Tax Reform Options: Promoting Retirement Security

Testimony Submitted to United States Senate Committee on Finance

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Chairman Baucus, Ranking Member Hatch, and Members of the Committee:

Thank you for inviting me to testify today on tax reform options that promote retirement security. This hearing focuses on a set of issues that is both timely and important.

My testimony discusses a proposal that would reform public policies toward retirement saving by replacing the current deduction for contributions to retirement saving accounts with a flat-rate refundable credit that would be deposited directly into the saver's account. The proposal would (a) address long-standing concerns in the retirement saving system by improving incentives for most households to participate and by raising national saving, (b) offset pressures created by the current weak economy for households to reduce their retirement saving, (c) help solve the long-term fiscal problem facing the country by raising \$450 billion over the next decade in a manner that is consistent with the principles of broad-based tax reform and distributes the fiscal burden in a progressive manner.

I. Introduction

Concerns with the adequacy and security of the retirement system in the United States are well-known and long-standing. Many households do not save for retirement, and many of those that do contribute too little, invest poorly, or withdraw funds early. These patterns leave households, and most particularly low- and middle-income households, vulnerable to insufficient savings to finance adequate living standards during old age and retirement.

A weak economy has exacerbated these issues. Unemployment in general (and long-term unemployment in particular) is exceedingly high relative to historical norms. Real wages have stagnated, housing prices have fallen far below previous peaks, and the stock market has grown more volatile. Each of these factors threatens to reduce the vitality of the retirement system—for example, by driving workers to stop participating in their 401(k) plans or IRAs, to contribute less

¹ The views presented are my own and should not be taken to represent the views of the Brookings Institution or the Tax Policy Center. I thank Samuel Brown, Ilana Fischer, David John, and Spencer Smith for assistance, Surachai Khitatrakun for model simulations, and David John and Donald Marron for comments.

for retirement saving, to invest more conservatively, or to withdraw funds early.

At the same time, the nation's medium- and long-term fiscal outlook is unsustainable, even with the recent debt-limit legislation. The retirement of the baby boomers, the aging of the population, and health care inflation will place increasing pressure on Social Security and Medicare (Auerbach and Gale 2011). Without reform, the Social Security trust funds will be depleted by 2036 (OASDI Trustees 2011) and will only be able to pay roughly three quarters of the benefits retirees have been promised. This will further weaken the retirement prospects of low- and middle-income households and make them more vulnerable to poverty in old age. As the Joint Select Committee on Deficit Reduction deliberates on medium-term budget options, consideration of reforms to strengthen the private retirement system would be appropriate and constructive, especially since any plausible long-term fiscal plan will involve some reductions in Social Security and Medicare benefits.

The Tax Policy Center estimates that the immediate, direct revenue loss associated with contributions to IRAs and 401(k) plans will exceed \$1 trillion over the next decade, under current law. This figure is calculated as the product of contributions to such plans, multiplied by the marginal income tax rate applied to such contributions. It is presented to show the magnitude of the issue and the potential for revenue gain. It does not, however, represent a complete tax expenditure estimate for IRAs and 401(k) plans because it does not include the value of the tax treatment of accrued earnings (which would raise the figure) or the taxation of withdrawals (which would reduce the figure).

This paper offers a proposal to encourage additional retirement saving by converting the system of income tax deductions for retirement saving contributions to a system of flat-rate refundable credits, where the credits are deposited directly into the saver's account.² Stated simply, this proposal will make it viable for low- and middle-income households to increase their savings for retirement. The proposed reform has several notable features:

- The proposal would enhance the retirement saving system. By improving retirement saving incentives for the majority of households, the proposal would help address traditional concerns about take-up and usage of retirement saving vehicles.
- The proposal could help raise national saving. By promoting private saving among households in the middle and bottom of the income distribution (those least likely to sufficiently save) the proposal would encourage new contributions from precisely the type of households for whom 401(k)s and similar plans likely represent net increases in saving, rather than a re-allocation of saving that would have been done anyway. And, of course, deficit reduction would contribute positively and importantly to higher national saving.

 $^{^{2}}$ The proposal is similar but not identical to the one developed in Gale, Gruber, and Orszag (2006), with updated revenue and distributional figures provided. One major difference is that the current proposal maintains current contribution limits, while the earlier proposal reduced those limits.

- The proposal is timely. By improving retirement incentives for most households, it would help offset the pressure households face to reduce or eliminate their participation in retirement saving during a weak economy.
- The proposal is consistent with long-term deficit reduction and could raise substantial amounts of revenue: a reform that converted current deductions to a tax credit worth 18 percent of a taxpayer's retirement saving contributions would leave those in the 15 percent bracket unaffected. As discussed in more detail below, an 18 percent matching credit is the equivalent of a 15 percent deduction. Such reform would raise more than \$450 billion in revenues over the next decade relative to current law.
- The proposal is consistent with principles of broad-based tax reform and reducing tax expenditures.
- The proposal is progressive. The proposal would help lower- and middle-income households significantly, decreasing their reliance on Social Security benefits as the primary source of retirement income, and it would distribute the benefits of retirement saving policy more equitably than the current system.
- In alternative version of the proposal, a 30 percent credit would be revenue-neutral for the next decade relative to current law and would be even more progressive. This reform would reduce taxes for 26 percent of the population (mainly in the bottom 90 percent of the income distribution) and decrease tax deductions for 6 percent of the population (largely in the top decile).

II. Background

Low retirement saving is not due to lack of eligibility for tax-favored retirement accounts. About half of workers are either enrolled in defined-benefit plans or eligible for 401(k) accounts through their employers, and almost all households can contribute to individual retirement accounts (IRAs). A principal explanation for low retirement saving is the lack of take-up—too many people fail to take advantage of the available tax-preferred retirement savings opportunities. Inadequate take-up, in turn, stems from two key factors: enrollment often requires people to act affirmatively, and some have little immediate financial incentive to enroll or contribute very much.

One reason people do not enroll in a 401(k) or IRA is that enrollment requires workers to take specific action to join. Furthermore, the plans sometimes present a difficult and confusing array of choices regarding investment allocations and other features, increasing the non-monetary cost of enrollment. Many people, as a result, procrastinate to avoid any decision, even though they recognize that they should save more. Thus, inertia tends to keep workers out of 401(k) plans and IRAs since participation usually requires an affirmative choice by the worker. The provision of automatic enrollment in 401(k) plans has helped to remedy this problem, and it has been further encouraged by features of the Pension Protection Act of 2006. Automatic enrollment in 401(k) plans has increased dramatically over the last decade, particularly in large plans (Beshears et al. 2008).

The extension of automatic enrollment to Individual Retirement Accounts would help expand participation further (Iwry and John 2006). A desirable policy goal would be to have every employer in the United States (with the exception of the smallest businesses) automatically enroll new workers in either a traditional defined-benefit employer pension plan, a 401(k)-type plan, or an IRA. Defined-benefit plans already tend to have automatic enrollment and typically do not involve employee contributions. Under the automatic 401(k) and IRA plans, workers would automatically contribute a share of each paycheck to such accounts (as would firms, if there were matching contributions). The funds would be automatically invested in broad-based stock and bond mutual funds with the option for individuals to override the default allocation if desired. This system would impose minimal responsibilities on firms and would respect the autonomy of individuals, yet it would likely substantially boost participation in retirement savings accounts.

That savings decisions are influenced by behavioral factors, such as defaults, does not mean economic incentives are irrelevant. Indeed, recent evidence suggests that the rate at which the government matches retirement savings contributions can significantly affect contributions. In a recent study, households were randomly offered different matching rates for IRA contributions at the time they were preparing their taxes. The experiment showed that households made significantly higher contributions when offered a higher match rate (Duflo et al. 2006, Saez 2009).

Thus, a second reason many people do not enroll in or contribute enough to an IRA or a 401(k) plan—and the focus of this paper—is that they have a weak or nonexistent immediate financial incentive to do so. This is true for the vast majority of middle- and low-income households; about three quarters of tax units face statutory marginal tax rates of 15 percent or less. For most of these plans, contributions are deductible from income in the year they are made, accrue tax-free until they are withdrawn, and are taxed as ordinary income at withdrawal. (The exception is "Roth" plans, where contributions are not deductible when made and not taxable when withdrawn. The immediate tax benefits, as a result, are non-existent.)

For a regular or traditional IRA or 401(k), the immediate value of excluding contributions from taxation depends on the income tax bracket into which a taxpayer falls. For example, consider two taxpayers, each of whom contributes \$6,000 to a 401(k) and thus reduces taxable income by \$6,000. One taxpayer has high income and faces a marginal tax rate of 35 percent; by contributing to the 401(k), she reduces taxes owed by \$2,100 (35 percent of the \$6,000 contribution). The other has relatively low income and is in the 10 percent tax bracket, so that the 401(k) contribution only reduces taxes by \$600. The current system thus provides the smallest immediate benefit to taxpayers who face a zero or low marginal income tax rate, and who are typically characterized by low- or middle-income. These families are also typically most in need of increasing savings to meet basic retirement needs.

Not only do the existing tax rules provide less immediate benefit to low- and middleincome households, they are also relatively ineffective at inducing new saving. Contributions by high-income households to tax-subsidized retirement accounts are more likely to represent funds that are reshuffled from existing savings to take advantage of the tax benefit rather than a net new addition to saving (Engen and Gale 2000, Benjamin 2003). In other words, the current tax incentives to increase saving have relatively low "bang for the buck" because they merely subsidize shifting saving for high-income households rather than raising the total amount of saving in the economy.

This discussion suggests that the current system of tax incentives for retirement savings is flawed. By providing incentives for contributions through tax provisions that are linked to the marginal tax rates that people owe, current incentives deliver their largest immediate benefits to higher-income individuals in the highest tax brackets. These high-income individuals are precisely the ones who can respond to such tax incentives by reshuffling their existing assets into these accounts rather than by increasing their overall level of saving. As a result, the tens of billions of dollars in tax expenditures associated each year with 401(k) and IRA contributions could be targeted more effectively to increasing overall saving.

III. Restructuring Incentives

A. The Proposal

The proposal would provide a new incentive structure for contributions to retirement savings accounts. The plan would replace the existing tax deductions with a flat-rate refundable credit that serves as a matching contribution into a retirement savings account. The plan would thus change the treatment of retirement saving in three ways. First, unlike the current system, workers' and firms' contributions to employer-based 401(k) accounts would no longer be excluded from income subject to taxation, contributions to IRAs would no longer be tax-deductible, and any employer contributions to a 401(k) plan would be treated as taxable income to the employee (just as current wages are). Second, all qualified employer and employee contributions would be deposited directly into the retirement saving account, as opposed to the current deduction, which simply results in a lower tax payment than otherwise. (Note that some parts of the proposal are separable -- for example, the employer deduction could be left unchanged, or the matching contribution could be returned to the taxpayer via a lower tax bill or refund.)

Everything else would stay as is. Contribution limits would not change. Earnings in 401(k) plans and IRAs would continue to accrue tax-free, and withdrawals from the accounts would continue to be taxed as income. The Saver's Credit would continue to exist in its current form. Catch-up provisions, for workers aged 50 and older, would continue to apply. Roth plans and defined-benefit plans would be unchanged.

I analyze two different versions of the proposal: one with a 30 percent matching contribution (which is revenue-neutral under current law), the other with an 18 percent matching rate (which holds harmless those in the 15 percent income tax bracket).

B. Deductions versus Credits

There is a formal economic equivalence between the incentives created by a deduction at

a given rate and those created by a tax credit of a different rate. For example, a 30 percent matching credit is the equivalent of an income tax deduction for someone with a 23 percent tax rate. For every \$100 contributed to a retirement account by an individual with a 23 percent tax rate, the individual would receive a tax deduction worth \$23. Thus for each dollar contributed, the individual's after-tax cost is \$77. Under a 30 percent credit, the individual would receive a matching contribution of 30 percent, deposited into the account. If the individual made a contribution of \$77, the government would provide a matching contribution of \$23 (30 percent of \$77), so—as with a 23 percent income tax deduction—the individual would have one dollar in his or her account at a cost of 77 cents. For similar reasons, an 18 percent matching credit is the equivalent of an income tax deduction for someone in the 15 percent income tax bracket.

C. Revenue Effects

According to estimates from the Tax Policy Center, the 30 percent credit would be revenue-neutral over the next 10 years relative to current law. The 18 percent credit would increase revenues by about \$458 billion. (Making the credit nonrefundable would raise an additional \$22 billion over the decade, but would dramatically reduce eligibility for the credit among low- and some middle-income households. Omitting any change in the employer deduction would reduce the revenue effect to just over \$250 billion.)

D. Distributional Effects

Tables 1 and 2 show the distribution of winners and losers under the two versions of the proposal. Under the revenue-neutral change shown in Table 1, about 26 percent of tax filers would receive a reduction in tax liabilities, whereas 6 percent would see an increase. Tax increases would be concentrated in the top decile of the income distribution, while the bottom 90 percent of the distribution would receive, on net, a tax reduction.

Under the 18 percent credit reported in Table 2, about 12 percent of taxpayers would receive a tax cut while 19 percent would see an increase. The bottom 40 percent of the income distribution would receive a small tax cut, the middle quintile would experience no change in after-tax income, and the top 40 percent would face higher tax liabilities.

E. Effects on retirement contributions and national saving

The analysis underlying both of the tables and the revenue analysis holds retirement saving contributions constant. If retirement saving participation and contributions were to rise among lower- and middle-income households – as would be expected given the improvement in incentives they would receive – the revenue effects would decline and the progressivity would increase. I do not estimate these impacts.

The proposal also appears likely to raise national saving. In the revenue-neutral version of the proposal, there is no decline in government saving, and almost all low- and middle-income households have better incentives to contribute. As noted above, the evidence suggests that contributions to retirement accounts by such households are more likely to represent net increases in private saving than are contributions by high-wealth households, who can more easily shift funds from other assets. In the revenue-raising version of the proposal, government saving rises. Private saving would still likely rise, though perhaps not by as much as in the revenue-neutral version because incentives to contribute would have improved less.

While a deduction and credit are similar in economic terms, as discussed above, the proposal also differs from current law in that the matching contribution would be deposited directly into the retirement savings account, whereas the current system "delivers" the deduction in the form of higher after-tax income. It seems likely that depositing the match directly into the account would make it more likely to be saved than the tax deduction under current law; this would be above and apart from any improvement in the formal incentive to save for most households. Although I have no direct evidence on this point in the context of retirement savings, some evidence suggests that direct matches are more effective than equivalent tax rebates at inducing people to contribute to charities (Eckel and Grossman 2003). (However, it should also be noted that the provision of a flat-rate refundable credit could be separated from the provision that the credit is deposited directly into the account, as opposed to provided as a credit on the income tax form. This would allay concerns that such a deposit may prove difficult because of administrative or other reasons.)

<u>F. Related Issues³</u>

By making the regular or traditional 401(k) and IRA more attractive for low- and middleincome households, the proposal would effectively reduce the relative attractiveness of Roth vehicles for those households. Similarly, by making traditional vehicles less attractive for higher-income households, the proposal would make Roth options look relatively more attractive than under current law.

By converting the employer deduction for 401(k) contributions to a matching contribution given to the individual, the proposal -- if enacted -- could affect firms' willingness to offer 401(k) plans. However, several factors mitigate this effect. First, firms offer 401(k) plans for many reasons, including most importantly maintaining a competitive compensation package. Second, by maintaining the current contribution limits for 401(k) plans, which are much larger than for IRAs, the proposal would help preserve incentives. Third, the proposal might encourage defined-benefit plans, which would continue to enjoy the same tax treatment as under current law. For high-income workers, a defined-benefit plan would provide a tax break linked to the top income tax rate. By contrast, high-income workers would enjoy a smaller benefit under a 401(k) plan or IRA. To the extent that high-income workers influence choices made by firms about pension plans, the difference in tax treatment for such workers could encourage defined-benefit plans (which would then cover middle- and low-income workers as well).

Another potential concern is that the matches provided in this proposal may discourage employer matches to 401(k) plans. One motivation for employer matches is nondiscrimination requirements: to meet nondiscrimination rules, pension plans must ensure sufficient

³ Gale, Gruber and Orszag (2006) discuss issues regarding withdrawal rules, transition, gaming, and interactions with state taxes and compare this proposal to alternative such as RSAs and expansion of IRA/401(k) contribution limits.

participation and contribution levels by low-income employees; the match is an incentive to encourage such participation. To the extent that the proposal raises 401(k) participation by low-income employees, it could erode the use of matching contributions by employers (since these matches would be less needed to satisfy the nondiscrimination standards). On the other hand, many potential motivations exist for employer matching. For example, the match -- like the 401(k) itself -- may be seen as part of a competitive pay package, and it may be offered as a way of furthering tax-free compensation for the highly-paid employees most likely to participate in 401(k) plans; such a motivation would still exist under the proposal but in a slightly dampened form.

III. Conclusion

It is possible to reform public policies toward retirement saving in ways that help (a) address long-standing concerns, (b) offset pressures in the current economy that would otherwise serve to reduce retirement saving, and (c) solve the fiscal problem facing the country, in a manner consistent with broad-based tax reform and equitable distribution of the fiscal burden. Converting the deduction for retirement saving to a refundable matching credit deposited directly into the saver's account would plausibly help achieve all of these goals.

REFERENCES

Auerbach, Alan J. and William G. Gale. 2011. "Tempting Fate: The Federal Budget Outlook." *Tax Notes* 132(4), 375-88.

Benjamin, Daniel. 2003. "Does 401(k) Eligibility Increase Saving? Evidence from Propensity Score Subclassification." *Journal of Public Economics* 87, no. 5-6 (2003): 1259-90.

Beshears, John, James Choi, David Laibson, and Brigitte Madrian. 2008. "The Importance of Default Options for Retirement Saving Outcomes: Evidence from the United States." Kay, Stephen J. and Tapen Sinha, editors. *Lessons from Pension Reform in the Americas*. Oxford University Press 59-87.

Board of Trustees, Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds. 2011. "The 2011 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds." Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds, Washington, DC.

Duflo, Esther, William G. Gale, Jeffrey Liebman, Peter Orszag, and Emmanuel Saez. 2006. "Saving Incentives for Low- and Middle-Income Families: Evidence from a Field Experiment with H&R Block." *Quarterly Journal of Economics* 121(4): 1311–46

Eckel, Catherine C. and Philip J. Grossman. 2003. "Rebates and Matching: Does How We Subsidize Charitable Contributions Matter?" *Journal of Public Economics* 87:681-701

Engen, Eric M. and William G. Gale. 2000. "The Effects of 401(k) Plans on Household Wealth: Differences Across Earnings Groups," National Bureau of Economic Research Working Paper 8032, Cambridge, MA.

Gale, William G., Jonathan Gruber, and Peter R. Orszag. 2006. "Improving Opportunities and Incentives for Saving by Middle- and Low-Income Households." The Hamilton Project, Discussion Paper 2006-02. The Brookings Institution.

Iwry, Mark J. and David C. John. 2006. "Pursuing Universal Retirement Security Through Automatic IRAs." Retirement Security Project, The Brookings Institution.

Saez, Emmanuel. 2009. "Details Matter: The Impact of Presentation and Information on the Take-up of Financial Incentives for Retirement Saving." *American Economic Journal: Economic Policy* 1(1): 204–28.

Table 1Replacing the Retirement Saving Contribution Deduction with a Revenue-Neutral Government Matching
Refundable Credit—Current Law BaselineDistribution of Federal Tax Change by Cash Income Percentile, 2011

Cash Income Percentile ^{2,3}	Tax Units with Tax Increase or Cut ⁴				Percent	Share of Total	Average	Average Federal Tax Rate ⁶	
	With Tax Cut		With Tax Increase			Federal	Federal Tax	Change (9/	
	Pct of Tax Units	Avg Tax Cut	Pct of Tax Units	Avg Tax Increase	Income ⁵	Tax Change	Change (\$)	Points)	Proposal
Lowest Quintile	7.6	-274	0.0	0	0.2	14.6	-21	-0.2	1.4
Second Quintile	20.3	-337	1.7	44	0.3	40.5	-68	-0.3	6.9
Middle Quintile	32.0	-454	3.5	101	0.4	74.9	-142	-0.3	13.7
Fourth Quintile	49.7	-403	2.3	193	0.3	85.3	-196	-0.2	18.6
Top Quintile	33.1	-325	32.1	1,283	-0.2	-115.2	304	0.1	25.6
All	25.8	-380	6.0	1,002	0.1	100.0	-38	-0.1	20.4
Addendum									
80-90	50.1	-314	15.4	279	0.1	21.8	-114	-0.1	22.4
90-95	19.6	-333	50.3	692	-0.2	-26.2	283	0.2	24.9
95-99	12.1	-359	49.5	1,937	-0.4	-69.5	915	0.3	26.1
Top 1 Percent	13.2	-584	40.9	5,453	-0.2	-41.3	2,151	0.1	28.1
Top 0.1 Percent	7.3	-804	40.5	7,874	-0.1	-6.2	3,129	0.0	30.4

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0411-2).

* Less than 0.05

** Insufficient data

(1) Calendar year. Baseline is current law, proposal is replacing the retirement saving contribution deduction with a revenue-neutral government matching refundable credit. (2) Taxunits with negative cash income are excluded from the lowest income class but are included in the totals. For a description of cash income, see

http://www.taxpolicycenter.org/TaxModel/income.cfm

(3) The cash income percentile classes used in this table are based on the income distribution for the entire population and contain an equal number of people, not tax units. The breaks are (in 2011 dollars): 20% \$16,812; 40% \$33,542; 60% \$59,486; 80% \$103,465; 90% \$163,173; 95% \$210,998; 99% \$532,613; 99.9% \$2,178,886.
(4) Includes both filing and non-filing units but excludes those that are dependents of other taxunits.

(5) After-tax income is cash income less: individual income tax net of refundable credits; corporate income tax; payroll taxes (Social Security and Medicare); and estate tax. (6) Average federal tax (includes individual and corporate income tax, payroll taxes for Social Security and Medicare, and the estate tax) as a percentage of average cash income.

Table 2 Replacing the Retirement Saving Contribution Deduction with an 18 Percent Government Matching Refundable Credit—Current Law Baseline Distribution of Federal Tax Change by Cash Income Percentile, 2011

Cash Income Percentile ^{2,3}	Tax Units with Tax Increase or Cut ⁴				Percent	Share of Total	Average	Average Federal Tax Rate ⁶	
	With Tax Cut		With Tax Increase		After Tax	Federal	Federal Tax	<u></u>	
	Pct of Tax Units	Avg Tax Cut	Pct of Tax Units	Avg Tax Increase	Income ⁵	Tax Change	Change (\$)	Change (% Points)	Proposal
Lowest Quintile	7.6	-159	*	**	0.1	-1.7	-12	-0.1	1.5
Second Quintile	15.2	-165	6.9	140	0.1	-1.9	-15	-0.1	7.1
Middle Quintile	21.3	-174	14.2	266	0.0	0.1	1	0.0	14.0
Fourth Quintile	16.4	-180	35.6	446	-0.2	11.4	129	0.2	19.0
Top Quintile	1.5	-474	63.8	1,891	-0.6	92.1	1,198	0.4	26.0
All	12.5	-176	19.3	1,077	-0.3	100.0	186	0.3	20.7
Addendum									
80-90	2.2	-388	63.3	882	-0.5	21.3	550	0.4	22.9
90-95	0.7	-499	69.5	1,875	-0.9	24.4	1,299	0.7	25.4
95-99	0.7	-634	60.8	3,529	-0.8	33.0	2,142	0.6	26.4
Top 1 Percent	1.7	-1,260	52.4	6,611	-0.3	13.4	3,442	0.2	28.2
Top 0.1 Percent	1.8	-830	46.1	9,439	-0.1	1.7	4,332	0.1	30.4

Source: Urban-Brookings TaxPolicy Center Microsimulation Model (version 0411-2).

* Less than 0.05

** Insufficient data

(1) Calendar year. Baseline is current law, proposal is replacing the retirement saving contribution deduction with an 18 percent government matching refundable credit. (2) Tax units with negative cash income are excluded from the lowest income class but are included in the totals. For a description of cash income, see

http://www.taxpolicycenter.org/TaxModel/income.cfm

(3) The cash income percentile classes used in this table are based on the income distribution for the entire population and contain an equal number of people, not taxunits. The breaks are (in 2011 dollars): 20% \$16,812; 40% \$33,542; 60% \$59,486; 80% \$103,465; 90% \$163,173; 95% \$210,998; 99% \$532,613; 99.9% \$2,178,886. (4) Includes both filing and non-filing units but excludes those that are dependents of other tax units.

(5) After-taxincome is cash income less: individual income taxnet of refundable credits; corporate income tax; payroll taxes (Social Security and Medicare); and estate tax.

(6) Average federal tax (includes individual and corporate income tax, payroll taxes for Social Security and Medicare, and the estate tax) as a percentage of average cash income.