BROOKINGS

CENTER ON CHILDREN & FAMILIES

PUBLIC SPENDING ON CHILDREN AND THE ELDERLY FROM A LIFE-CYCLE PERSPECTIVE

JULIA B. ISAACS

November 2009

Summary

The life-cycle framework views human development as consisting of three basic stages: childhood, working-age adulthood, and old age. Children and the elderly – the two dependent groups who are unable to live off their own labor income – must be supported by some combination of public and private supports. One can imagine a social compact under which each adult generation invests in the education of the childhood generation in return for future payment of retirement benefits to the parent generation. Under such a compact, high spending on retirement relative to education is not unfair because all individuals receive both children's and elderly benefits over a full life span – and pay out taxes during the intervening working years to support the education and retirement of the preceding and succeeding generations. However, our current system of public expenditures is inequitable across generations, defined as birth cohorts rather than age groups: the vast and growing size of health and retirement benefits will require today's children to bear a heavy tax burden when they grow up to be working-age adults. For our children's sake, we should curtail the projected growth in spending on the elderly and also pay our share of taxes to maintain the vitality of our health and retirement benefit systems.

Spending on Children and Elderly. This is the third in a series of three working papers looking at spending on children and the elderly. The first, *How Much Do We Spend on Children and the Elderly?,* is descriptive in nature and provides estimates of public spending on children and the elderly, as well as information on private support for these two age groups. The second, *A Comparative Perspective on Public Spending on Children,* investigates whether the United States invests less in children than other rich countries and whether there is a common cross-national pattern of spending more on the elderly than on children. Finally, this paper tackles a challenging question raised by the observed spending patterns in the earlier papers, namely: does it make sense for our country to be spending so much less on children than on the elderly? While such a question sometimes raises issues of intergenerational warfare, this paper will address it through a life-cycle framework.

The author of the series, Julia B. Isaacs, is the Child and Family Policy Fellow at the Brookings Institution. The papers benefited from the excellent research assistance of Emily Monea and the helpful comments of Isabel Sawhill. All three papers and a summary issue brief can be found here on the Brookings website.

Introduction

As shown in the first paper in this three-paper series, public investments in children are much less than those in the elderly, just under $9,000 per child under age 19 compared to $21,900 per person 65 and older in 2004 (Isaacs, 2009a). State and local governments provide more than two-thirds of the spending on children, primarily through funding for public schools, but very little for the elderly, and so the spending differential is much more pronounced at the federal level. Federal spending on the elderly is 7 times that of federal spending on children when measured on a per capita basis (over $21,100 compared to roughly $2,900). Moreover, federal spending on the elderly is projected to rise dramatically in the future, with rising health and retirement benefits accompanying the graying of the population. At the same time, child poverty rates are high relative to poverty rates for other age groups and relative to child poverty rates in other countries. These patterns raise the following question: does it make sense for our country to be spending so much less on children than on the elderly?

In a much-circulated presidential address to the Population Association of America, demographer Samuel Preston argued that rising spending on the elderly and improved elderly well-being reflects the growing political power of the elderly, who make up a growing share of the electorate. Moreover, he suggested that the rise in public expenditures on the elderly and the concurrent improvement in elderly well-being may come at the expense of children, raising the specter of intergenerational warfare (Preston, 1984). As discussed in the second paper in this series, many of Preston's concerns are not supported by empirical analysis of spending trends in various countries; even so, the intergenerational warfare framework still dominates many analyses of spending on children and the elderly.

As an alternative to the intergenerational warfare outlook, this paper lays out an alternate and potentially more fruitful perspective for examining patterns of public expenditures on children and the elderly, that of the life-cycle framework. After presenting a conceptual overview of the life-cycle framework and how public expenditures can be viewed as intergenerational transfers under a social compact, I will examine how current tax and spending patterns support the various generations. This examination will identify several shortcomings and needs for adjustment in the social compact. Finally, the paper will close with recommendations for changes to improve the fairness and stability of our system of social insurance and our pattern of public expenditures.

A Life-Cycle Model of Intergenerational Transfers

The life-cycle framework builds off the fact that individuals go through several natural stages of development between birth and death, viewed most simply as moving from childhood to working-age adulthood to elderly adulthood. During the childhood stage, individuals are dependent on others – parents, grandparents, or the broader society – to meet their needs for food, shelter, education, health care, and other goods. As individuals reach adulthood and go to work, they begin to generate sufficient income to support themselves and a new generation of children, as well. At a certain age, adults in modern

industrialized societies retire from work. At this point, they are dependent on savings and private pensions accumulated during their working years, public transfers from the government, and support from their adult children.

From this perspective, a society has to have cultural, economic and political structures that support the two dependent groups – children and the elderly – who are unable to live off their own labor income. In some cases, individuals transfer income over their own life-cycles, as when individuals accumulate housing and other assets while working and live off these investments during retirement. Transfers from one group of people to another also are very common, occurring both within the family (as when parents transfer resources to children) and through government-funded programs (as when payroll-taxes by working-age adults fund the retirement pensions of the elderly).

These three types of transfers – private market mechanisms, family supports, and public transfers – comprise the key elements of a complex system of intergenerational transfers that operates in our society as well as other societies, according to the transfer framework developed by demographer and economist Ronald Lee and his colleagues (Lee, 1994; Mason, Lee, Tung, Lai, and Miller, 2006). While these mechanisms differ from each other in significant ways, they all serve to transfer resources so as to support consumption across the life-cycle. While public expenditures – and the taxes that support them – often play a key role in transferring resources across generations, they do so within the context of a broader system of intergenerational transfers.

In early periods, the family took care of both children and elderly parents (although most elderly continued to work as long as they lived, with only a brief period of dependency). While this arrangement continues in some less developed societies, financial support for the elderly has largely shifted away from the family in the United States and most other modern countries. Instead, retired people are supported by broad social insurance programs, such as Social Security and Medicare, as well as personal savings, private pensions and accumulated investments.

The family has retained primary responsibility for children, providing financial support as well as personal care of children in most countries. Even here, however, there also has been a trend toward diminished parental support for children, as evidenced by the growing number of children in single-parent families who do not receive full financial support from their absent parents (Preston, 1984). In addition to private/familial expenditures on children, there are non-trivial amounts of public expenditures spent on children, primarily for education, but also to assist with the provision of basic food, shelter and health care, particularly for children of low-income parents. Private market mechanisms do not really exist to transfer funds towards one's own childhood. The one exception is that government-supported college loans do allow an individual to borrow funds that will be paid back through increased earnings when he or she is out of college.

In essence, children primarily rely on two of the three broad transfer mechanisms (private familial support and public expenditures), while the elderly can turn to all three mechanisms, as well as their own labor income in some cases. Another difference between

children and the elderly is that some elderly individuals make transfers back down to younger members of society, through gifts to relatives, bequests, and payment of taxes (i.e., property taxes for schools). In contrast, relatively few children provide support to older members of society, though some teenagers and young adults have sufficient labor income to do so.

Depicting Intergenerational Transfers in the United States – and Taiwan

Insights into the life-cycle model can be gleaned by examining graphic depictions of how the contours of the model and its associated generational transfers differ across countries. Three sets of figures comparing the United States with Taiwan are discussed below, drawn from recent work of Ronald Lee and several co-authors (Lee, 1994; Lee and Edwards, 2001; Lee, Tuljapurkar and Edwards, 2004; Lee, Lee and Mason, 2006; Mason, Lee, Tung, Lai and Miller, 2006).

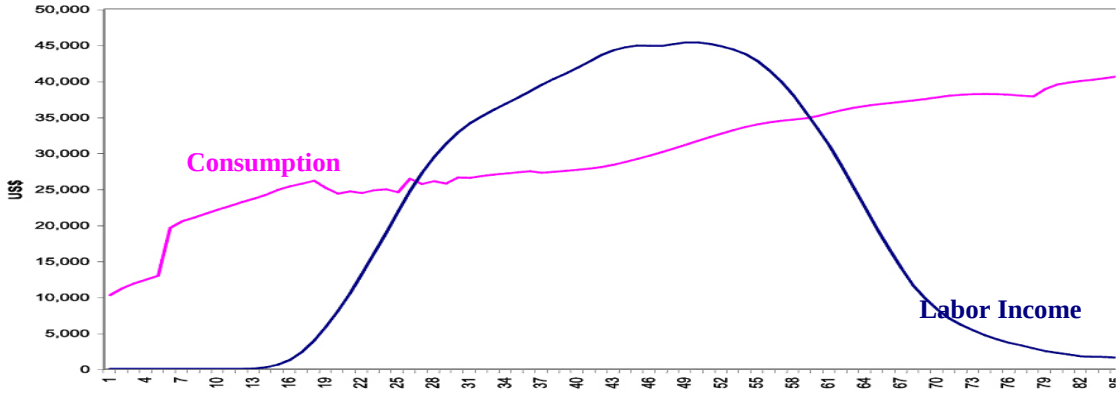
The three major stages in the basic economic life-cycle – youth, working-age, and retirement – are visible in Figure 1, which depicts per capita consumption and labor income from age 0 to 85 in the United States and Taiwan. In both countries, the inverted "U" of labor income crosses the more stable consumption line twice, resulting in a middle-aged period where working-age adults produce a surplus of labor income above personal consumption, surrounded by two periods of deficit (in youth and retirement), when consumption exceeds production.

While there are many similarities between the United States and Taiwan in the basic shapes of the curves, there also are interesting differences. American youth tend to enter the work force at a later age. Another key difference is that per capita consumption is relatively flat during adult years in Taiwan, in sharp contrast to the U.S. experience, where consumption rises throughout working adult life and continuing into the elderly years.

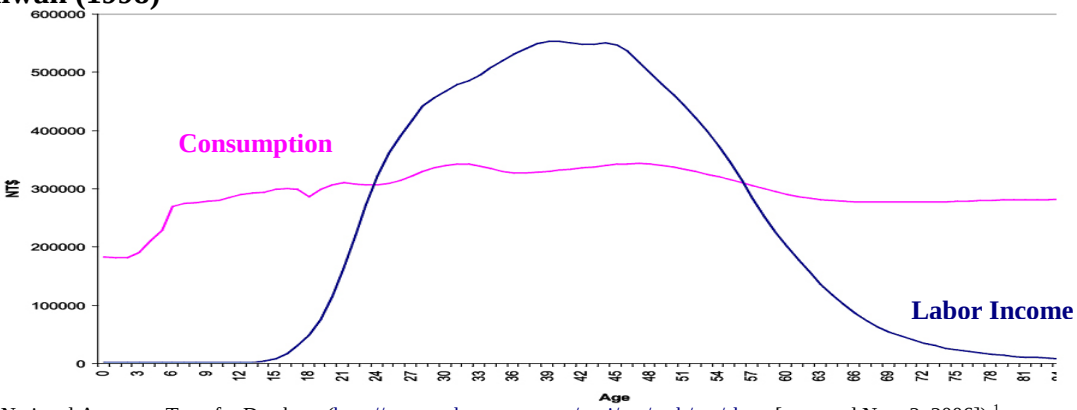
Much of the growth in consumption in old age in the United States is driven by public expenditures on health, as shown in Figure 2a (Lee, Lee and Mason, 2006). In Taiwan, public expenditures on health are negligible; private health expenditures do grow with age, though not as steeply as public expenditures in the United States (see Figure 2b). In both countries, public expenditures on education cause a swell in consumption observed near age five; private expenditures on education are also fairly significant in Taiwan.

Figure 1. Consumption and Labor Income Per Capita

a. U.S. (2000)



b. Taiwan (1998)



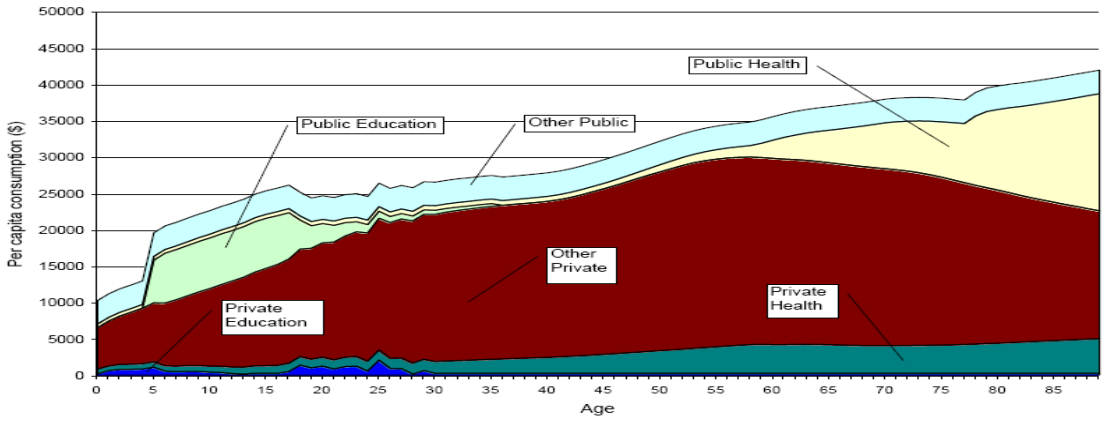
Source: National Accounts Transfer Database (http://www.schemearts.com/proj/nta/web/nta/show [accessed Nov. 2, 2006]).[1]

As a brief methodological note, the analyses in these charts are based on national aggregate amounts for labor income and consumption, as reported in National Income and Product Accounts, allocated across ages under a complex estimating process that draws on a variety of micro-level surveys and data that provides information on receipt of public benefits by age and consumption of households headed by individuals of different ages. Consumption is further imputed to individuals within each household using equivalence scales that adjust for lower levels of consumption by children ages 14 and younger. Data sources include the Consumer Population Survey, the Consumer Expenditure Survey, the Survey of Consumer Finances and the U.S. National Health Accounts in the United States and the 1998 Family Income and Expenditure Survey of Taiwan (see Lee, Lee, and Mason, 2006 and www.ntaaccounts.org for further information about data sources and methods).

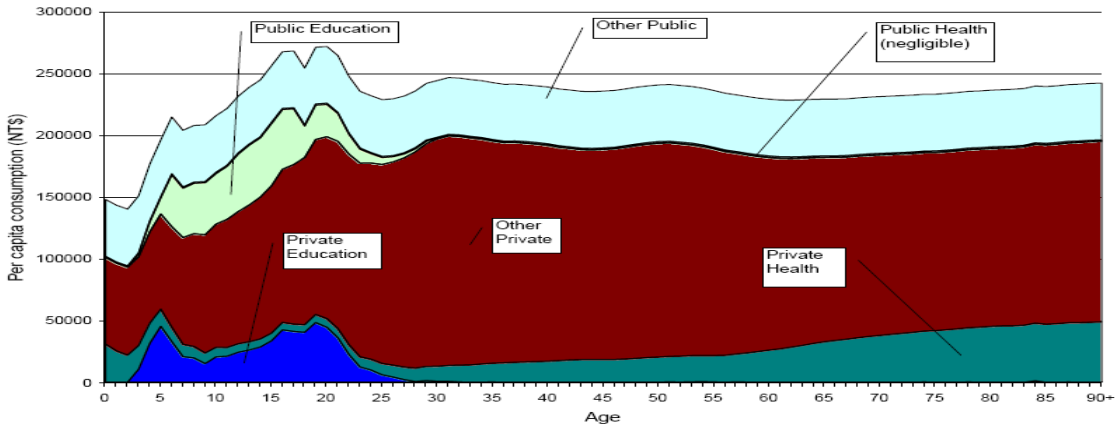
[1] These figures are no longer posted on this website, but similar graphs can be found in Mason, Lee, Tung, Lai and Miller (2006).

Figure 2. Age-Profile of Consumption, by Type

a. United States, 2000



b. Taiwan, 1998



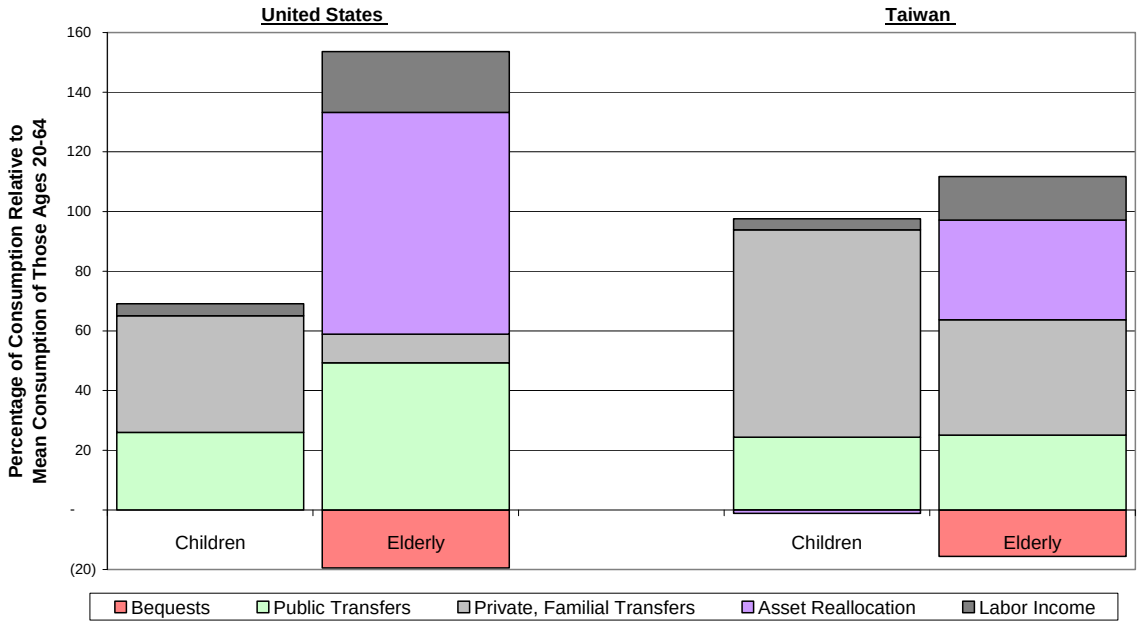
Source: Lee, Lee, and Mason (2006) Figures 1a and 1b.

Further contrasts in consumption patterns between the United States and Taiwan are shown in Figure 3, where per capita consumption for children (0-19) and the elderly (65 and older) is expressed as a percentage of per capita consumption for working-age adults in the two respective countries. Public spending on the elderly is much higher than spending on children in the United States. American elderly also have significant income from savings, investments and other forms of asset re-allocation (a term used to denote the accumulation of assets during working ages which are then drawn down for consumption purposes during retirement). Some of these savings are passed on to younger relatives in the form of bequests, which show up in figure 3 as negative transfers, but much of the elderly's public benefits and income from assets serve to push up their total consumption such that in 2000 the average elderly person consumed 36 percent more than the average working-age adult (ages 20 to 64) and nearly twice that of the average American children.

In contrast, the elderly Taiwanese have less public support and savings, are much more dependent on family support, and have nearly the same level of consumption as an average working-age Taiwanese (Mason, Lee, Tung, Lai and Miller, 2006). Significant numbers of elderly Taiwanese are living with their adult children, which may explain the similarity in overall standards of living across the ages.

Children's consumption in both countries is funded by a mixture of private expenditures (intra-family transfers from working-age parents to their children) and public benefits (primarily education). Family contributions are somewhat higher in Taiwan relative to the United States (when measured relative to mean consumption of working-age adults in the respective country). Note that these economic life-cycle charts do not include the value of the time spent by family members in caring for children and other relatives, both within and across households.

Figure 3. Consumption of Children and the Elderly, by Funding Source, Relative to Mean Consumption of Individuals Ages 20 to 64



Source: Author's combination of data from Mason, Lee, Tung, Lai, and Miller (2006), Figures 3, 6 and 7.

Much of the higher consumption of the elderly in the United States is consumption on health care and relates to age-related health needs. The elderly population in the United States is somewhat older, on average, than the elderly population in Taiwan (and per capita expenditures, particularly health expenditures, tend to rise with age). More advanced medical technology in the United States also contributes to the higher expenditures, as does the existence of public funding through Medicare and Medicaid. At the same time, increased longevity in the United States can be viewed as a reflection of the very success of Medicare and other entitlement programs for the elderly in enabling the elderly in the United States to live longer and healthier lives.

The contrast with Taiwan is not presented here to suggest that we should move to the Taiwanese model but rather to emphasize the extent to which the patterns of public expenditures and total consumption currently observed in the United States are not inevitable or immutable. There are indeed universal elements to the economic life-cycle – each human is born dependent on others in early life and many humans have diminishing

levels of work in later life while continuing needs for consumption – but the shape of the life curve and the size of intergenerational transfers can vary from country to country, and from one decade to another, depending on a variety of factors, including population demographics, economic resources, cultural norms, and policy choices.

Setting Up a Social Compact of Intergenerational Transfers

If we were setting up an equitable and efficient society from scratch, would we set up a system of public expenditures that spends two to three times as much on elderly as on children? Indeed we might argue Gary Becker and Kevin Murphy in a 1988 article that describes a simple three-generation society, consisting of equal numbers of individuals in each generation. This society might set up intergenerational contractual agreements between parents and children (and in the second iteration, between grandparents, parents, and children) as follows:

Imagine that a parent says to a new-born infant, "Son (or daughter), do you want me to invest $5,000 per year in your education from now until you turn 22? In exchange, I only ask that you pay me $13,000 per year from the time I retire until my death."

The child's first answer might be "No. It's not fair that I get only $5,000 a year and then later pay you $13,000 a year. If given a choice, I don't want to join a social compact where payments to children (my age group) are much lower than payments to the elderly."

However, a wiser child would recognize that he or she will grow up to become a working-age adult and can then make the same deal with the next generation. That is, he will pay out $5,000 a year for 22 years to educate the next generation but in exchange he will receive back $13,000 a year during his retirement. Once the three-generation model has run through at least once, each generation faces the same pattern of spending and taxes, as shown in table 1.

Table 1. Social Compact in Simple Three-Generation Model

Age Group	**Annual Transfer (+ Benefit/- Tax)**	**Total Transfer**
Child 0-22	+$5,000 Education benefits (for 22 years)	+$110,000
Adult 23-65	-$5,000 Education for child (for 22 years) -$13,000 Retirement for parent (for 17 years) = -$7,700 (implied tax averaged over 43 years)	-$110,000 -$221,000
Adult 66-82	+$13,000 Retirement benefit for 17 years	+$221,000
Life-cycle Total		**$0**

Source and notes: The ages and expenditure amounts in this example are based on Becker and Murphy (1988), except all transfers have been doubled (and some are rounded).

Net life-time transfers (defined as total benefits received less total taxes paid) total $0 for each generation in this simple model because taxes (or negative transfers) on working-age adults are set to completely offset payments to their children and parents. In this way, the social compact serves to smooth income over the life-cycle, providing extra income during life stages when individuals are too young or too old to support themselves through work.

Moreover, this system of intergenerational transfers improves economic efficiency because the increased investment in human capital during childhood increases the productivity of working-age adults, thereby increasing the overall size of the economic pie to be shared. Becker and Murphy assume a 5 percent annual return on investments to education, based on a large body of economic literature documenting returns on education. A return of 5 percent on an investment of $110,000 (spread over the first 22 years of the child's life) translates into $11,000 in higher earnings per year during the 43 years of working life, or a total of over $473,000 in increased earnings as a result of the social compact.

Note that this level of increased earnings more than offsets the necessary tax for public education and retirement benefits. In other words, individuals operating under this social compact benefit from a higher standard of living during working-age years, in addition to the flow of educational benefits during childhood and retirement benefits during old age. As Becker and Murphy (1988) state:

> Our results sharply contradict the view that government payments to the elderly in the United States are large relative to government spending on the young. Indeed, any generation that benefits from the current level of public investments in children can easily use the higher earnings created by these investments to provide current levels of support for the elderly, and they would still have a considerable profit left over. (p. 12)

This simple life-cycle model suggests that a system of public expenditures with higher payments in later years as opposed to earlier years could be a perfectly rational allocation system, serving a number of beneficial purposes. Concerns about unjust treatment of children compared to elderly are misplaced because children and elderly are not distinct groups in the same way that men and women or blacks and whites are. Over a full lifespan, the average individual will receive both children's and elderly benefits and will pay taxes to support public expenditures, and so the allocation of benefits and taxes by age does not raise questions of inequitable treatment of individuals. As already discussed, public transfers, combined with other types of intergenerational transfers, help to smooth out consumption over the lifespan, offering both children and the elderly some protection against economic deprivation and hardship. Moreover, the social compact outlined above fosters economic efficiency by facilitating investments in human capital. As Becker and Murphy (1988) state:

> Taxes on adults help finance efficient investments in children. In return, adults receive public pensions and medical payments when old. This compact tries to achieve for poorer and middle-level families what richer families tend to achieve without government help; namely, efficient levels of investments in children and supports to elderly parents. (p. 9)

Social Compact under Strain

The model outlined above, and the life-cycle perspective more generally, can also be used to explore the problems facing the social compact when the real world departs from the assumptions of a simple model with equal-sized generations and static patterns of benefits. What happens, for example, if one generation has an average of three rather than two children per family, so there is a "baby boom" that moves through the schools, and then into the workforce, and eventually into retirement? Does the social compact need adjustment if the grandparents in each generation are living longer and collecting retirement benefits longer than was expected when the system of taxes and benefits was set up? What happens if dramatically rising health care costs result in expenditures on the elderly that exceed revenues collected from payroll taxes on working-age adults? What if policy expansions add new health benefits for the elderly without similar expansions in benefits for children? What if all four changes occur at once, as is occurring in the United States at the current time?

In fact, in the United States, as in most other industrialized nations, we are facing dramatic increases in public expenditures on the elderly. Between 1960 and 2008, federal spending on Social Security, Medicare and Medicaid combined rose from about 2.5 percent of the gross domestic product (GDP) to almost 9 percent. Because of rising health care costs and an aging population, the combined cost of these three large entitlement programs is projected to rise rapidly, reaching nearly15 percent of GPD in 2030 and over 18 percent in 2050, according to the Congressional Budget Office (CBO).[2] For reference, 18 percent of GDP is roughly equivalent to the size of the entire federal budget; federal revenues totaled 17.7 percent of GDP in 2008 and have ranged from 16 to 21 percent of GDP over the past five decades (CBO, 2009).

How will our social compact adjust to this dramatic growth in public expenditures on the elderly? As the system of intergenerational transfers grows, will it provide an equitable distribution of benefits across generations? Note that the question has changed from, "Is it fair to spend less on children than on the elderly," to "Are some generations being unfairly rewarded with high benefits while other generations are unfairly burdened high taxes?" This intergenerational equity question does not concern equity across age groups (e.g., children and the elderly) but across age cohorts (e.g., those who receive retirement benefits today compared to those who will receive them twenty, forty or sixty years from now). The word "generation" is vague enough that these two different concepts are often merged together in public debate and political discourse. However, the distinction is important. For example, proposals to stem the growth in Medicare benefits over the next 20 years will have more of an impact on those who are 45 today than those who are currently elderly.

In addition to examining this central question of intergenerational equity, the remainder of this paper also addresses two other concerns: the economic efficiency and income security dimensions of our current social compact. In terms of economic efficiency, does our

[2] This is based on the author's calculations from CBO (2009) using CBO's alternative fiscal scenario which assumes that Medicare's rates for physicians will grow with inflation. Note that Medicare spending is net of beneficiaries' premiums and payments from states.

society make sufficient investments in children to be economically efficient? With regard to income security, does our system of intergenerational transfers smooth out income over the life-cycle sufficiently so as to protect both children and elderly against destitution?

Generational Equity of Current Social Compact

One of the lessons from the Becker-Murphy example shown in table 1, also evident in the life-cycle model depicted in figure 1, is that public spending on children and the elderly is not financed "out of the blue" but from taxes paid by those with income, principally working-age adults. In the simple model in table 1, taxes for working-age adults were set high enough to cover benefits for children and benefits for the elderly. The basic mathematics of the model therefore require higher taxes on working-age adults whenever health and retirement benefits for the elderly increase, whether that increase be due to a swell in the number of elderly, higher health care costs, longer periods of retirement, or, in the current situation, all of the above. (Taxes also increase in times with rising numbers of children and educational expenses, as occurred during the education of the baby boomers).

In the real world, taxes do not fall exclusively on working-age adults, but they do shoulder the brunt of the tax burden, as shown in the graph below of the age distribution of benefit receipt and tax payment, drawn from Lee and Edwards (2001). Payroll and income taxes follow an inverse u-shaped curve and fall most heavily on those in their 40s and 50s, while sales and property taxes rise more steadily through about age 50 and show only a modest decline thereafter (see figure 4b). At the same time, working-age adults receive the lowest level of public benefits per capita, which is consistent with their high levels of labor income and low levels of need. Though not shown in the graphs, many working-age adults also make substantial private intergenerational transfers in their role as parents of the next generation of children.

Figure 4a. Benefits by Age

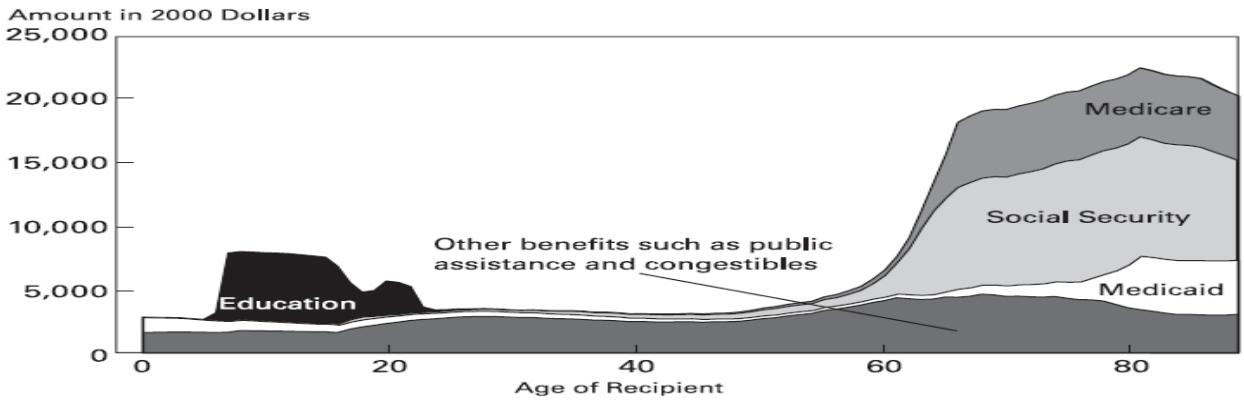
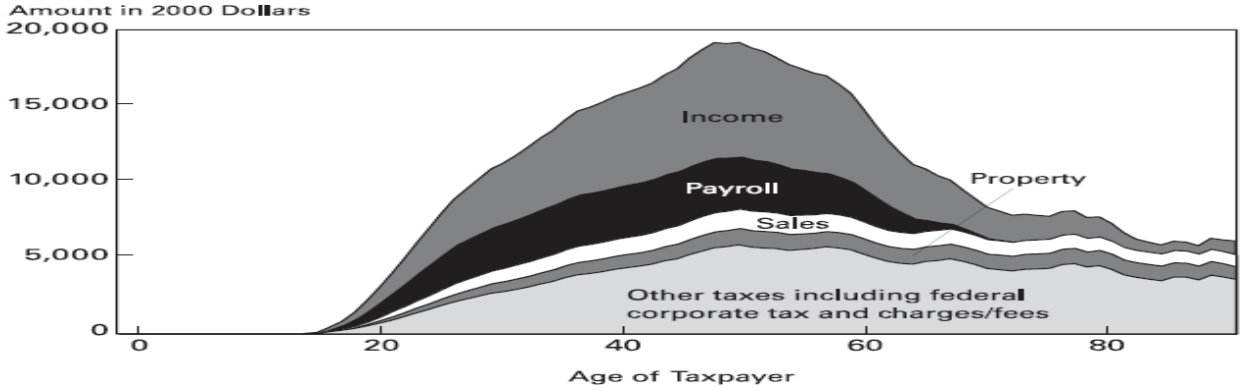


Figure 4b. Taxes by age



Source and notes: Lee and Edwards (2001), Figures 3 and 4. Lee and Edwards' analysis is based on data from the March Current Population Surveys of the U.S. Bureau of the Census for years 1994 and 1995; the data has been inflated to 2000 levels. Congestibles include transportation, public safety, and other benefits that assumed to benefit all ages equally.

One may argue that there is no inequity in asking working-age adults to bear a heavy burden; their parents bore this burden in previous years, and their children will bear a similar burden in the future. But, are the burdens similar across the generations? In fact, there may be an inequity because the shape of public transfers by age depicted in figure 4 is not static for all generations but is constantly evolving as a result of changes in demographics, economic conditions, and public programs.

That is, while it is tempting to read the graphs in figure 4 as if they provide a longitudinal measure of taxes and benefits for an average individual moving through various life stages from 0 to 85, the graphs do not do so; instead, they provide the distribution of benefits and taxes at a single point in time (2000). Generating a graph that tracks life-spending of a 65-year old in 2000 (i.e., a person born in 1935) would require data on average educational and other child-oriented expenditures provided to 5, 10, 15, and 20 year olds in 1940, 1945, 1950, and 1955, respectively; average taxes levied on 25- to 65-year olds in the years between 1960 and 2000; and average retirement and health benefits for 65- to 85-year olds in 2000-2020. Such historical and extrapolated data have indeed been collected. Not surprisingly, the pattern of benefits and taxes for an individual who is 65 today differs from that shown in figure 4; educational expenditures, for example, were much lower in the 1940s than they are today.

While one could sketch out graphs for each generation, a more common practice is to collapse the streams of taxes paid and benefits received into a single number, the life-time net tax burden, defined as life-time taxes, net of life-time benefits, and expressed as a percentage of life-time income, for each birth cohort. This method of generational accounting, pioneered by Alan Auerbach, Jagadeesh Gokhale, and Lawrence Kotlikoff (1991), reveals significant differences in the experience of different generations. Although there are inherent uncertainties when projecting benefits and taxes into the future, a wide range of projections reveal that the tax burden on future generations will be much higher

than current tax rates, with some calculations showing a doubling in lifetime net tax rates for future generations (CBO, 1995).

The underlying assumption of generational accounting is that spending must be paid for with taxes, eventually. In the short run, spending can be financed by deficits, but in the long run, future generations must pay off the debt, including the cost of interest. (The typical assumption is not that the debt will be paid off entirely but that future generations pay enough taxes to stop the debt from growing larger as a proportion of the economy). This assumption allows economists to calculate implicit tax rates falling on future generations in order to close the large and growing fiscal gap between the 75-year projections for Medicare and Social Security benefits and projected taxes under current law. What these calculations show is that government programs – particularly Social Security and Medicare – are projected to pay out much more in benefits than they will collect in taxes, and this fiscal imbalance is setting up an unfair tax burden for future generations (Kotlikoff and Gokhale, 1994; Gokahle and Smetters, 2003).

Generational accounting estimates involve many complex assumptions, including the methods used for projecting 75 years or further into the future; the types of benefits to be included in the calculation of "taxes net of benefits;" the selection of appropriate discount rates for converting life-time streams of payments into a single "net present value" at one point in time, and a host of simplifying assumptions made when assigning unpaid taxes to "future generations." Its basic message, however, is quite simple: "The less current generations pay toward the government's bills, the more future generations will have to pay, and vice versa" (Gale and Kotlikoff, 2004).

While the lion's share of the fiscal gap can be attributed to rising costs for retirement and health benefits, the large tax cuts enacted in 2001 and 2003 also add appreciably to the unfunded tax obligations being left to future generations. Alan Auerbach, William Gale and Peter Orszag (2004) find that Social Security, Medicare, and Medicaid account for at least half of the fiscal gap, and under some allocation methods, explain more than 100 percent of the gap.[3] They also estimate that the 2001 and 2003 tax cuts, if permanently extended, would increase the fiscal gap by more than 2 percent of GDP, a sizable amount compared to an overall fiscal gap estimated to reach 5 to 10 percent of GDP.[4]

Most generational accounting methods focus primarily on cash transfer programs and the large medical benefits provided under Medicare and Medicaid. Adding in educational expenditures and their associated taxes would change the results somewhat, according to an analysis by Antoine Bommier, Ronald Lee, Timothy Miller, and Stephane Zuber (2004). Those who are elderly today are sometimes criticized for unfairly receiving much more in Social Security and Medicare benefits than they paid into the system, yet this same

[3] Social Security, Medicare and Medicaid can explain more than 100 percent of the gap because other categories of expenditures are expected to decline as a share of GDP, providing an offset to the shortfall arising from these three large entitlement programs.

[4] Auerbach, Gale and Orszag (2004) provide four estimates of the fiscal gap. The smallest estimate (4.60 percent of GDP) is measured over a 75-year time horizon under the official baseline assumption that the tax cuts expire; the largest estimate (10.47 percent of GDP) is measured over a permanent time horizon under the adjusted baseline assumption that the tax cuts are permanently extended.

generation (cohorts born between 1928 and 1942) paid a substantial amount in property taxes to educate the baby boom generation. Moreover, while younger generations (those born after 1981) will pay much more in taxes into Social Security and Medicare than they will receive in benefits, they are projected to receive more in public education benefits than they will pay in education-related taxes. For many of them, this surplus will more than offset their losses from the health and retirement system.

The long-term projections of Bommier et al. are consistent with other generational accounting research in showing that the gap between benefits and taxes related to Social Security and Medicare is growing so unsustainably large that there must be increases in taxes, cuts in benefits, or a combination of both. What their analysis calls into question, however, is the image of the current elderly as greedy geezers pulling in lots of benefits without paying in a fair share of taxes. In fact, the current elderly did pay for much of the education of the baby boom generation, and in return, they have reaped substantial health and retirement benefits, as well as the economic benefit of living in a time of strong economic growth fueled by expansions in public education and overall human capital. In this way, Bommier and colleagues view their empirical results as consistent with the Becker-Murphy theory regarding the benefits of an intergenerational compact linking human capital investments, economic growth, and retirement benefits.

Investments in Children

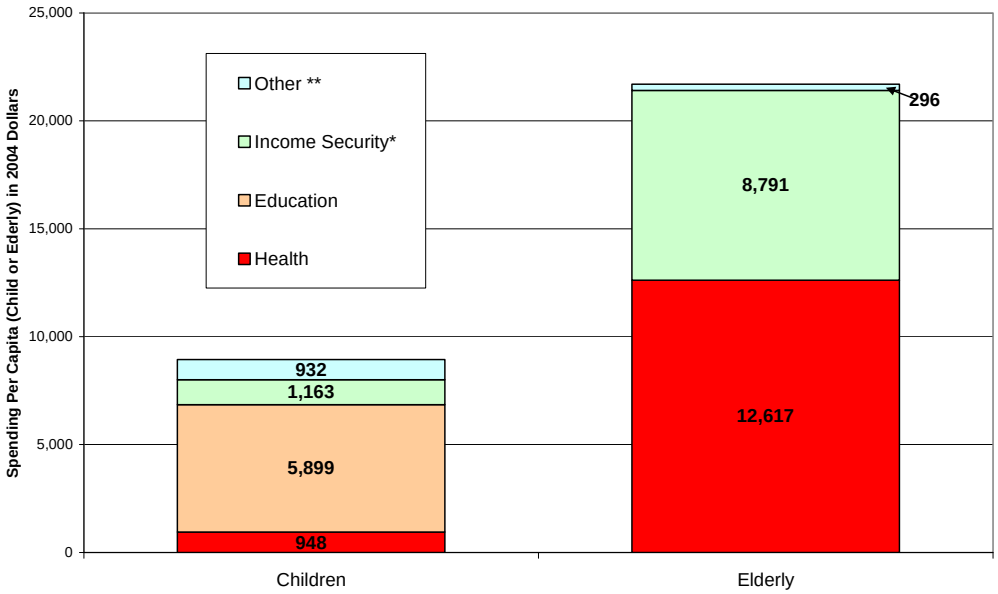
The benefits of adequate investments in children are highlighted in the Becker-Murphy model and the analysis of Bommier et al., as well as common sense thinking about how individuals progress through the human-life-cycle. The future well-being of those of us working today is dependent on the work effort, productivity, and taxes of those who will be working when we are retired. Because of this interdependence of the generations, it is in everyone's interest to pay attention to the level and types of investments being made in children today.

Almost two-thirds of all public investments in children in 2004, or $5,899 per child, were in the area of education, an area in which there is indeed good evidence of positive effects with regard to future individual earnings and a country's overall economic growth. Spending on early childhood education, however, was very small, only a fraction of the $932 per child spent on nutrition, social services, housing and training, despite the documented long-term economic benefits of high-quality early intervention programs. For example, enrollment of low-income children in high-quality preschool programs leads to higher rates of high school graduation, lower rates of criminal activity, and higher levels of employment and earnings, resulting in a stream of long-term benefits that exceeds the initial costs of the intervention by a ratio of 2:1 under conservative estimates and as much as 17:1 for the well-known Perry Preschool program (Isaacs, 2007). Expressed differently, high-quality preschool programs can have a 16 percent internal rate of return (Rolnick and Grunewald, 2003).

Public spending on child health, another area with potential long-term payoffs, were also relatively low, $948 per child, or a fraction of the $12,167 per capita spent on elderly

health (see figure 5). Public expenditures on income security, supporting poor children's consumption of food, housing, and other necessities through cash payments and tax credits, were somewhat larger, $1,163 per child, though again small relative to income security payments on the elderly. While such payments may be more properly viewed as supports for current consumption than investment in human capital, they do have some investment potential to the extent that they are able to counter the negative effects of poverty on children's life-long prospects.

Figure 5. Per Capita Spending on Children and the Elderly, by Category



Source: Author's estimates, as explained in Isaacs (2009a). * Income security includes refundable tax credits; **Other includes nutrition, housing and social services.

To state the obvious, the vast majority of elderly expenditures are not investments in the future but rather support for current consumption. The $21,944 spending per elderly person includes $8,791 for Social Security and other forms of income security, as well as the aforementioned $12,167 in health expenditures and $296 on other expenditures. Thus, to the extent that our federal budget is tilted toward the elderly, it also is tilted more toward the support of current consumption rather than investment in the future.[5] Such a tilt seems short-sighted in view of the importance of human capital investments for supporting economic growth in the future.

An investment perspective is certainly not the only rationale for government spending, however. The government also plays a critical role in assisting individuals during times of unemployment, disability, retirement or poor health, not to mention the need to spend funds for national security, transportation and other priorities. Yet, without overstating the priority to be placed on investment, some level of investment must be maintained even as the growing size of the health and retirement benefits slants public expenditures more and

[5] See Steuerle, Caraasso and Reynolds (2008) for further analysis of investment and consumption in the federal budget.

more toward consumption. In fact, a prudent budgeting approach would be to increase investments in human capital to prepare for the tough economic times ahead. As William Gale and Lawrence Kotlikoff (2004) put it:

> The substantial projected budget deficits facing the nation and the burdens created by recent fiscal policies are a key justification for new investments in children.… It is only appropriate to equip future generations with the human capital and other resources needed to address the problems current generations bequeath to them. While it will create pressure to cut all spending, the current fiscal situation helps justify increased investment in children on both equity and economic grounds. (p. 19)

If we want the working-age population in 2030-2050 to meet the fiscal challenges of maintaining our social insurance system, it behooves us to ensure that the 5 to 15-year olds of today (and their younger brothers and sisters) are receiving sufficient investments in their health and education and overall well-being to develop to their full potential. Increased public expenditures on children may be warranted, therefore, to support the productivity of working-age adults some twenty years from now. Such investments have to be made carefully, however; not all expenditures on children represent economically efficient investments in human capital. Ideally, an investment perspective on expenditures requires looking not only at the level of spending on children's programs but also at how funds are spent. In the area of public education, for example, there has been a rapid increase in public school expenditures without a corresponding increase in educational outcomes. This may be an example of an area where a life-cycle perspective would call for a re-allocation and reform of existing expenditures rather than an increase in overall spending. In other areas, where there are proven interventions that are underfunded – such as preventive health care and early education – an investment approach would support higher levels of expenditures on children.

As shown in the first paper in this series, public expenditures provide slightly under half of total monetary investments in children, with more than half provided by parents. It is important, therefore, to consider how any policy proposal to expand public expenditures will affect total investments in children and, specifically, whether proposed public expenditures will supplement or supplant parental spending. Concern that families receiving welfare payments will cut back on their own employment, such that public expenditures replace private spending in children, without any net increase in child well-being, has long been a concern of policy-makers.[6] As a result, support for traditional cash welfare programs has declined in recent years, while there has been an expansion in expenditures under the Earned Income Tax Credit and welfare-to-work programs, where cash payments are carefully designed to supplement rather than supplant parental employment and earnings.

[6] Though it is not often raised as a concern in public debates, public retirement systems also have a strong negative effect on employment, according to a cross-country analysis by Gruber and Wise (2001), which finds that public retirement systems have substituted for private sources of support among elderly persons much more than they have raised total consumption.

In summary, the life-cycle model supports increased public spending on children because of the positive effects of human capital investment on long-term economic growth. If our focus is economic efficiency, however, public spending should be focused on programs with proven effectiveness, and government programs should be designed to support parents' efforts to care for their own children.

Smoothing Out Income over the Life-Cycle

In addition to treating generations equitably and fostering investment in human capital during childhood, a third desirable quality of a sound social compact of intergenerational transfers is to smooth out income over the life-cycle. Under the simplified measures of generational accounting, each generation's well-being depends solely on life-time values for benefits, taxes, and income, without regard to how net disposable income fluctuates across the life-cycle or the extent of income disparities between different members of a generational cohort. A more comprehensive consideration of a system of intergenerational transfers would include additional measures of economic well-being, including the extent to which individuals are protected from periods of destitution during their dependent years.

As shown in figure 5, spending on income security is much higher for elderly persons ($8,791 per capita) than for children ($1,163 per capita under a broad definition of income security that includes refundable tax credits). One justification for this large difference is that parents are expected to provide for the majority of children's needs, while family members contribute little to the support of the elderly, who are thus much more reliant on public pensions as well as personal savings. While this is true, it also is true that parents have unequal incomes, and some parents do not have sufficient income to protect their children from economic hardship. Some elderly also suffer from economic deprivation, but not at the same rate as children, as can be seen from poverty and hardship statistics.

The child poverty rate is almost twice the elderly poverty rate (18.0 percent compared to 9.7 percent in 2007), and the percentage of children in families with extremely low incomes is almost three times as high as the corresponding figure for the elderly (7.2 percent of children compared to 2.5 percent of the elderly are living in families or are individuals with income below 50 percent of the poverty threshold).

This does not mean that all elderly are financially comfortable; in fact, many elderly people, while not officially poor, are living with incomes just slightly above the poverty level: the percentage of individuals with incomes below 150 percent of the poverty threshold is high for both children and the elderly (29.3 and 23.1 percent, respectively). Many of these elderly would in fact be re-classified as poor under various alternative poverty measures that make adjustments for the high cost of medical out-of-pocket expenses as well as for food, housing and tax benefits. Such alternative poverty rates are remarkably similar for both children and the elderly, ranging from about 17 to 19 percent, as shown in table 2.

Table 2. Indicators of Poverty and Hardship among Children and the Elderly in 2007		
	Children (<18) (Percent)	**Elderly (65+)** (Percent)
(a) Poverty Rate	18.0	9.7
(b) Percentage with incomes below 50 percent of poverty threshold (2007)	7.2	2.5
(c) Percentage with incomes below 150 percent of poverty threshold	29.3	23.1
(d) Alternative Poverty Estimates Based on National Academy of Sciences Recommendations	Ranges from 17.5 to 19.1 percent, depending on specific measure	Ranges from 17.2 to 19.0 percent, depending on specific measure
(e) Percent of households with children [elderly] who have very low food security	4.7	2.4
Source: Census Bureau (2008); Nord et al. (2007).		

While there are significant numbers of elderly near poverty, the problem of severe economic destitution is more prevalent among children, as evidenced in the percentage of children and elderly below 50 percent of poverty as well as indicators of food insecurity and hunger. Children were much more likely than the elderly to live in households that had extensive worries about running out of food or exhibited other measures of very low food security (4.7 vs. 2.4 percent).[7] Thus, while one would not want to ignore the problem of near-poverty among the elderly, as a whole, children are at greater risk of material hardship and poverty.

As noted above, spending on children is driven by parental spending as well as public spending, and indeed, much of the economic hardships experienced by children are driven by inequality in parental earnings and high rates of single-parent families. Low spending on benefits for children and families, however, also contributes to high poverty rates in the United States (Isaacs, 2009b). Concern for the well-being of children thus joins interest in prudent investment as a rationale for targeted increases in spending on children.

Conclusion and Policy Implications

This paper began with the question, "Does it make sense for our country to be spending so much less on children than on the elderly?" When looked at from a life-cycle perspective, our current spending patterns do not make good sense. While it is not wrong to spend more on the elderly than on children, it is wrong to spend at levels that are becoming so high as to crowd out spending at other stages in life and that place a heavy tax burden on the children of today when they grow up to be working-age adults. Likewise, low spending on children would not be a concern except for the fact that we are a society with high rates of child poverty and significant numbers of young people who falter in making a successful transition to adulthood. Society as a whole would benefit if we invested more

[7] This food security indicator is an important measure of the higher economic pressures facing households with children. It does not mean, however, that children themselves experience high rates of hunger. Parents do what they can to protect their children: only 0.8 percent of households with children were classified as households where the children themselves experienced very low food security.

in human capital during childhood, particularly in the areas of early childhood development and preventive health care. Investing in the health and education of the children of today is particularly important in a time when there is concern about the need for a productive workforce and engaged citizenry to sustain the health and retirement systems of tomorrow. We should therefore increase spending on children to some extent and also slow the growth in spending on the elderly.

This analysis of spending on children and the elderly was motivated by concern about the nation's long-term fiscal problems. The fiscal imbalances in the federal budget are not being addressed because political leaders fear that any changes to entitlement programs will be viewed unfavorably by the electorate as attacks on the elderly and our system of social insurance. Indeed, policy-makers face a formidable challenge in trying to impose limits on spending while preserving the essential features of Social Security, Medicare and Medicaid, which have had large success in protecting the elderly against poverty during their retirement years and providing both elderly and disabled citizens with access to medical care. Sensible reform is possible, however, if there is sufficient political will to re-examine the allocation of federal and other governmental resources, thinking about how we can meet the real needs of elderly and disabled citizens without so overwhelming our fiscal resources that we lack resources for children and other priorities. Looking at the budget from a life-cycle framework provides the future-oriented perspective that may help us in addressing the structural imbalances built into current spending and tax policies.

When examined from a life-cycle perspective, the question of appropriate spending levels for children and the elderly is transformed from one of equity to one of prudent allocation of resources because children and the elderly are not distinct groups, but rather in different stages of the life-cycle. In this context, the question of spending on children and the elderly becomes a question of supporting investments in human capital in the early years and supporting consumption in later years. In addition, taxes must be set appropriately in the middle years so that the entire system of intergenerational transfers can be sustained over time and provide roughly equal burdens to different generations, even amidst changes in the age structure of the population and benefit costs. Ideally, the entire system of public transfers would be designed so as to complement and strengthen private systems of intergenerational transfers, which also are evolving over time.

Our current system of public and private expenditures over the life-cycle needs adjustment. Its major flaw is one of intergenerational equity, tied into the vast and rapidly growing size of public expenditures on health and retirement benefits for the elderly. While there is broad agreement that costs are rising rapidly, we have no plan for how to share this increased cost across the different generations. Faced with the uncomfortable choice between raising taxes or cutting benefits, we keep falling back on using debt to finance benefits that have not yet been paid for. This is not fair to future generations. The infant child considering the Becker-Murphy social compact will not be getting a fair deal if he has to pay for his parents' health and retirement benefits *and* the unpaid loan for his grandparents' health and retirement benefits.

It is time for us to take steps to curtail the projected growth in spending on the elderly, including changes in Social Security as well as more sweeping changes to our entire health care system. In addition, to avoid large benefit cuts, we need to step up and pay sufficient taxes to maintain the vitality of our health and retirement benefit systems. While few people are eager to cut benefits for the elderly or adjust the current tax structures, fiscal discipline is a gift we should give to our children and grandchildren.

References

Auerbach, Alan J., Jagadeesh Gokhale and Laurence J. Kotlikoff. *Generational Accounts: A Meaningful Alternative to Deficit Accounting. Tax Policy and the Economy*, Vol. 5, (1991), pp. 55-110.

Auerbach, Alan J., William G. Gale and Peter R. Orszag. 2004. Sources of the Long-Term Fiscal Gap. *Tax Notes*, May 24, 2004.

Becker, Gary S., and Kevin M. Murphy. 1988. "The Family and the State." *Journal of Law and Economics* 31(1): 1-18.

Bommier, Antoine, Ronald Lee, Timothy Miller and Stephane Zuber. 2004. "Who Wins and Who Loses? Public transfer accounts for U.S. generations born 1850 to 2090." NBER Working Paper 10969.

Census Bureau. 2008. *Detailed Poverty Tabulations from the CPS. 2008 ASEC (2007 data).* http://www.census.gov/hhes/www/poverty/detailedpovtabs.html

Congressional Budget Office. 2009. *The Long-Term Budget Outlook.* Washington, D.C.: Author.

Congressional Budget Office. 1995. "Who Pays and When? An Assessment of Generational Accounting." Washington, D.C.: Author.

Gale, Willam G. and Lawrence Kotlikoff. 2004. Effects of Recent Fiscal Policies on Today's Children and Future Generations. *Tax Notes*. June 7, 2004.

Gokhale, Jagadeesh and Kent Smetters. 2003. *Fiscal and Generational Imbalances. New Budget Measures for New Budget Priorities.* Washington, DC: American Enterprise Institute.

Gruber, Jonathan and David Wise. 2001. "An International Perspective on Policies for an Aging Society," NBER Working Paper 8103.

Isaacs, Julia B. 2007. *Cost-effective investments in children.* Washington, D.C.: Brookings Institution.

Isaacs, Julia B. 2009a. *How Much Do We Spend on Children and the Elderly?* Washington, D.C.: Brookings Institution.

Isaacs, Julia B., 2009b. *A Comparative Perspective on Public Spending on Children.* Washington, D.C.: Brookings Institution.

Kotlikoff, Lawrence and Gokhale, Jagadeesh. 1994. "Passing the Generational Buck," *Public Interest*. Winter 1994. 114:73-81.

Lee, Ronald. 1994. "Population Age Structure, Intergenerational Transfer, and Wealth: A New Approach, with Applications to the United States." *The Journal of Human Resources*, 29 (4): 1027-1063.

Lee, Ronald, Sang-Hyop Lee and Andrew Mason. 2006. Charting the Economic Life-Cycle. NBER Working Paper No. 12379.

Lee, Ronald and Ryan Edwards. 2001. "The Fiscal Impact of Population Change," in Jane Sneddon Little and Robert K. Triest, eds., *Seismic Shifts: The Economic Impact of Demographic Change.* Federal Reserve Bank of Boston Conference Series No. 46, pp. 220-237.

Lee, Ronald, Shripad Tuljapurkar and Ryan Edwards. 2004. "Uncertain Demographic Futures and Government Budgets in the U.S." In S. Tuljapurkar and N. Ogawa, *Population Aging in the Industrialized Countries: Challenges and Responses.*

Mason, Andrew, Ronald Lee, An-Chi Tung, Mun-Sim Lai and Tim Miller. 2006. "Population Aging and Intergenerational Transfers: Introducing Age into National Accounts." NBER Working Paper No. 12770.

"National Transfer Transfer Database." A web site with information about research on national transfer accounts, found at http://www.schemearts.com/proj/nta/web/nta/show

Nord, Mark, Margaret Andrews, and Steven Carlson. 2008. *Household Food Insecurity in the United States, 2007*. Economic Research Report No. (ERR-66). Washington, D.C.: USDA.

Preston, Samuel H. 1984. "Children and the Elderly: Divergent Paths for America's Dependents," *Demography*, Vol. 21 No. 4, pp. 435-547.

Rolnick, Art and Rob Grunewald. 2003. "Early Childhood Development: Economic Development with a High Public Return." *Fed Gazette* (December): 6–12.

Steuerle, C. Eugene, Gillian Reynolds and Adam Carasso. 2007. *Investing in Children.* Washington, D.C.: The Urban Institute.