

**The Elderly Population and Iowa Tax Revenues:
As One Goes Up, Must the Other Come Down?**

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I. Introduction

The aging of the American population has triggered much research into its implications for national public expenditures such as Social Security and Medicare. Less attention, however, has been paid regarding the aging population's impacts on state budgets. The numerous elderly tax preferences that exist with state tax codes across the country have the potential to cause deterioration in these state's income tax bases and thus income tax revenues. At the same time, an aging population will increase demands on state expenditures, in particular Medicaid obligations for nursing home care. Aging is a particular concern for the State of Iowa which is already one of the oldest states and one that has recently expanded its elderly tax preferences. The long-run implications for State revenues could drive policy debate in the next few decades.

The issue of aging's impacts on the state revenue base is not unique to Iowa. Academics, think tanks, and state agencies have begun to address this issue, releasing various studies since the turn of the Century. Penner (2000) presents the income tax savings for low- and high-income elderly couples across the states, but does not consider the budgetary consequences of such tax breaks. Wallace and Edwards (2002) analyze the gap in average income tax rates between the elderly and non-elderly and estimate the future lost revenue from such preferential tax rates for a handful of large states. McNichol (2006) presents a comprehensive look at the tax expenditures received by the elderly across the country including annual costs to the states. Various states have also released reports discussing the impacts of aging on State revenues including Georgia (Launders, et. al., 2005), Kentucky (Wildalsin, et. al., 2001), Michigan (Menchik, 2002), Virginia (JLARC, 2006), and Minnesota (Manzi, et. al., 2006). Other states have recently commissioned reports that imply similar forthcoming analysis, including Pennsylvania and Utah.

Although over half of the states provide property tax breaks for the elderly, these cross-national studies focus on those states offering preferential treatment to the elderly through the personal income tax code. The elderly receive preferential treatment via additional exemptions or credits, higher standard deductions, and limited taxation of Social Security or pension income, or the altogether exclusion of retirement income from taxation. Together these provisions reduce the effective income tax rate paid by the elderly relative to the non-elderly in 37 states, including Iowa (Wallace and Edwards, 2002). For taxpayers with incomes less than \$200,000, the authors estimate Michigan has the largest gap between elderly and non-elderly effective tax rates, 0.74 and 2.91 percent respectively, at 2.17 percentage points. As the population ages, preferential income tax treatment for the elderly may cost the State of Mississippi as much as 9.3 percent of general funds in 2030 (McNichol, 2006). Other states could also experience high costs, with 7.8 percent revenue losses projected for Pennsylvania, 7.1 percent for North Carolina, and 7.5 percent for Kentucky.

Preferential tax treatment for the elderly is often justified by arguments that elderly residents can less afford to pay for state services, or, alternatively, that such tax breaks will attract and keep the wealthy elderly in the state where they will invest and consume, increasing economic activity and raising tax revenues. Despite the motivation for the elderly tax breaks, all else equal, they reduce income tax revenues received by the state. Using Census population projections for the State of Georgia, Landers, et. al (2004) estimate that the exclusion of rising amounts of retirement income from the income tax for increasing numbers of the elderly will reduce tax revenues by \$165 million in 2010. This cost is in addition to the rising cost of excluding all Social Security income from taxation (estimated at \$75 million in 2005). Revenue losses due to preferential tax treatment for the elderly were estimated to be even higher for the Commonwealth of Virginia (JLARC, 2006). In 2002, the exclusion of Social

Security benefits and age-specific deductions and exemptions for residents aged 65 and older reduced revenues by \$443 million. However, in 2004, Virginia added a means-test to the age deduction that will reduce the lost revenues as the population ages, adding a projected \$19.4 million to revenues in 2008.

A rigorous analysis of aging's impact on state revenues was also produced by the State of Minnesota. Using a micro-simulation model of tax liability on a random sample of taxpayers, Manzi, Michael and Wilson (2006) estimate the impact of the aging population on tax revenues in 2030. To isolate the impacts of aging, it was assumed that federal and state tax parameters were the same in the base year, 2002, and 2030, as well as total population and total income. They find that aging reduces baseline revenues by 1.8 percent. The number is held down by the limited preferential treatment for the elderly in current Minnesota tax law. The authors estimate how much greater the impact of aging would be under various elderly tax breaks in effect around the country. A full exemption of Social Security income would reduce revenues an additional 2.7 percent as the population aged. A full pension exclusion would reduce revenues an additional 6.5 percent, while an additional real \$1,000 personal exemption would reduce revenues 0.4 percent.

II. Iowa's Aging Population

The State of Iowa is currently home to one percent of the nation's population. Over the next 25 years, that share is projected to drop to 0.8 percent as population growth in the State falls behind the national growth. The U.S. Census Bureau projects the Iowa population will grow slowly over the next 10 years, peaking at 3.4 percent above the 2003 population in 2016. After that year, the Census projects Iowa population will begin to fall, reaching a level of 2.96 million in 2030, just one percent higher than

the 2.93 million in 2003. Despite the limited aggregate change in the population, the change in the age distribution is anything but small.

The Iowa population, like the nation as a whole, is aging. However, Iowa already is home to a larger share of elderly than the national average, and its elderly share is projected to continue to exceed the rest of the country (see Figure 1). In 2000, 14.9 percent of Iowans were aged 65 and older, 7.7 percent were aged 75 and older, and 2.2 percent were 85 and older; all well above the 12.4, 5.9 and 1.5 percent shares for the nation. Aging over the next 25 years is driven in large part by baby boomers, who first reach age 65 starting in 2011. Between 2011 and 2030 Census projects a 49 percent increase in the Iowa share aged 65 and older to 22.4 percent of the population. The 75 and older share is projected to increase 45 percent, rising to 11.3 percent of Iowans. Aging also results from increasing longevity which drives the rise in the aged 85 and older share by 36 percent over the next 25 years to 3.6 percent.

Projected aging for Iowa can also be seen very starkly in the Census population pyramids for the State (see Figure 2). The pyramid is projected to become more like a box as the shares of children and young adults fall while the elderly shares grow, particularly for females. This shift in the age distribution potentially brings with it a shift in the sources of income within the State.

III. Sources of Income by Age

The sources of household income change dramatically as the household ages. Young households receive the vast majority of their income from wages while elderly households receive a substantial share of their income from interest, pensions, and Social Security. Taxpayers where the oldest taxpayer was 44 or younger (including dependents filing separately) reported well over 90 percent of

income as coming from wages for the 2003 tax year (see Table 1).¹ That share dips slightly to 87.2 for the 45 to 54 age group. The 55 to 64 age group reports a wage share of 72.8 percent and a rise in their pension share, including individual retirement account (IRA) distributions, to 13.2 percent. This reflects the beginning of retirement for many individuals in this age group. Social Security benefits account for 2.4 percent of income for this age group with the earliest eligibility age for Social Security retirement benefits at age 62.² A more dramatic change in income sources occurs for groups aged 65 and older. For the 65 to 74 group, just 27.1 percent of income is from wages, while 35.0 and 22.9 percent come from pensions and Social Security. Investment income is also a significant piece of income for this age group at 6.3 percent for interest (both taxable and tax-exempt), capital gains and dividends, and 6.4 percent for rent. The shift continues for the 75 to 84 age group with just 7.4 percent of income from wages, 41.3 percent from pensions, 26.7 percent from Social Security, 10.7 percent from investment income, and 12.9 percent from rent. The oldest group, 85 and older, is even less dependent on wages, 1.3 percent, and more dependent on Social Security, 30.5 percent.³

In 2003, taxpayers reported an average of 76.2 percent of income as wages, 14.1 percent as pensions and Social Security, and 9.8 percent from all other sources. Because older taxpayers report less income from wages and more from other sources, the projected aging of the population should cause a shift in the composition of overall income in Iowa. Adjusting for projected population growth and population aging between 2003 and 2030 (the technique used for this aging adjustment will be discussed in more detail below) produces these expected changes in the distribution. In 2030,

¹ Income shares are computed for all households reporting at least \$1,000 in total income. This positive income requirement eliminates 2.1 percent of households from the income shares analysis, the vast majority of whom report large income losses from businesses or farming.

² Social Security income also includes disability payments which can be received at ages younger than 62.

³ The distribution of income sources is also driven by the economy. When the stock market is falling and interest rates are low, as they were during 2001 and 2002, investment income falls.

projections suggest just 69.8 percent of income reported by taxpayers will come from wages, while 19.2 percent will come from pensions and Social Security and 11.1 percent from other sources.

Another result of the aging population is the possibility that average income in the State (in real terms) will fall. In 2003, the average total income reported by age 85 and older households was only 76 percent of the average for all households, and only 49 percent of the average for peak-earning households with the oldest taxpayer aged 55 to 64. Despite the fall in incomes for older ages, the overall average income in 2030 is projected to be 4.8 percent higher than in 2003. This reflects the shifting of the populations from the lowest earning young age groups to the older age groups.

Even if overall average income is slightly higher in 2030, the shifting sources of that income will put a damper on State revenues. For most income, its source is not relevant when it comes to taxation; however, under the Iowa tax code pensions and Social Security income both receive preferential treatment. At most half of Social Security benefits are currently taxed as income for those married filers reporting income greater than \$32,000 (\$25,000 for singles), effectively reducing its tax rate by 50 percent or more. Recently passed legislation will reduce the taxable share of Social Security to zero over the next eight years. For pension income, the first \$12,000 for married filers (\$6,000 for single) is also excluded from Iowa income taxes, reducing the effective tax rate on pension income relative to other types of income.

Average taxable shares in 2003 differ dramatically across the age groups. Those ages dependent mostly on wages have taxable shares near 100 percent. The share dips to 90.9 percent for 55 to 64 year old taxpayers as the pension exclusion and limited taxation of Social Security begin to matter. The taxable share dives to 60.5 percent of 65 to 74 year olds, and drops further into the 50 to 60 percent

range for the oldest age groups. Effective tax rates, computed relative to total income, are low for the younger ages, reflecting the progressivity of the income tax code which is discussed briefly below. As incomes rise, the effective tax rate rises, peaking at 3.1 percent for the 45 to 54 age group. Those effective rates begin to fall for the older groups as both incomes and the taxable shares fall. The projected aging of the population pulls the overall average taxable share down 5.6 percent from 90.6 to 85.5 percent. Aging is also expected to lower the effective tax rate by 8.1 percent.

IV. Iowan Individual Income Tax and Tax Preferences for the Elderly

The individual income tax currently accounts for over half of Iowa's total revenues. The Iowa individual income tax computes taxable income similar to the federal individual income tax. State income adjustments are also similar to the federal, although Iowa allows a pension exclusion, discussed in more detail below, and a deduction for capital gains earned on the sale of Iowa-based assets.⁴ The Iowa code is one of the few in the nation that fully allows taxpayers to deduct federal taxes in computing State tax liability making Iowa tax liabilities highly dependent on federal tax law. For all projections discussed below, it is assumed that the federal tax law is unchanged from 2003. The Iowa tax structure is progressive with nine rates rising from 0.36 to 8.98 percent. Iowa allows six filing statuses including single, married filing jointly, married filing separately on the same return, married filing separately, head of household, and widow with dependent child. The status of married filing separately on the same return eliminates the marriage tax penalty within the progressive Iowa tax code.

⁴ The deduction is limited to capital gains from the sale of real business property held for more than 10 years prior to sale or the sale of cattle and horses used for breeding, draft, dairy or sporting held for more than 2 years prior to the sale. The deduction excludes capital gains from the sale of stocks, bonds, or investment property.

As with most income tax systems, the Iowa individual income tax system includes special tax preferences for elderly residents. In addition to the limited taxation of Social Security and the pension exclusion of \$12,000 for married filers (\$6,000 for singles) discussed above, tax filers aged 65 and older receive an additional personal credit of \$20. Legislation passed in 2006 will bolster the tax reductions for the elderly by eliminating the taxation of Social Security benefits over the next eight years and more than doubling the minimum income threshold for elderly filers.

In 2003, Iowa individual income tax revenues under a tax code with no elderly tax preferences would have been nearly \$2.1 billion (see Table 2). The three tax expenditures for the elderly that were in effect in 2003 are estimated to have reduced revenues by \$177.4 million or 8.5 percent. Relative to the estimate with no elderly tax preferences, the reductions in revenues from separately introducing each provision are also presented (as opposed to the gain in revenues from removing each provision relative to 2003 law as would be presented in a traditional tax expenditure study). Adding the aged personal credit would have reduced revenues by \$4.4 million or 0.2 percent⁵; adding the pension exclusion would have reduced revenues by \$74.9 million or 3.6 percent; adding the preferential treatment of Social Security income would have reduced revenues by \$112.1 million or 5.4 percent.⁶

During the 2006 legislative session, two changes to the tax code expanded the current tax preferences for the elderly. First, over the 2007 to 2014 tax years, the maximum share of taxable Social Security benefits will be phased-down from the current 50 percent to zero percent. Second, the minimum income exempt from tax will be raised for Iowans aged 65 or older. Currently, married filers with joint

⁵ The aged credit is indistinguishable from the blind credit other than the latter could be taken by individuals younger than age 65. Of all taxpayers in the base file, less than one percent claimed the aged/blind credit and reported an age younger than 65. The blind component of the credit will be ignored for the remainder of the paper.

⁶ Social Security income could include benefits paid to disabled workers who are not considered elderly. In addition, these estimates are not able to capture the tax benefit going to those individuals who fall below the filing threshold because of the current Social Security tax treatment but who would have to file taxes were Social Security 100 percent taxable.

income below \$13,500 and single filers with income below \$9,000 pay no taxes. Beginning in 2007, that threshold for the elderly will be raised to \$24,000 for married and \$18,000 for singles. Those tax-exempt values will rise again to \$32,000/\$24,000 in 2009. For married couples only one spouse must meet the age 65 requirement in order for the household to qualify for the tax cut. This change only impacts taxpayers with modified adjusted gross income (calculated as net income plus any pension exclusion and the newly non-taxable amount of Social Security income) below the threshold. For elderly households with modified AGI above the higher thresholds, their tax will be calculated under the same tax table used by non-elderly which is based on the lower \$13,500/\$9,000 thresholds. To eliminate the potentially high marginal tax rates for elderly taxpayers with incomes marginally above the new elderly thresholds, an alternate tax calculation is also provided. This alternate tax is calculated as net income minus the applicable elderly threshold amount (\$32,000 for married) times the top statutory rate (8.98 percent). A taxpayer's final tax is the smaller of the tax based on the tax table or the alternate calculation.⁷ The reduction in tax revenues for these additional elderly income tax preferences was estimated to be \$31 million in 2007, rising to \$121 million in 2015.

V. Modeling the Aging Population and Tax Revenues

Between 2003 and 2030, Iowa individual income tax revenues will depend on many variables that are expected to change. Foremost is the aging of the population. Other variables that will affect revenues include overall population growth, tax parameters changes due to law passed in 2006, the effect of inflation on various tax parameters, and possible unequal growth in different types of income received by Iowans. As noted above, projected population growth for Iowa is quite small over the next 25 years, peaking at just a 3.4 percent increase by 2016 and falling to just a 1.0 percent increase in 2030

⁷ A similar alternate tax also exists for all taxpayers relative to the lower \$13,500/\$9,000 thresholds.

relative to the base year. Revenues should rise as the population increases, but any impact of population growth should be small. The tax changes passed in 2006 that expanded an existing elderly tax preference and introduced a new one will reduce revenues, but their impacts will be much greater when combined with the projected aging. Over time, inflation reduces the real value of un-indexed tax parameters, and can thus raise tax liabilities for taxpayers. Tax liabilities can also rise because of changes in indexed parameters if income grows more quickly than inflation (often referred to as bracket creep). There are reasons to believe that over time the sources and taxability of income will change from that observed in 2003. For example, the introduction of the Roth IRA in 1998 will decrease the future share of IRA distributions that are taxable, and the rising normal retirement age for Social Security may delay the age at which most individuals begin to claim those benefits. Capturing such changes can also be important for projecting future revenues.

In order to focus the results on how the changing age distribution will drive expected tax revenues under current and pending tax preferences for the elderly, some simplifying adjustments are made regarding the impacts of inflation and income growth. To account for the effects of expected inflation on tax parameters over the next 25 years, one of two adjustments can be made. Either the income reported by taxpayers can be increased by expected inflation, or tax parameters can be decreased by expected inflation. For this analysis, income levels are kept at their 2003 levels for all taxpayers and the latter downward adjustments are applied. In the current Iowa tax code, various dollar-valued parameters are used to compute tax liability. Some tax parameters, such as income tax bracket thresholds and standard deductions, are indexed for inflation. Thus it is possible to use the nominal 2003 values for those parameters throughout the projection period, explicitly assuming that income and those indexed parameters are growing at the same rate (and thus assuming away any bracket creep). In

addition, the distribution of income among the various sources is fixed, assuming that separately each source of income grows with inflation.⁸

Not all tax parameters are indexed for inflation, however. Many are fixed in nominal values and only change through legislative action. For example, each taxpayer in Iowa receives a \$40 personal credit and each taxpayer who is aged 65 or older receives an additional \$20 credit. These dollar amounts have not changed since 1998 when the personal credit was increased from \$20 to \$40 (the aged credit remained fixed at \$20) despite the fact that average wages reported by Iowa taxpayers increased by 24 percent between 1998 and 2003. Recall that the assumption has been made that total income is growing with inflation, thus it is necessary to adjust the fixed nominal values for these parameters to account for the fall in real value over time. Using the CPI-W for 2003 to 2005 and the Congressional Budget Office's projection of 2.2 percent inflation, aggregate inflation is computed over the next 25 years. Thus in 2030, all non-indexed parameters are reduced by 81 percent to account for expected inflation. These parameters include the aged credit, the pension exclusion threshold, the Social Security income thresholds for computing taxability of benefits, and the newly introduced minimum income exemption thresholds for the elderly. Without applying the inflation adjustments, future tax revenues would be underestimated and the cost of these elderly tax preferences would be overestimated. It is reasonable to believe that the legislature would act over the next 25 years to restore some of the real value of these parameters, a possibility which is considered in the estimates presented in the next section.

⁸ Work is currently being done to project differential growth rates for the various components of income so that future analyses will be able to use the first method for adjusting for inflation – growing incomes – and thus be able to account explicitly for bracket creep and other expected changes in income sources over time.

The revenue estimates are based on an individual income tax model that computes tax liability under current and alternative law for all taxpayers who filed an Iowa return in 2003.⁹ As noted above, total population is projected to increase one percent between the base year, 2003, and 2030. This population increase is applied using two methods. The first applies a fixed weight to all taxpayers equal to the overall population growth, thus it holds the age distribution of taxpayers fixed relative to 2003. The second applies an age-specific weight to each taxpayer that accounts for the projected change in the share of the total population comprised by each age relative to the share of that age in the 2003 distribution of taxpayers.¹⁰ For example, the 2030 weight for a 25 year-old taxpayer is 0.855 while the 2030 weight for a 65 year-old taxpayer is 1.352. The distribution of taxpayers shifts toward the older ages under the second method which captures the aging of the population (see Table 3). Overall population growth in 2030 is projected to be just 1.0 percent relative to 2003. Under the fixed age distribution, the count of taxpayers also grows 1.0 percent. Under the projected age distribution, the shift toward older ages increases the taxpayer count relative to 2003 by 1.4 percent. This reflects the shift in population from those less likely to file taxes (the young) to those more likely to file (the old). By itself, this growth in taxpayers will push tax revenues up relative to the base year and relative to a projection where the expected population increase is applied uniformly across all age groups. However, the rise in revenues due to higher counts of taxpayers may not be enough to offset the fall in revenues due to growing eligibility for elderly tax preferences.

⁹ The base data set is missing 1.1 percent of the population of filers, accounting for just under 2 percent of revenues, due to data collection errors. The data include both resident and non-resident filers. Non-residents, comprising 7.5 percent of households, and part-year residents, 2.9 percent of households, are not treated differentially when adjusting for aging, however, any tax liabilities are based only on their reported Iowa share of income.

¹⁰ Age-weights are assigned to taxpayer households based on the age of the oldest taxpayer.

VI. Projected Revenue Impacts of Aging

The reduction in tax revenues under various elderly tax preferences are projected for 2030 assuming either a fixed age distribution or a Census-based projection of the aging of the population. Following Table 2 above, Table 4 presents these estimates of tax revenue reductions relative to a forecast of revenues with no elderly tax preferences. In 2030, individual income tax revenues under a tax code with no elderly tax preferences are projected to be \$2.17 billion under the fixed age distribution and \$2.22 billion under the projected age distribution. The higher revenues under the second method reflect the larger number of taxpayers and thus a higher total adjusted gross income (AGI). AGI under the projected age distribution is 3.7 percent above the fixed age distribution while tax revenues are only 2.3 percent higher. The smaller growth in tax revenues relative to AGI under the age-weighted projection reflects the lower effective tax rates of the more numerous older taxpayers.

Iowa tax law, if unchanged between now and 2030, will include four distinct elderly tax preferences: the aged credit, the pension exclusion, the Social Security exemption, and the minimum income exemption. Under the projected age distribution in 2030, the aged credit will reduce revenues by \$4.1 million, 47 percent more than under the fixed age distribution. The dollar amount is actually less than the estimated cost in 2003 because inflation reduces the real value of the credit from \$20 in 2003 to just \$11. If it is assumed that legislation will be enacted to restore the real value of the credit, its cost rises to \$7.3 million, 0.3 percent of total revenues.

Under the projected age distribution in 2030, the pension exclusion would reduce revenues by \$66.5 million, 40 percent more than under the fixed age distribution. Again, this estimate falls below the 2003 number because of the erosion of the exclusion amounts from \$6,000/\$12,000 to just

\$3,310/\$6,630. The cost rises to \$110.4 million if the real value of the exclusion is restored. Under either assumption, this provision would eliminate a significant piece of total revenues, 3 percent, or 5 percent assuming indexed values.

Before considering the future cost of the expanded tax preference recently enacted for Social Security income, the first preference considered is the 2003 treatment of Social Security income. Limiting taxation to at most 50 percent of benefits would reduce revenues by \$162.1 million under the projected age distribution, 44 percent more than under the fixed age distribution. Iowa recently joined 28 other states in enacting a complete exemption of Social Security income, raising the projected cost of the Social Security tax preference to \$158.9 million in the absence of aging. The exemption in conjunction with the aging of the State's population will reduce individual income tax revenues by \$228.9 million, or 10.3 percent, 3.0 percentage points higher than an estimate that does not account for aging.

Under the projected age distribution, the minimum income exemption for taxpayers 65 and older would reduce revenues by \$19.0 million in 2030 when it is assumed the nominal values of the exemptions remain fixed (thus the real values of the \$24,000/\$32,000 exemptions fall to \$13,260/\$17,680). Assuming legislation will be enacted by 2030 to restore the value of those exemptions raises the cost of this new tax preference to \$95.4 million. The large increase due to indexation of the thresholds reflects the disproportionate share of elderly income that falls between the un-indexed and indexed values. While just two percent of total AGI for the elderly lies below the un-indexed thresholds, eight percent lies below the indexed thresholds. In addition, more elderly taxpayers fall within the alternate tax calculation under the indexed thresholds.

The final rows in Table 4 present the projected cost of the four elderly tax preferences scheduled to be included in 2030 tax law. Under the projected age distribution, the preferences will combine to reduce revenues by \$296.7 million, 43 percent more, or a 2.0 percent drop, compared to projections under the fixed age distribution. Accounting for the impacts of the aging population in Iowa is important to completely understand the impacts of such tax preferences. If all elderly preferences are indexed to maintain their real value for taxpayers, the cost rises to \$349.7 million, a 2.9 percent drop from projected revenues under the fixed age distribution. These combined tax preferences would reduce total individual income tax revenues by 13 to 16 percent, a substantial portion of the State's income. Failing to account for aging would lower these estimates by four percentage points, or \$90 to \$100 million.

Another measure of the impact of aging on State revenues is the ratio of revenues to AGI. Table 2 showed the 2003 ratio of revenues under 2003 law (with all three elderly tax preferences) to AGI under no elderly preferences equaled 2.68 percent. Table 4 presents similar numbers for 2030 using the population-adjusted estimates. With the additional elderly tax preferences effective in 2030, the ratio rises to 2.72 percent under the fixed age distribution and un-indexed tax parameters. The ratio's increase reflects a rise in taxes paid by all taxpayers as inflation erodes the real value of various tax parameters that outweighs the reduction in revenues from the expanded elderly tax preferences. Indexing the elderly tax parameters pushes the ratio under the fixed age distribution down to 2.67. An aging population combined with elderly tax preferences would cause a more noticeable deterioration of individual income tax revenues as a share of State income. Including the projected aging with no indexation of tax parameters, the ratio falls to 2.57 percent. When all elderly tax preference parameters are indexed the ratio falls further to 2.50.

So far, the analysis has focused solely on 2030. It may also be helpful to look at projections of the percentage reduction in revenues under expected tax law for years between the base year and 2030. Not surprisingly, the difference in projected revenue reductions due to the elderly tax preferences under the two aging assumptions grows over time (see Figure 3). In 2009 incorporating the projected aging actually slightly reduces the cost of the combination of elderly tax preferences. By 2015, the percentage reduction in revenues under scheduled law versus no elderly preferences under the projected age distribution is 11.2 compared to 10.5 percent when aging is ignored. By 2022, the difference rises to over two percentage points, 12.5 compared to 10.0 percent, and nearly exceeds four percentage points by 2030, 13.4 compared to 9.6 percent. Note that the estimated cost of the elderly preferences appears to peak in 2015 under the fixed age distribution, but continues to grow when projected aging is incorporated. Similar patterns appear in the scheduled law versus pre-2006 law comparison.

As the population ages over the next 25 years, the projected individual income tax revenues under no elderly preferences would peak around 2015 at \$2.27 billion in 2003 dollars (see Figure 4). As the population ages and larger shares of taxpayers shift from receiving wages to lower retirement incomes, total tax revenues would fall by \$50 million (2003 dollars) in 2030, 2.4 percent, relative to the peak. Accounting for the elderly preferences in current tax law, total individual income tax revenues would fall over time as the population aged. 2015 revenues under scheduled law would be just \$2.02 billion (2003 dollars), \$60 million lower than projected without the most recent legislated changes. If the assumption is made that tax parameters will be restored to current nominal values, projected revenues drop even further to \$1.97 billion. Although revenues drop under all policies considered here, additional elderly preferences cause revenues to drop more quickly. As noted above, under no elderly

preferences, revenues drop over two percent between 2030 and 2015. Under scheduled law, that drop doubles to 4.8 percent. Under indexed scheduled law, the drop would be 7.6 percent.

VII. Future Research and Conclusions

The analysis presented here is a continued attempt to address the impacts of aging on the future of Iowa individual income tax revenues. Using the Iowa individual income tax model with 2003 base data, individual income tax revenues for 2030 were projected. The recently expanded elderly tax preferences, together with long-standing existing tax preferences, are projected to reduce revenues in 2030 by \$207 million (2003 dollars). Accounting for projected aging of the State's population within the model suggests a further \$90 million reduction in revenues can be expected. If it is assumed that tax parameters will be adjusted to compensate for inflation during the next 25 years, the total reduction from elderly tax preferences and the aging population is projected to reach \$350 million (2003 dollars), 16 percent of Iowa individual income tax revenues. Future research will enhance the model to include projections of income growth, allowing for bracket creep and capturing expected shifts in sources of income within age groups.

These results confirm previous research that revenue projections for the future demand a consideration of the aging population. Increases in elderly tax preferences could have significant long-run costs, ones that will likely be hard to reverse as larger shares of the voting population become eligible for such preferences.

It is also important to note that this paper only addresses the revenue side of the impact of an aging population. More elderly residents in the State are likely to increase demands on the expenditure side

for Medicaid and other health services. A comprehensive analysis of aging's impact on the State would include both sides of the budget.

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Table 1. Distribution of Total Income by Type and Age Group, 2003

Age Group	Average Share by Income Type						Average Total Income	Average Taxable Share	Effective Tax Rate ^d
	Wages	Pension Distributions	Social Security Benefits	Investment	Rent	Other ^a			
0-24	96.0%	0.3%	0.2%	0.6%	0.6%	2.5%	\$10,700	99.7%	1.0%
25-34	94.4%	0.9%	0.1%	0.4%	0.4%	3.8%	\$35,400	99.6%	2.5%
35-44	90.9%	1.8%	0.2%	1.1%	1.0%	5.0%	\$61,500	99.0%	2.9%
45-54	87.2%	3.0%	0.5%	2.0%	2.1%	5.3%	\$72,600	98.2%	3.1%
55-64	72.8%	13.2%	2.4%	3.6%	3.0%	5.1%	\$82,700	90.9%	2.7%
65-74	27.1%	35.0%	22.9%	6.3%	6.4%	2.4%	\$68,400	60.5%	1.2%
75-84	7.4%	41.3%	26.7%	10.7%	12.9%	1.0%	\$53,900	50.8%	1.0%
85+	1.3%	31.0%	30.5%	18.0%	19.1%	0.2%	\$40,800	53.6%	1.1%
All									
2003	76.2%	9.2%	4.9%	2.9%	3.0%	3.9%	\$54,000	90.6%	2.2%
2030c	69.8%	12.3%	6.9%	3.6%	3.8%	3.7%	\$56,500	85.5%	2.1%
Change	-6.4%	3.1%	2.1%	0.7%	0.8%	-0.2%	\$2,500	-5.0%	-0.2%
Percent Change	-8.5%	33.2%	42.5%	24.8%	26.3%	-4.9%	4.6%	-5.6%	-8.1%

a. The category Other includes income listed on the tax form under farm income, alimony received, unemployment compensation, business income, other gains, and other income.

b. Effective tax rates are calculated relative to total income.

c. Income shares for 2030 are computed as the weighted individual income shares, where the weights account for projected changes in the Iowa population by single year of age between 2003 and 2030 relative to the share of each age in the taxpayer distribution in 2003.

Table 2. Estimated Iowa Elderly Tax Preferences, 2003

No Elderly Tax Preferences	Millions 2003\$	
Individual Adjusted Gross Income	\$71,241.3	
Individual Income Tax Revenues	\$2,086.1	
Change in Revenues from Various Elderly Tax Preferences		
	Millions 2003\$	Percentage Drop
Aged Credit	-\$4.4	-0.2%
Pension Exclusion, 55+	-\$74.9	-3.6%
50% Maximum Taxation of Social Security	-\$112.1	-5.4%
Change in Revenues Under 2003 Tax Law	-\$177.4	-8.5%
Ratio of Revenues Under 2003 Law to AGI Under No Elderly Tax Preferences	2.68%	

Source: Authors' calculations using Iowa individual income tax records.

Table 3. Distribution of Iowa Taxpayer Households by Age, 2003 and 2030

	2003 Baseline		2030 Fixed Age Distribution		2030 Projected Age Distribution	
	Count	Share	Count	Share	Count	Share
0-25	208,794	15.6%	210,826	15.6%	176,816	13.0%
25-34	222,146	16.6%	224,308	16.6%	196,001	14.4%
35-44	231,260	17.2%	233,510	17.2%	197,162	14.5%
45-54	257,748	19.2%	260,256	19.2%	235,360	17.3%
55-64	188,822	14.1%	190,659	14.1%	210,645	15.5%
65-74	115,975	8.6%	117,104	8.6%	176,491	13.0%
75+	116,553	8.7%	117,687	8.7%	168,102	12.4%
Total	1,341,298		1,354,350	Relative to 2003 101.0%	1,360,576	Relative to 2003 101.4%

Source: Authors' calculations using Iowa individual income tax records and U.S. Census population projections. Married returns, both filing jointly and separately on the same return, are counted as one household.

Table 4. Projected Iowa Elderly Tax Preferences Under 2030 Population And 2003 Tax Parameters Adjusted for Projected Inflation

No Elderly Tax Preferences	Fixed 2003 Age Distribution		Projected Age Distribution	
	Millions 2003\$		Millions 2003\$	Percentage Difference
Individual Adjusted Gross Income	\$71,934.5		\$74,612.4	3.7%
Individual Income Tax Revenues	\$2,165.5		\$2,215.0	2.3%
Change in Revenues from Various Elderly Tax Preferences				
	Millions 2003\$	Percentage Drop from No Preferences	Millions 2003\$	Percentage Drop from No Preference
Aged Credit	-\$2.8	-0.1%	-\$4.1	-0.2%
Indexed Aged Credit ^a	-\$5.0	-0.2%	-\$7.3	-0.3%
Pension Exclusion, 55+	-\$47.6	-2.2%	-\$66.5	-3.0%
Indexed Pension Exclusion, 55+	-\$79.2	-3.7%	-\$110.4	-5.0%
50% Maximum Taxation of Social Security	-\$112.5	-5.2%	-\$162.1	-7.3%
Social Security Exemption	-\$158.9	-7.3%	-\$228.9	-10.3%
Minimum Income Exemption, 65+	-\$12.9	-0.6%	-\$19.0	-0.9%
Indexed Minimum Income Exemption, 65+	-\$64.6	-3.0%	-\$95.4	-4.3%
Change in Revenues Under Projected 2030 Law ^b	-\$207.3	-9.6%	-\$296.7	-13.4%
Projected Ratio of Revenues Under 2030 Law to AGI Under No Elderly Preferences	2.72%		2.57%	
Change in Revenues Under Indexed Projected 2030 Law ^c	-\$244.9	-11.5%	-\$349.7	-16.1%
Ratio of Revenues Under Indexed Projected 2030 Law to AGI Under No Elderly Preferences	2.67%		2.50%	

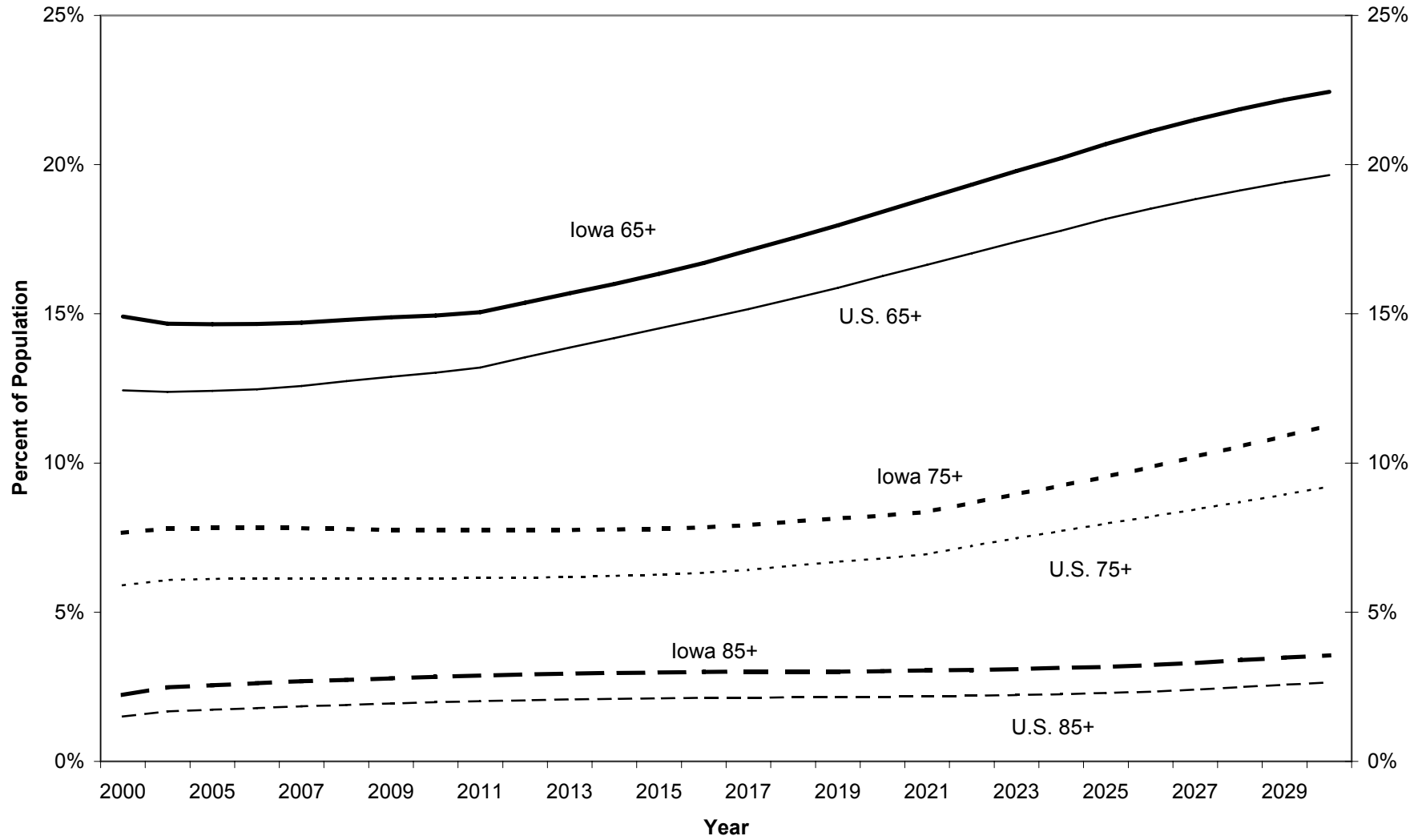
Source: Authors' calculations using Iowa individual income tax records and U.S. Census population projections.

a. Both the personal and the aged credits are assumed to be indexed for this estimate, thus the cost of the preference is measured relative to a baseline with an indexed personal credit and zero aged credit.

b. Projected 2030 law combines the aged credit, pension exclusion, Social Security exemption and the minimum income exemption.

c. Indexed projected 2030 law combines the indexed aged credit, indexed pension exclusion, Social Security exemption and the indexed minimum income exemption.

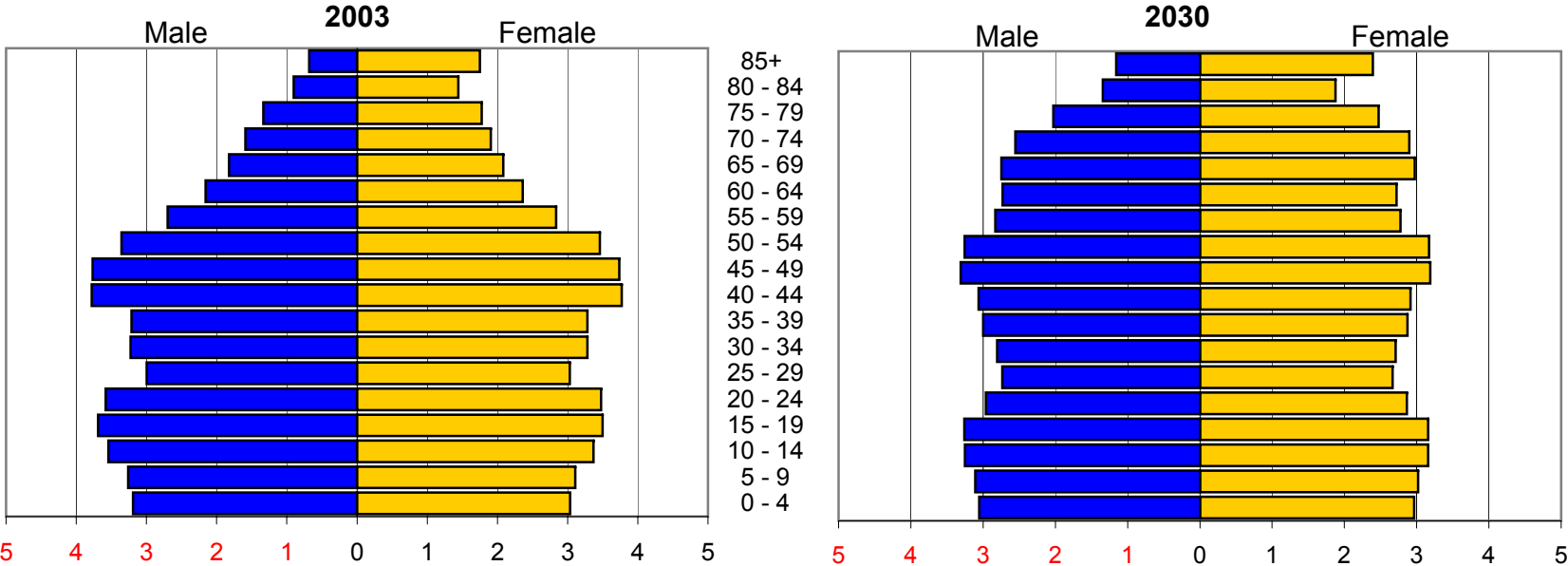
Figure 1. Projected Elderly Shares in Iowa and U.S.



Source: U.S. Census

Figure 2. Iowa Population Pyramids, 2003 and Projected 2030

Percent of Total Population



Source: U.S. Census Bureau, Population Division, Interim State Population Projections, 2005

Figure 3. Projected Percentage Reductions in Iowa Individual Income Tax Revenues Under Various Elderly Tax Preferences and Aging Assumptions: 2003-2030

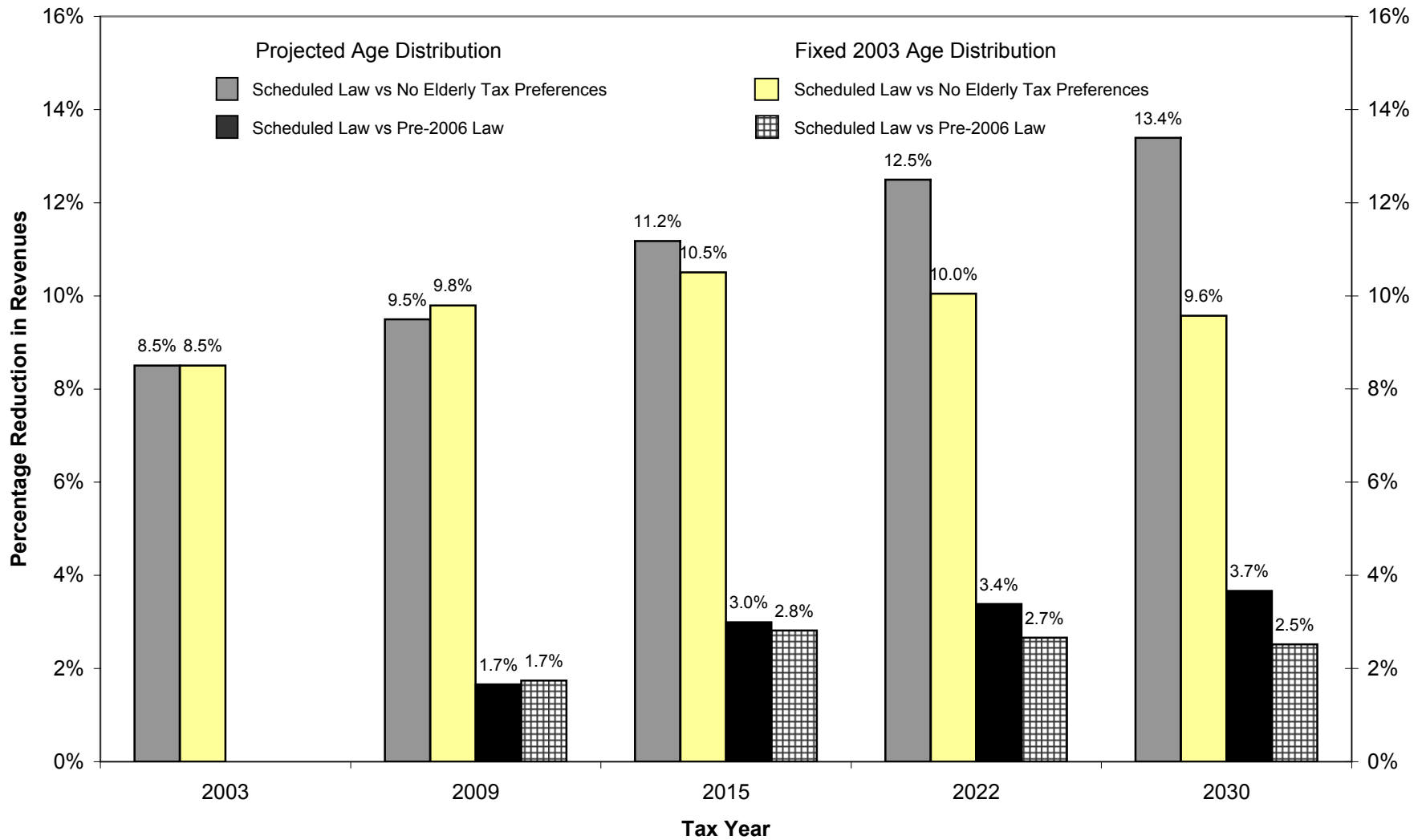


Figure 4. Total Projected Iowa Individual Income Tax Revenues Under Various Elderly Tax Preferences: 2003-2030

