-rearing years across the United States and OECD. For single mothers, this would likely mean a worsening economic situation for their children as well. However, the gender gap completely disappears among the middle ages of 41–50 in the OECD, while it merely became smaller during these ages in the United States. The fifth similarity is that the poverty rates for women increase faster with age than for men at later ages, but no retirement dip appears for either gender. A longer life expectancy for women may be driving some of these differences with men at the very end of the distribution, as that would make them more likely to outlive their accumulated resources.

5 Poverty Alleviation and the Labor Market

The labor market may be the best means of alleviating poverty. This solution may not be possible for all individuals, however. In this section, we first show the absolute poverty rates by work status for the United States and the relative poverty rates by

the number of workers within a household across OECD countries. Second, we introduce the labor force participation and unemployment rate trends by age, with particular attention on the effects of the recent recession across the age distribution. Third, several labor market policies are discussed in terms of their effectiveness in reducing poverty across age groups. Although we try to discuss the most relevant topics for poverty alleviation and the labor market with aging, this is by no means exhaustive coverage.

5.1 *Labor market and poverty*

One of the best ways to alleviate poverty within a household is for one or more individuals to generate earnings through their participation in the labor market, in order to collectively lift their household above the poverty threshold. At first, it may be thought that the labor market can remedy the economic situation of only working age individuals. However, the economic situation of children is directly dependent on the resources of their parents or guardians and, therefore, the earnings flows they generate in the labor market. Similarly, the elderly may directly or indirectly depend on the economic situation of their own working adult children, especially if they are unable to work themselves. In addition, any individual regardless of age may also become directly or indirectly dependent on the state, which is itself primarily funded by taxes on labor market earnings. The use of the labor market to alleviate poverty has been championed by Maestas and Zissimopoulos (2010) and Marchand and Smeeding (2013) for older adults in general, as well as by Henkens and van Solinge (2013) and Maes (2013) specifically regarding transitions back to work for

retired individuals.

Figure 5.1.1 displays the official US poverty rates over the period 1987–2014 for: those who did not work; who worked, but did not work full-time, full-year; and who worked full-time, full-year. The poverty rates among those who did not work are unsurprisingly the highest, between 20% and 25%, which is around 3–3.5 times higher than the average poverty rates. For those working, but not full-time, full-year, the poverty rates drop to between 12% and 15%, still almost double the average rate but significantly lower than for those not working. Lastly, the poverty rate among full-time, full-year workers remains at a constant 2.5–3% over this entire period, which is around 40% of the overall poverty rate. This evidence therefore shows that participation in the labor market seems to be a good remedy for poverty reduction, at least among those who can work, especially if they can work full-time, all year round. Also notable is that the poverty trends for those who did not work, and for those who did work but not full-time, full-year, were much more susceptible to fluctuations in the business cycle. The working full-time, full-year poverty rates do not seem to react to cyclical fluctuations at all, even during the Great Recession.

Table 2 shows the relative poverty rates across OECD countries, with rates of the working age population being compared to the poverty rates of households containing no workers, one worker, and two workers. Overall, the poverty rates fall when workers are added. The poverty rates among households with no workers are extremely high when compared with the entire working age population, from a low of 18% in Denmark to a high of 71% for the United States. The addition of a worker causes poverty rates to drop dramatically across all countries, with the exception

of Turkey, which has a seemingly constant poverty rate of around 18%, regardless of the number of workers within the household. The lowest poverty rate among one-worker households is a tie at 4% for Switzerland and Norway, with the highest poverty rate of 26% being for Mexico. The relative poverty rates continue to fall when a second worker is added to the household, but not by as much as the addition of the first worker. Poverty is virtually eliminated in two-worker households for the Czech Republic and Norway. Interestingly, Portugal had a larger reduction in relative poverty when adding the second worker to the household than when adding the first.

Obviously, this working-out-of-poverty scenario is not possible for some individuals in the household, so there are several caveats to this particular solution for poverty alleviation. For children, most developed nations have laws restricting the supply of labor of the youngest among them, but teenagers may work in a family-owned business or even "under the table" as a short-term solution for poverty alleviation. As noted by Wolff (2009, 1997, pp. 122–123): "One might expect that poverty among young (working age) people is due to the difficulty of finding a job and therefore temporary since better jobs are usually reserved for more experienced workers." That said, O'Regan and Quigley (1996) highlighted another issue regarding teenage employment, in that there may be spatial constraints hindering them from gainful employment, especially within urban, minority, and poor households. Among the working aged, Haveman and Buron (1993) found that, even if all working age adults within a household work fulltime, full-year, there are some "earnings capacity poor" who will be unable to generate enough income to lift themselves out of poverty.

On the other side of the age spectrum, longer and healthier lives could lead to longer working lives for older adults as well. The longer that older adults can continue to contribute to the economic resources of the household, the less likely it is that they will remain in poverty. However, as additionally noted by Wolff (2009, 1997, p. 566): "The labor market is not a good solution to the problem of elderly poverty for two reasons. First, many older people are unable to work due to physical limitations or health problems. Second, many firms are unwilling to hire older workers, because they do not feel that the worker's longevity in the firm would warrant making an investment in the person's training." Kalwij and Vermeulen (2005) found that improvements in health led to higher labor market participation rates for men in Austria and Germany, for females in the Netherlands, and for both genders in Sweden. However, Milligan and Wise (2012) found that large declines in mortality across 12 OECD countries did not lead to significant changes in employment rates among older adults.

5.2 *Labor market trends and age*

Labor force participation has historically been highest toward the middle of the age distribution and away from the tails. This correlates with the U-shape of poverty with age, as children and the elderly are the likeliest to be poor. Costa (1998) examined the labor force participation trends of men in the United States from 1880 to 1990 and found that this inverse U-shape has been greatly compressed over the century, with the decline being greatest among older individuals and, to a lesser extent, those of college age. The decline for older individuals may be correlated

with the steep right-hand side of the U-shape of poverty that mostly continues to late ages beyond the retirement dip, for the United States and perhaps the greater OECD as well. More time devoted to schooling has also significantly brought down the participation rates for younger individuals, with this postponement of work to later ages likely contributing, at least in part, to the college spike in poverty.

Figure 5.2.1 displays the US unemployment rates for five age groups (16–19, 20–24, 25–34, 35–54, and 55 plus) from 1981 to 2014, which might be a better way to relate both the supply and demand aspects of the labor market to the relationship between poverty and age. Those aged 16–19 have the highest unemployment rates, ranging from 13 to 26% over the period. Those of college age (20–24) had the second highest rates, which range from 55 to 60% of that of the youngest age group. The unemployment rates of those aged 25–34 were roughly the same as the poverty rates for all individuals aged 16 and over, with a 3.7–10% range. The oldest two age groups had unemployment rates that were very similar, and below this average, ranging from 2.6% to 7.9%. Overall, the cyclical trend is mimicked for each age group, with all age groups most severely affected by the Great Recession, relative to the recessions that preceded it.

Increases in the unemployment rate may temporarily limit the availability of working as a possible solution for alleviating poverty. This was especially true during the Great Recession of 2008–2009, when long-term unemployment was at an all-time high in the United States and other developed countries. It was also during this Great Recession that the labor force participation of older individuals began to increase, as shown by Burtless and Bosworth (2013). They reported a faster increase

in mature labor force participation on average across 20 industrialized nations, as well as an increase in retirement age. This recession also led to uneven job growth across the age distribution, which could further contribute to current and future age differentials in poverty. At the beginning and height of this recession, young and prime-age workers bore the brunt of the job losses, while the end of this recession witnessed older workers experiencing the highest positive job growth, as partially shown in Figure 5.2.1.

5.3 *Labor market policies and age*

Given that participation in the labor market seems to be an effective way to reduce poverty, one role that governments can play is to help individuals get back into the labor market, with job training programs being the most direct way to do so. There have historically been several US training programs, such as the Manpower Development Training Act from 1962 to 1973, the Comprehensive Employment and Training Act from 1974 to 1984, the Job Training Partnership Act from 1984 to 1999, and the current Workforce Investment Act (WIA) established in 1999. In general, Holzer (2008, 2012) found that the funding for these programs has decreased over time, while the need for skills has increased. This may be due to the perceived ineffectiveness of these programs, or it could be due to political reasons.

As for the effectiveness of these job training programs, Friedlander et al. (1997) undertook an extensive study summarizing the literature and found them most effective for adult women and mostly ineffective for the young, while aggregate outcomes were modestly affected at best. Holzer et al. (2004) found lots of movements into

and out of low earning status, that half of workers who escaped low wages left their primary employer, and that both worker and employer characteristics were important in these matches. Huston et al. (2011) explored the effects of an employment-based, poverty-reduction program for adults that had positive effects on child outcomes, some of which were long lasting. And Andersson et al. (2013) examined the impact of WIA on adults and dislocated workers in two states, finding moderate impacts on the outcomes for adults, but not dislocated workers. Most recently, Kluve et al. (2016) reviewed the effectiveness of youth employment programs and found that more than a third displayed significantly positive labor market outcomes, with the most success coming in low- to middle-income countries.

Increases in the minimum wage and living wage ordinances can also be considered as other forms of labor market assistance from the government. The evidence is mixed on whether these programs will help to alleviate poverty, however, as increased earnings for some might mean increased unemployment and fewer job opportunities for others, especially among the young (Neumark and Wascher, 2007). In an early study, Burkhauser and Finegan (1989) argued that the minimum wage no longer matters for the poor. Most recently, Mascella et al. (2009), for Canada, and MaCurdy (2015), for the United States, provided evidence that the minimum wage did not reduce poverty, even when assuming no employment effects. When employment effects were considered, Sen et al. (2011) found that the minimum wage actually increased poverty, at least in Canada. For the living wage in the United States, Neumark and Adams (2003) found positive wage effects combined with negative employment effects for low-wage workers, which led to a modest reduction in poverty.

Refundable working tax credits and child tax credits are other programs helping to alleviate poverty among working age individuals and their children, with the Earned Income Tax Credit (EITC) being one of the most successful at reducing poverty among these groups in the United States. For the disabled who are limited in their ability to work, Burkhauser et al. (1993) found that their earnings have declined over time. More recently, Autor and Duggan (2006) documented a rapid growth in disability insurance enrollment in recent decades and worry that looming demographic changes will only make its cost more significant, therefore recommending that the government should take action to reduce future enrollment in the program. Lastly, there are temporary relief programs, such as the American Recovery and Reinvestment Act of 2009 (ARRA), which attempted to counteract the negative effects of the Great Recession in the United States, but these effects are only presently being examined with regard to poverty at different ages.[16]

6 Poverty Alleviation and Social Expenditure

Social expenditure and its related policies offer an additional set of mechanisms for alleviating poverty. Increased social expenditures can be linked to lower poverty rates in developed countries, which we show across OECD nations in two ways: by comparing poverty rates to social expenditures as a percentage of GDP and by examining the net public benefits received as a share of income across age groups. A similar US-specific example is also discussed. The poverty-reducing impacts of multiple policies are then for the United States, with no one program singled out.

[16]For additional information on the subject of poverty and the labor market, see Lang (2012).

We then single out the poverty impacts for specific US programs, mainly those that target certain age individuals. In doing so, poverty rates in the United States are shown by age group when the income support for a particularly large program is removed. Once again, our purpose here is to introduce the most relevant topics related to poverty alleviation and social expenditure with age, so we recognize that our coverage is not exhaustive.

6.1 *Social expenditure and poverty*

In developed countries, social expenditures are usually quite large and have evolved substantially over time. The growth in these expenditures also seems to be linked to the respective movements in poverty. For example, Smeeding (2006) showed that government spending has led to large percentage reductions in poverty across countries included in the Luxembourg Income Study, both overall and for households with children. If one were to add up the social spending across all policies affecting each age group, the expenditure on older adults will typically far outweigh the expenditure on any other age group. For example, the expenditure for Medicaid and Medicare in the United States has been quite equal in recent years, even though Medicaid affects poor individuals spread across the entire age distribution, while Medicare is targeted only at older adults.

Table 3 presents the relative poverty rates of working age and retirement age individuals with their targeted social expenditures as percentages of gross domestic product (GDP) across OECD countries. As in the previous OECD tables, countries are ranked in ascending order of the initial poverty rate, in this case for working

age individuals, with the rank order preserved across all columns. A pronounced negative correlation between the poverty rate and the percentage of social spending is present among the working aged. The Czech Republic and Denmark share the lowest relative poverty rate of 5% for those of working age and spend 4.7% and 8.2% respectively of GDP on their share of social expenditures. That said, Spain spent the same exact percentage of GDP as the Czech Republic and has more than twice their relative poverty rate. At the other end of the spectrum, a relative poverty rate among the working aged of 15% is shared by Mexico and the United States, with Mexico spending 0.5% of GDP and the United States spending 2% on this age group. Greece is an additional exception to the rule, as it spent only 2% of GDP and wound up with a relative poverty rate that was 6% points lower than the United States for working age individuals.

Among those of retirement age, the Czech Republic is once again among the lowest poverty rates at 2%, this time tied with the Netherlands and New Zealand. But while the latter group spent less than 5% of GDP to achieve this rate among their retired, the Czech Republic spend 7.7%. Italy spent the most as a percentage of GDP at 14.6% and wound up with a relative rate of 13%, while Mexico spent the least at 1%, resulting in the second worst poverty rate of 28% among their retirement aged. Korea still remains the worst for elderly poverty, however, at 45%, which is not surprising when only 3.2% of its GDP is going to this particular group. More surprising is that Ireland is also spending only 3.2% of its GDP on those of retirement age and has a significantly lower relative poverty rate of 31%.

Figure 6.1.1 presents the impacts of net public benefits on poverty for the OECD

in the mid-2000s, in terms of their income share changes across seven age groups relative to the 41–50 age group. These changes are presented for the average of 18 OECD countries and for the select countries of Finland, Germany, Italy, and the United States.[17] Across all the representative countries and OECD-18 average, the income share changes because of net public benefits is positive for each age group relative to those aged 41–50, except for those aged 51–65 in Finland. The case of Finland is particularly interesting, as it has the most balanced changes across age groups, with lower increases for those below the relative age group and slightly higher increases for those past retirement age. That said, Germany, Italy, the United States, and the OECD-18 average all have large increases in income shares for the oldest two age groups of 66–75 and 76 plus, with Germany and Italy being the largest.

In an earlier chapter within this handbook, Lee (2016) presented evidence of the positive and negative flows of public (as well as private) transfers, into and away from an age group for the United States in 2003 (in his third figure). Intergenerational transfers, both old to young and young to old, are powerful conduits for poverty alleviation by age. To quickly summarize these findings across age groups, children received positive dollar flows in public (and private) transfers. The working aged paid outward dollar flows in the form of public (and private) transfers, with public transfers making up the larger portion of this outflow. The elderly received an ever-growing portion of public transfers, with more public transfers going toward the elderly than for children, especially at later ages. (At the same time, however, the elderly were also making small private transfers back to either their adult children

[17]The included countries in this OECD-18 are listed in the figure notes.

or their grandchildren.)

6.2 *Multiple policy impacts on poverty*

Within the past five decades, the introduction and expansion of antipoverty policies have been successful at reducing poverty among individuals living in the United States and other developed countries. It has now been over 50 years since former US President Johnson declared the War on Poverty in 1964. The accomplishments and drawbacks of this initiative were recently summarized in a pair of government reports from the Council of Economic Advisers (2014) and the House Budget Committee (2014). Haveman et al. (2015) also showed that, over the past 50 years in the United States, direct cash income support to poor families has been replaced with in-kind support (i.e., food stamps), tax-related benefits (i.e., the Earned Income Tax Credit (EITC)), work support, and earnings supplementation, eroding the social safety net of those that are worse off.

Multiple programs are currently available to assist the poor. For a visualization of the available US tax and transfer programs being phased in and out across household earnings for a single parent with two children in 2008, see Maag et al. (2012) (their first figure). To briefly summarize, the largest value of public benefit comes in the form of Medicaid at low levels of earnings, followed by food stamps and the EITC. As the peak benefit value sets in at around $15,000 in household earnings, the values of the EITC and food stamp programs phase out and the Medicaid program stops. As household earnings rise even further, the Children's Health Insurance Program (CHIP) and exchange subsidy for an adult then kick in to replace Medicaid,

and the Recovery Rebate Credit, the Child and Dependent Care Credit, the Dependent Exemption, and the Child Tax Credit are added. After more than $45,000 of earnings, the CHIP program stops and is replaced with an exchange subsidy for the family. The rest of the credits remain roughly constant with household earnings up to $100,000.

These transfer policies have been quite successful at reducing poverty when evaluated together as the impact of multiple programs. Weinberg (1985) found that the poor elderly were the largest recipient of government aid in 1979, as 98% received some form of transfer, resulting in a reduction of 58 percentage points in their poverty rate. Social Security and Medicare provided the largest benefits for this group, followed by Supplemental Security Income (SSI), Medicaid, and food stamps. In contrast, only 80% of poor single-parent families received a government transfer, mainly in the form of Aid to Families with Dependent Children (AFDC), Medicaid, and food stamps, resulting in a reduction of 18 percentage points in poverty. As for two-parent families, food stamps played the largest role, with a reduction of 3 percentage points from all programs together.

Weinberg (1987) then extended this analysis from 1979 to 1984, finding that Social Security alone reduced the poverty rate among the elderly by 41 percentage points in 1984, while Medicare reduced it by another 9 percentage points, with a 55 percentage point reduction from all programs. Among the single-parent families in 1984, AFDC, food stamps, and Medicaid reduced their poverty rate by 8 percentage points, with housing assistance contributing another 4 percentage points to the reduction, for a total reduction of 19 percentage points from all programs. Two-parent families again

experienced a 3 percentage point reduction because of transfers, mainly from food stamps and Medicaid. Weinberg (1991) continued the same analysis from 1984 to 1986, but the results are no longer shown separately for the elderly, one-parent, and two-parent families. Hungerford (1996) did a similar analysis for 1992, but it is also not directly comparable to the previous results.

A newer approach to measure the impact of multiple programs, and more generally to the measurement of poverty, is to adjust the income resource of the poverty measure, by adding in the value of government transfers and tax credits and subtracting out all taxes paid, work expenses, andmedical expenses. This inclusion and exclusion is embodied within the new experimental US Census measure, known as the Supplemental Poverty Measure (SPM). In recent years, researchers have adjusted the poverty measures themselves, including and excluding taxes and transfers from the resources available to the household in various ways. This inclusion and exclusion becomes particularly important when large poverty increases are shown for the elderly without the inclusion of transfers, reflecting the effectiveness of the vast amount of public expenditures specifically targeted toward the elderly.

As Ziliak (2011) showed for the United States, real spending on the safety net increased and poverty was reduced in 2009, but not by as much as the spending increased from 1999, leaving the antipoverty effect only somewhat changed. This could be due to much of that spending going to individuals further up the distribution. Short (2012) used the SPM to show that it results in higher poverty rates than the official US measure, but the relative poverty rates were still the highest. However, there was a lower SPM than the official measure in several of the very low resources

subgroups. And Wimer et al. (2013) used an anchored SPM to the change in income and net transfer payments in order to explain movements in the poverty rates. The anchored SPM threshold was consistently higher in the past than the official measure, which results in a greater drop in poverty over time. The same story holds true when comparing children to the elderly.

6.3 *Single policy impacts on poverty*

There are also many studies on the impacts of individual antipoverty policies for the United States. One of the largest of these programs, in terms of expenditure, is Social Security.[18] The older adults who are most likely to be poor are least likely to have any assets or private pensions, making this program, and social insurance programs in general, all the more important. Engelhardt et al. (2005) found that a reduction in Social Security benefits would likely lead to significantly different living arrangements among the elderly, while Engelhardt and Gruber (2006) found that the growth in Social Security benefits can explain all of the reduction in elderly poverty from 1968 to 2001. DeNavas-Walt et al. (2013) showed that the number of elderly living in poverty would quadruple if Social Security was excluded from their income.

Besides the vast and ever growing expenditure associated with this program of Social Security, other weaknesses remain. For example, Social Security benefits would seem to be too low for some, especially for older women who have outlived their husbands and have spent down their assets (Gornick et al., 2009a,b). At the other end of the income distribution, Social Security continues to raise incomes even past

[18]Diamond and Orszag (2005) provided a historical account and description of the current state of the Social Security program, with several recommendations for its future.

full retirement age, as their earnings continue without a benefit reduction penalty. And this has happened even as their life expectancy has continued to rise, especially for those most well-off.

Figure 6.3.1 shows what the US headcount poverty rates would look like if Social Security were not included for those aged 18 or lower, aged 18–64, and aged 65 plus for 1981–2014. Without Social Security, elderly poverty rates would go up by an astonishing 31–38 percentage points in a given year. In addition, even when the effect of Social Security is subtracted from the poverty rate, the elderly poverty rate still continues to decline over time, from a high of 52% in 1981 to a low of 41% in 2013 and 2014, despite being at much higher levels than they would otherwise be. And although the nonelderly are not directly targeted by this program, their retirement rates would still go up in a given year, by roughly 1–2 percentage points for children, and roughly 2–3 percentage points for those of working age.

The comparison of the US Social Security program with Canada's social insurance policy is also an interesting one, given that both countries are on the North American continent, are neighbors to one another, and share developed nation status.[19] However, their poverty numbers were already shown to be very different across various age groups. Overall, poverty seems to be lower in Canada than in the United States, and this seems to be especially true among the elderly when using a comparable poverty measure. During the 1980s, Canada achieved a major reduction in poverty through the implementation of a targeted expansion of its social assistance plan (Smeeding and Sullivan, 1998). Indeed, Herd et al. (2009) recommends that

[19]See Davies and Horner (2012) for more information about Canada's transfer programs.

Canadian antipoverty policies be used in the United States to place a floor under elder incomes, as a replacement for the no longer functional minimum benefits from Social Security. The adoption of this type of income supplement could stabilize the bottom of the elder income distribution and might be effective at eliminating any remaining poverty for this group.

There have also been poverty reductions attributable to other single programs as well. For Supplemental Security Income (SSI), McGarry (1996) showed that the take up of the program is very low, with only 56% of the eligible receiving benefits at the time. Neumark and Powers (2000) found that more generous SSI benefits led to a reduction in preretirement labor supply and the earnings for men who are likely to participate in the program upon retirement. The comparison between the United States and Germany is also interesting here, as they each share developed nation status and are the largest and fourth largest economies in the world, respectively. That said, Germany and the United States have very different policies toward the alleviation of poverty among dependents and independents alike (Burkhauser et al., 1994). According to Smeeding et al. (2001), "An expanded SSI program (for the United States) with a higher benefit guarantee for the aged and disabled who also receive Social Security could go a long way toward reducing poverty among these groups to levels that are common in northern Europe."

Other programs have been particularly effective at reducing poverty among families with children. For the Supplemental Nutrition Assistance Program (SNAP), Tiehen et al. (2013) concluded that this is the nation's major antipoverty program for the nonelderly, as it reduced extreme poverty by 50% for this group. The Food

Stamp Program (FSP) has been found to impact birth outcomes, such as birth weight and neonatal mortality (Almond et al., 2011), but participation in this program for the elderly is especially low, with only one-third of eligible persons actually participating (Haider et al., 2003). For the Special Supplemental Nutrition Program for Women, Infants and Children (WIC), Bitler et al. (2003) found that take up is also low for children aged one to four. Further, the Temporary Assistance for Needy Families (TANF) program may cause children to be less likely to live with unmarried parents and more likely to live with married parents or neither parent (Bitler et al., 2006).[20]

7 Summary

The measurement of poverty with age begins with the definition of who is poor. A poverty line sets a threshold of resources, either on an absolute or relative basis, below which an individual or family is deemed to be poor. The official US absolute poverty line, based on the income needed to address basic consumption, and the OECD relative poverty line, of half of the median of equivalized household income, were introduced as common examples of each threshold. Some alternatives were also mentioned, including a combination of the absolute and relative thresholds. The resources behind the poverty line are most often income-based, but could additionally be based on consumption, health, time, or wealth. What is included and excluded from this resource definition and how the resource is shared within a household were

[20]For additional information regarding the antipoverty effectiveness of individual policies, see Ben-Shalom et al. (2012).

stressed as equally important. After defining who is poor, these individuals must be aggregated in some manner. The simplest approach is to use the headcount over certain segments of the population, but this ignores the depth, duration, frequency, and recentness of poverty.

The trends in poverty and aging were explored in three different ways for absolute poverty in the United States and relative poverty across the OECD. First, poverty among children (0–17), the working aged (18–64), and the elderly (65+) were compared over the past 50 years for the United States. This showed movements in the composition of poverty, mostly away from the elderly but to a lesser extent away from children as well, and toward the working aged. While the trends in poverty rates among all three groups drastically declined over the 1960s, only the poverty rate for the elderly has continued to decline, while the rates among children and the working aged have increased. For the subsequent OECD analysis by age group, Denmark and Sweden were outliers in having the lowest poverty rates among children and the working aged, while Mexico and the United States were outliers in having among the highest poverty rates across all three age groups. That said, Korea's elderly poverty rate was particularly worrisome, being roughly twice that of the second highest rate.

Second, poverty rates were then traced across the entire age distribution, highlighting how those snapshots evolve over time. This relationship of poverty over the age distribution remains U-shaped, which has traditionally been the case and is true for both the United States and other OECD countries. However, important changes have since taken place, namely a widening and steady clockwise movement of this U-shape, meaning that the elderly were less and less likely to be in poverty over time

relative to children and the working aged. While this has happened in the United States over the past few decades, the widening and clockwise movement has been true throughout the entire distribution for the OECD only in the most recent decade. In addition, more than any other time in history, the shape of poverty over the age distribution is now being significantly impacted by the emergence of what we deem a *college spike* and a *retirement dip*. The college spike is present for both the US and OECD, while the retirement dip seems to be unique to the United States, at least when compared to the OECD average. Cyclicality also plays a role in these changes, with recessions noticeably impacting children and the working aged more than the elderly, which was shown for the United States but could not be shown for the OECD.

Third, women are shown to be particularly vulnerable to poverty relative to men, especially during their peak child-bearing and child-rearing years, as well as late in life. The US and OECD trends are only somewhat comparable, however, as the US data is shown by gender for 1987 and 2014, while the OECD is shown for the mid-2000s. The college spike is most pronounced among females in both the United States and the OECD, and the retirement dip is more pronounced for males but it seems unique to North America.

The first poverty alleviation strategy was then introduced in the form of greater labor market participation. Its effectiveness was shown by examining poverty rates by work status for the United States and by the number of workers within a household across OECD countries. This solution may not be possible for all individuals, however, especially for the youngest, those with low earnings capacity, the disabled,

and the oldest old. Labor force participation trends tended to favor the prime working aged over the young or old, and unemployment rates were negatively correlated with age, meaning that as age goes up, the likelihood of being unemployed goes down. The Great Recession was found to be particularly hard on younger workers. While funding for job training programs has been reduced, they may still be effective for young individuals and adult women. Minimum and living wage policies are not likely to reduce poverty among the young, however.

The second poverty alleviation strategy involved greater social spending and more targeted programs. This is an important time to address this subject for the United States in particular, more than 50 years after then President Johnson declared the War on Poverty in 1964. This led to the development and implementation of many of the poverty reduction programs discussed in this chapter, which can be attributed to a wide range of success in alleviating old-age poverty. Both multiple and single policy effects on poverty were covered, with Social Security singled out as having being especially effective at reducing poverty among the aged in the United States. Several other policies are also highlighted as effectively reducing poverty among families with children.

8 Discussion

This handbook chapter set out to expand the literature beyond a focus on poverty and the *aged* and toward a focus on poverty and *aging* from a broader perspective, emphasizing the empirical aspects of this relationship and highlighting relevant life-

cycle transitions. In doing so, the importance of poverty measurement was stressed, detailed trends of poverty over the age distribution were provided, and poverty alleviation strategies through the labor market and social expenditure were considered. In the end, we recognize that simple measures can be made more complex, trends in the past can repeat themselves or no longer apply in the present, and better strategies to reduce poverty can always continue to be sought out.

8.1 *Measurement and trends*

Regarding the measurement of poverty, we asked two fundamental questions: Who are the poor? And how should they be aggregated? Our answers to these questions uncovered the many complexities that arise when defining and aggregating poverty. However, the measures that were actually used in this chapter to analyze the trends in poverty and aging for the United States and OECD were kept as simple as possible, regarding their threshold, resource, and aggregation. This was done mainly due to data availability over time, but this additionally allows for the straightforward replication of our results. From this basic starting point, much more sophistication could be introduced to the poverty definition, such as the combining of the two threshold types, the use of different resources in place of or along with income, and the inclusion or exclusion of items from these resources. The aggregation could also be made more sophisticated, such as in capturing the depth and recentness of poverty.

Poverty duration and frequency are two other types of aggregation particularly deserving of greater attention with respect to aging. In general, most studies of poverty duration conclude that it is not very persistent for the majority of people

(Corcoran et al., 1985; Bane and Ellwood, 1986; Stevens, 1994), but once poverty occurs, it increases the likelihood of it happening again over the life course (Rank and Hirschl, 2001). Within the context of our broader age groups, children are slightly more likely to experience a poverty spell, with slightly longer spells than average, while the old are less likely to experience a poverty spell, but more likely to remain poor (Ruggles and Williams, 1989). In terms of gender, Card and Blank (2008) found that, even when the earnings of female-headed households rose, their incidence of poverty increased, but their durations were of shorter length. We therefore encourage more analysis in this area with respect to aging and gender, in order to bring it closer to what we have shown across the entire age distribution. The smaller sample sizes typically offered by longitudinal data may be the key limitation, however.

With regard to the trends that we have shown, much more research could be done to develop a fuller picture of how poverty changes with aging over time, in terms of quantifying the past, present, and future trends. One of our intended goals with this chapter was to encourage the further application of our methods, which built upon the initial work of Radner (1992, 1993) and the OECD (2008, 2015a), in order to explore and uncover additional trends in poverty and aging. The continued application of these methods will deepen our overall knowledge of how poverty is evolving over time. The availability of new and better data offer fertile ground for the development of new insights, and in-depth work on previously unstudied or understudied countries would also be of great benefit, including that of developing nations. A better separation of the secular changes, like the college spike and retirement dip, from the cyclical changes, such as recessions, is also needed, as

well as a greater distinction made between age and cohort effects.

Once the previous trends have been more widely analyzed, replicated, and confirmed, explanations will then be needed for why poverty has evolved in this manner, in order to then make decisions about what to do about it. For example, what are the reasons behind the college spike and retirement dip that we uncovered as new developments in the poverty and aging relationship? Although we offered some explanations for the overall trends, such as the labor market and social expenditure, these discussions were by no means exhaustive, so there is much room left for further research. The future trends of poverty over the age distribution could also be forecasted by taking into account the demographic projections of Weil (1997) and Bloom and Luca (2016), which showed declining fertility and increased life expectancy as major factors. Lastly, once we understand what changes have occurred, why these changes might be happening, and what future changes are likely to occur, we can then address what should be done about them in terms of poverty alleviation and its related policies.

8.2 *Poverty alleviation and policy*

As newer cohorts of elders with better work records and higher earnings, especially women, reach retirement age, elder poverty will continue to fall. More generally, the incentive effects of social pensions, including early retirement, continued work incentives (reduced earnings tests), and the indexing of benefits will help determine when elders retire and under what conditions. Of course, private pension incentives are also important, but are much less likely to be tied to elder poverty, at least until

very old ages. In the aggregate, many elders have managed to build wealth through pensions and other retirement savings to the point where their consumption depends much more heavily on wealth than it does on income flows alone (Fisher et al., in press). In general, these are also the highest income and healthiest elders and those most able to continue work beyond retirement age, increasing inequality within the population 65 and over.

This presents a conundrum. While we can expect that normal retirement ages will continue to rise and benefit generosity will begin to decrease, as societies continue to age, raising retirement ages is especially problematic for lower income, lower wealth older workers (Case and Deaton, 2015). While a nation like the United States cannot continue with its current set of income and health support policies for the aged without large increases in government debt, tax increases, or benefit reductions in programs targeted at the aged, how those adjustments are undertaken makes a big difference in elder well-being (Smeeding, 2014). Many developed nations are now facing the need to restrict and better target old age pensions and associated health care entitlements, putting a more solid floor under the incomes of the old, while at the same time decreasing generosity to older adults with multiple sources of retirement income and assets.

A policy question remains: Can we continue to maintain low and falling poverty rates among the elderly, while at the same time reducing benefits for those most able to fend for themselves? In doing so, it would then be possible to declare an end to elder poverty and to begin working on programs and policies to help reduce child and working age poverty. Our analyses suggest that, if a reduction in absolute poverty

is the ultimate policy goal, it can be more efficiently achieved if the vast public expenditure currently targeted toward the elderly is instead channeled, at least in part, toward other segments of the age distribution. The trick will be to rearrange these resources to further subsidize investments in the incomes of disadvantaged younger adults and children, without increasing elder poverty.

Given the slow recovery of labor markets since the end of the Great Recession in 2009, contributions to national social retirement pension funds have lagged in rich nations, as have some sources of private pension wealth. Current pensioners in rich OECD countries have higher living standards than ever before, but future generations are likely to find their social pension entitlements much less generous. About half of OECD countries have taken steps to make their systems more affordable in the long term since the end of this recession. Far fewer have made efforts to strengthen safety nets and help especially vulnerable groups of pensioners (Organisation for Economic Co-operation and Development, 2015b).

Among the steps taken, the most popular is to increase the normal retirement age to 67, and some have plans to move even higher. Effective retirement ages have continued to increase steadily over the past decade, especially for women. Younger generations are suffering a decline in jobs with open-ended contracts, as temporary and often precarious jobs have been increasing, thus reducing the continuity of contributions to pensions and the payout at retirement age. Time out of work means time out of the pension system in some countries. As a result, many more people will receive lower pensions when they retire. In such cases, the level of the first tier of social pension benefits will be critical in maintaining living standards in old age.

This issue is especially worrisome given the changes occurring in the relative size of cohorts, as the rise and retirement of the baby boomers have and will continue to have substantial effects on public expenditure. One emerging issue is that elders in most rich nations tend to come from well-established majority groups, while younger individuals and their children are often minority or immigrant children. The tension across generations is palpable in many nations. The need for funding schools for children runs counter to the political weight of the elderly who want to maintain their benefits, relative to the youth or to the working population (Brownstein and Taylor, 2014).

In our view, the continued success of antipoverty programs targeted toward the elderly should now be replicated for the young, in order to reduce child poverty and provide upward mobility as children age into adulthood. While the elderly have by and large determined their future well-being, children cannot choose their parents and both low income children and their families deserve our efforts to give them better opportunities for the future. One possible solution could involve the reallocation of money from the well-off elderly toward children, with the emergence of child allowances and working tax credits to reduce childhood disadvantage.

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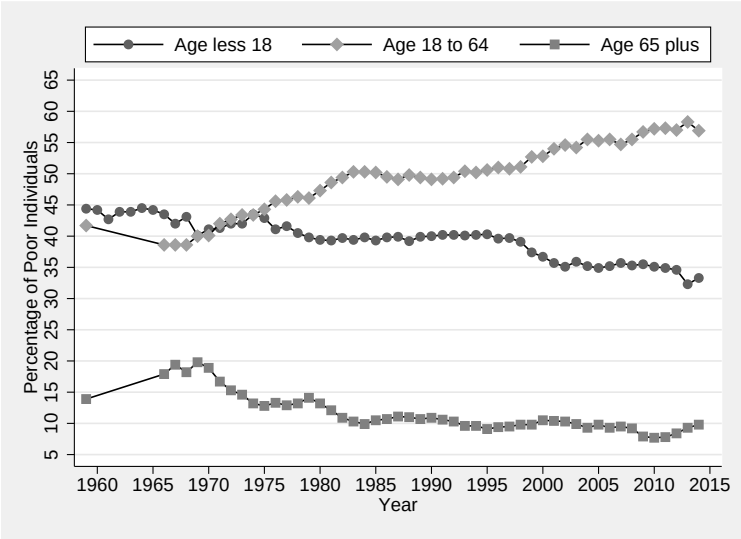

Notes: Authors' presentation of 1959 to 2014 data from the US Census Bureau, Current Population Survey, Annual Social and Economic Supplement.

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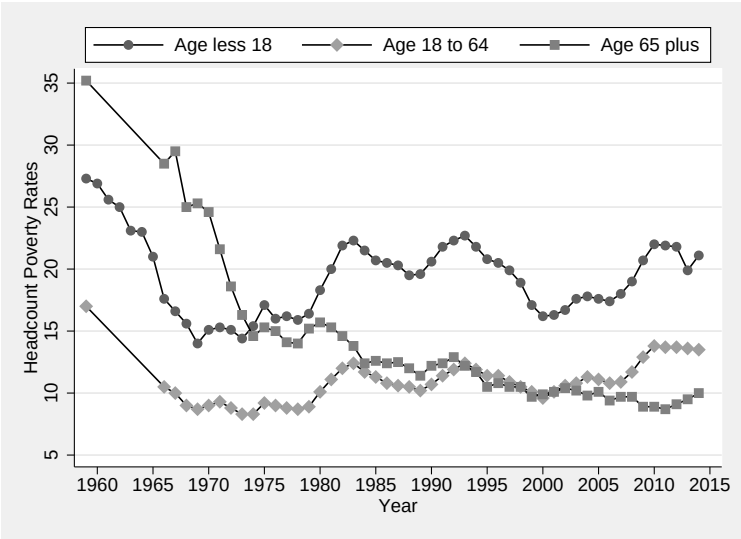

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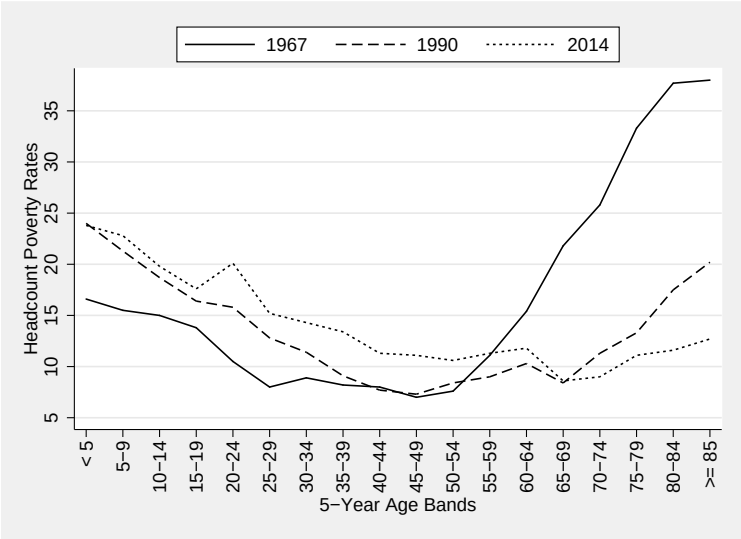

Notes: Authors' presentation of 1967, 1990, and 2014 data from the US Census Bureau, Current Population Survey, Annual Social and Economic Supplement.

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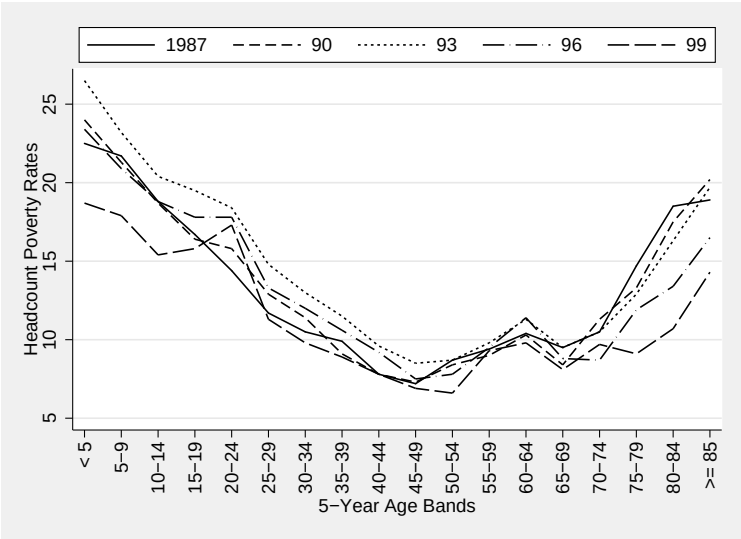

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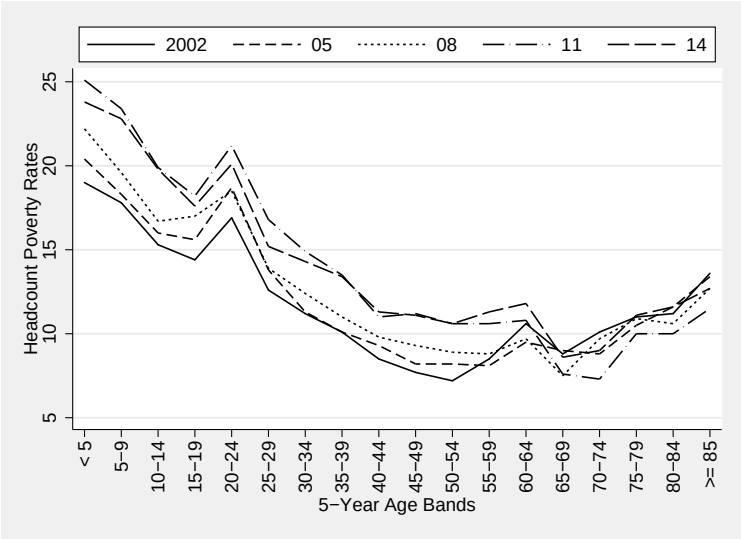

Notes: Authors' presentation of 2002 to 2014 data from the US Census Bureau, Current Population Survey, Annual Social and Economic Supplement.

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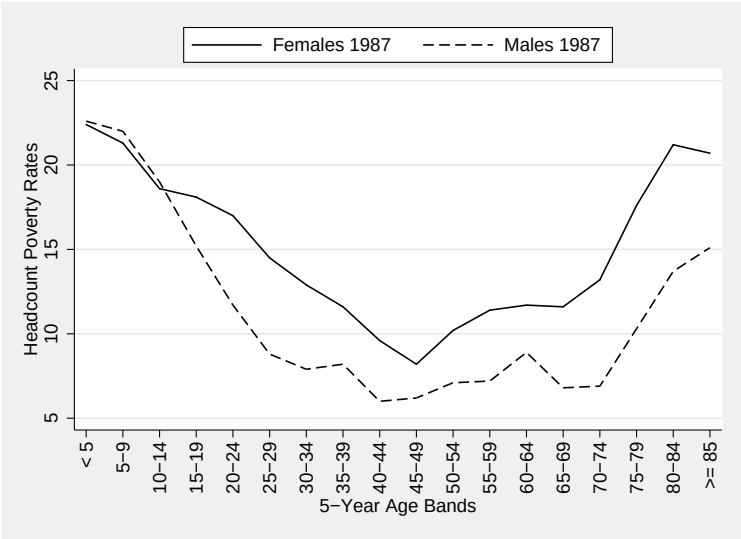

Notes: Authors' presentation of 1987 data from the US Census Bureau, Current Population Survey, Annual Social and Economic Supplement.

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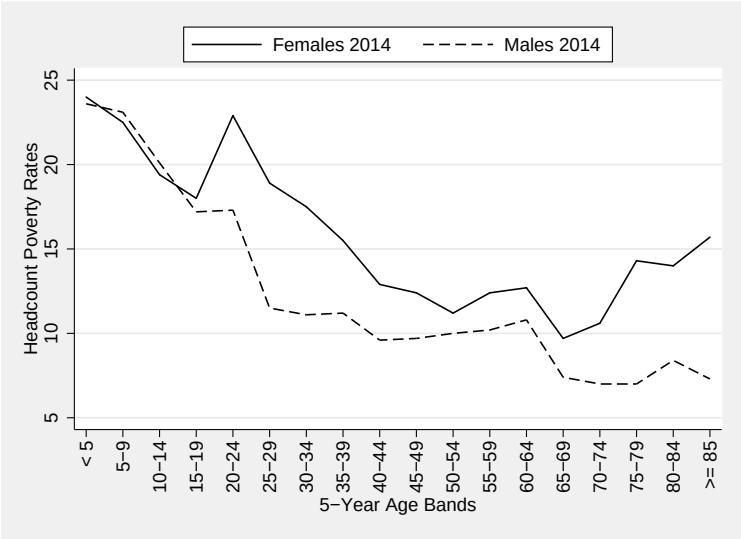

Notes: Authors' presentation of 2014 data from the US Census Bureau, Current Population Survey, Annual Social and Economic Supplement.

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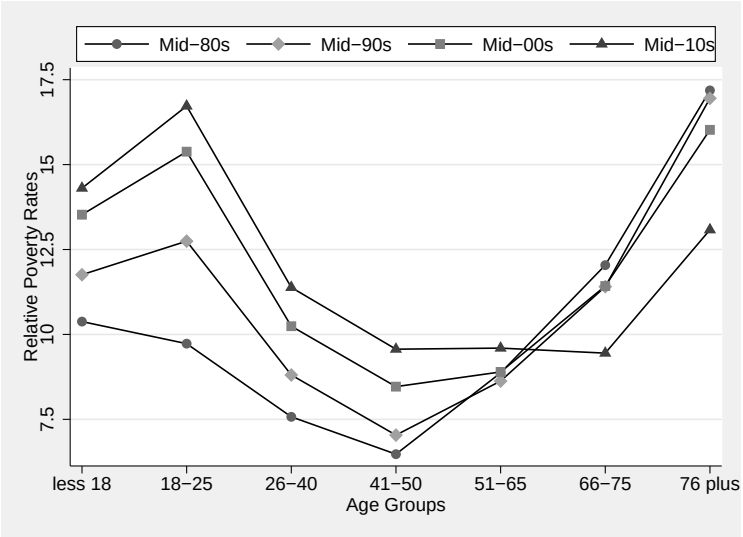

Notes: Authors' presentation of data from the OECD (2015a). OECD-18 consists of Canada, Denmark, Finland, France, Germany, Greece, Israel, Italy, Japan, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Sweden, Turkey, United Kingdom, and United States.

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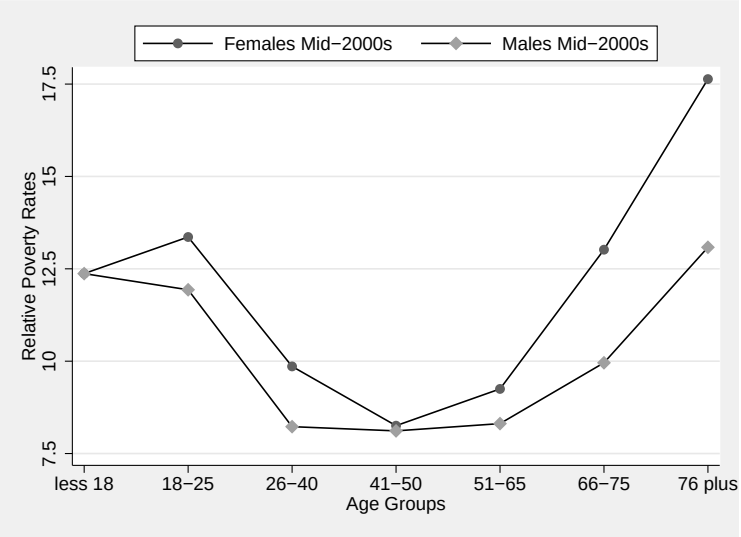

Notes: Authors' presentation of data from the OECD (2008). OECD-30 consists of Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States.

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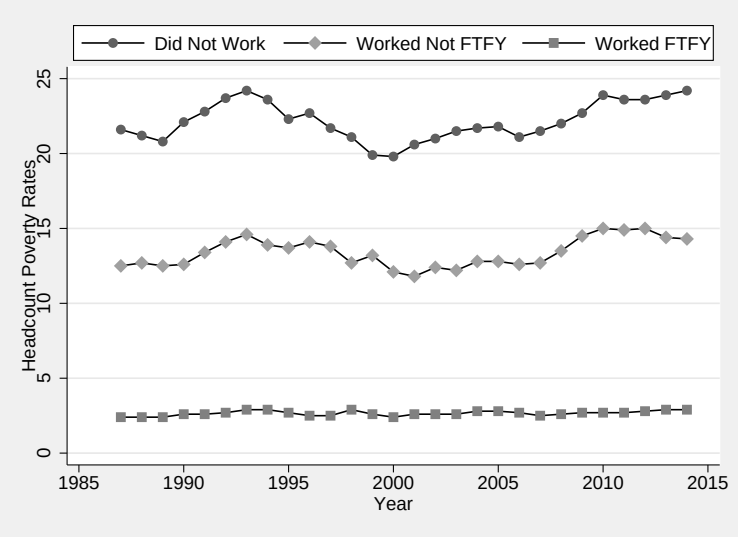

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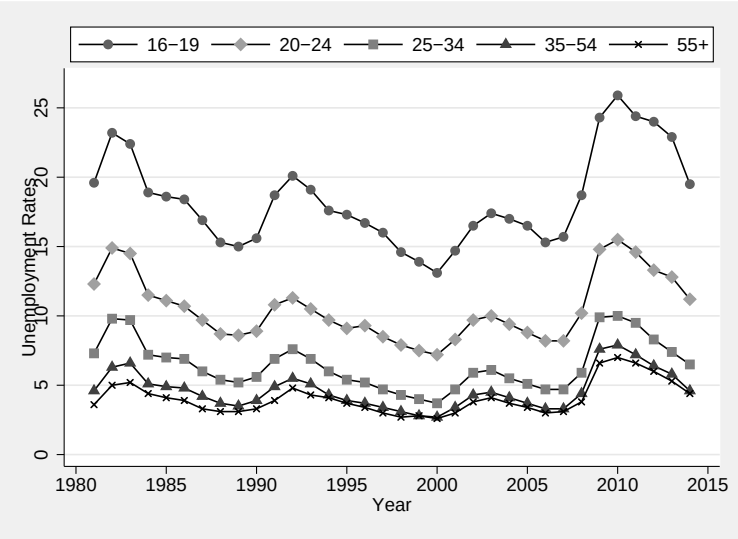

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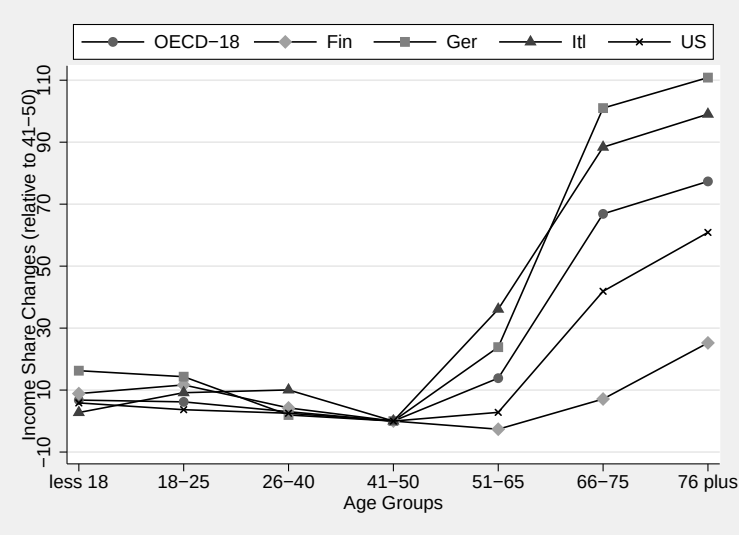

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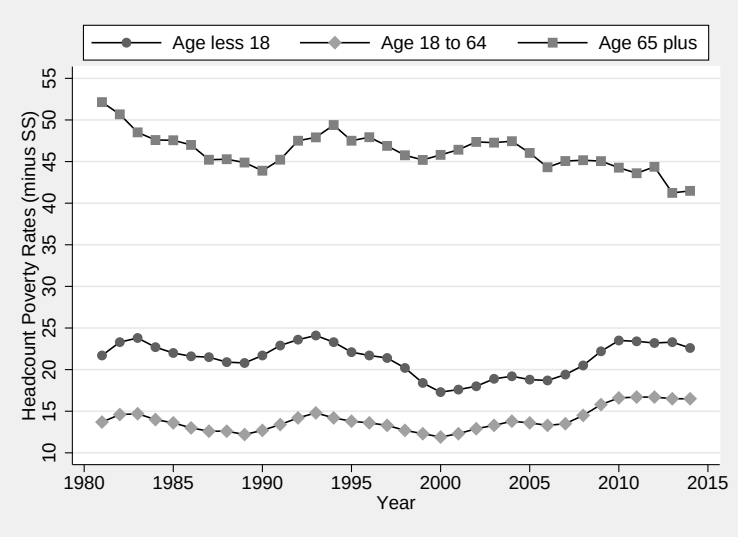

Notes: Authors' presentation of 1981 to 2014 data from the US Census Bureau, Current Population Survey, Annual Social and Economic Supplement. SS is Social Security.

Table 4.1.1: Poverty Rates by Age Group for Mid-2000s in OECD

	Relative Poverty Rates			Poverty Rates by Age Group		
Country	OECD	Eurostat	LIS	Children	Working Age	Elderly
Denmark	5	6	6	3	5	10
Sweden	5	5	7	4	5	8
Czech Republic	6	5	.	10	5	2
Austria	7	6	8	6	7	7
Finland	7	5	7	4	7	13
France	7	6	7	8	7	4
Hungary	7	7	6	9	7	5
Iceland	7	5	.	8	7	5
Norway	7	7	6	5	7	9
Switzerland	7	.	8	9	7	18
Luxembourg	8	7	6	12	8	3
Netherlands	8	6	5	12	7	2
Slovak Rep.	8	8	.	11	8	6
United Kingdom	8	12	12	10	7	10
Belgium	9	8	8	10	7	13
Germany	11	7	8	16	8	10
Italy	11	12	13	16	10	13
New Zealand	11	.	.	15	11	2
Australia	12	.	12	12	10	27
Canada	12	.	12	15	10	4
Greece	13	13	14	13	9	23
Portugal	13	13	.	17	11	17
Spain	14	13	14	17	11	17
Ireland	15	11	16	16	12	31
Japan	15	.	.	14	12	22
Korea	15	.	.	10	12	45
Poland	15	15	13	22	14	5
United States	17	.	17	21	15	24
Mexico	18	.	20	22	15	28
Turkey	18	18	.	25	14	15

Notes: Authors' presentation of data from the OECD (2008).

Table 5.1.1: Poverty Rates by Work Status for Mid-2000s in OECD

	Working Age	Poverty Rates by Work Status		
Country	Poverty Rate	No Workers	One Worker	Two Workers
Denmark	5	18	8	1
Sweden	5	23	9	1
Switzerland	6	19	4	5
Austria	6	22	6	3
Finland	6	34	10	1
Czech Republic	6	38	7	0
Norway	6	38	4	0
Hungary	7	19	6	4
France	7	22	10	2
Iceland	7	28	19	4
Belgium	8	25	8	2
United Kingdom	8	33	7	1
Netherlands	8	34	13	2
Luxembourg	9	19	15	3
Slovak Rep.	9	38	15	1
Greece	10	26	18	3
Australia	10	55	7	1
Italy	11	36	16	1
Portugal	11	37	24	3
Spain	11	49	18	4
Korea	11	58	13	4
Germany	12	40	7	1
Japan	12	42	14	9
New Zealand	12	46	19	4
Ireland	13	63	15	2
Canada	13	66	21	4
Poland	16	33	23	5
United States	16	71	25	5
Turkey	17	19	17	18
Mexico	18	37	26	10

Notes: Authors' presentation of data from the OECD (2008).

Table 6.1.1: Poverty Rates and Social Expenditure for Mid-2000s in OECD

	Working Age		Retirement Age	
Country	Relative Poverty Rate	Social Expenditure (as % of GDP)	Relative Poverty Rate	Social Expenditure (as % of GDP)
Denmark	5	8.2	10	5.3
Czech Republic	5	4.7	2	7.7
Sweden	6	7.6	6	7.3
France	6	4.9	9	11.9
Austria	7	6.7	7	12.6
Switzerland	7	5.8	18	12.7
Iceland	7	5.0	5	4.6
Finland	7	7.1	13	7.9
United Kingdom	7	4.9	10	6.1
Norway	7	8.0	9	4.8
Hungary	7	4.9	5	7.6
Belgium	7	6.7	13	9.0
Netherlands	7	6.8	2	4.9
Slovakia	8	5.0	6	6.4
Luxembourg	8	6.9	3	7.8
Greece	9	2.1	23	12.8
Italy	10	3.0	13	14.6
Australia	10	6.2	27	4.2
Germany	10	5.8	9	11.1
Portugal	11	4.4	17	9.1
New Zealand	11	6.0	2	4.8
Spain	11	4.7	23	8.3
Ireland	12	4.3	31	3.2
Korea	12	1.0	45	3.2
Canada	12	3.0	6	4.4
Japan	12	1.6	22	8.2
Turkey	14	2.6	15	6.3
Poland	14	5.6	5	11.8
United States	15	2.0	24	6.0
Mexico	15	0.5	28	1.0

Notes: Authors' presentation of data from the OECD (2008). GDP is gross domestic product.

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