THE HAMILTON PROJECT

FEBRUARY 2013

15 Ways to Rethink the Federal Budget

Edited by Michael Greenstone, Max Harris, Karen Li, Adam Looney, and Jeremy Patashnik

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MISSION STATEMENT

The Hamilton Project seeks to advance America's promise of opportunity, prosperity, and growth.

We believe that today's increasingly competitive global economy demands public policy ideas commensurate with the challenges of the 21st Century. The Project's economic strategy reflects a judgment that long-term prosperity is best achieved by fostering economic growth and broad participation in that growth, by enhancing individual economic security, and by embracing a role for effective government in making needed public investments.

Our strategy calls for combining public investment, a secure social safety net, and fiscal discipline. In that framework, the Project puts forward innovative proposals from leading economic thinkers — based on credible evidence and experience, not ideology or doctrine — to introduce new and effective policy options into the national debate.

The Project is named after Alexander Hamilton, the nation's first Treasury Secretary, who laid the foundation for the modern American economy. Hamilton stood for sound fiscal policy, believed that broad-based opportunity for advancement would drive American economic growth, and recognized that "prudent aids and encouragements on the part of government" are necessary to enhance and guide market forces. The guiding principles of the Project remain consistent with these views.

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BROOKINGS

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Introduction

Few policy debates have been as contentious as the current tug-of-war over the federal budget deficit. Despite widespread agreement that the budget is on an unsustainable path, there is widespread disagreement about what should be done. At the heart of the debate is how federal policy should address the key economic issues our nation faces. Of immediate concern to policymakers, however, are the nation's employment situation and the need to get Americans back to work. At current sluggish rates of recovery, it will take years for levels of employment to normalize after the Great Recession. Even after the economy recovers, Americans will confront the lasting impacts on those who experienced long-term unemployment, the growing divide of income and opportunity, concerns about the competitiveness of our workers and businesses in a globalizing economy, and ongoing environmental challenges. These economic factors both have contributed directly to our high and growing federal debt, and color how we should address it.

Changes in tax and spending programs should be judged not only by how they affect future budget deficits, but also by how they address these economic challenges. As we argued in a recent Hamilton Project policy memo, "A Dozen Economic Facts about Tax Reform," changes in budget policies should be evaluated on how they support the near-term economic recovery, invest in the productivity of American workers and industries, influence the progressivity of the tax code, and secure our nation's social safety net.

The budget talks, therefore, represent not only a political and economic challenge, but also an opportunity for policymakers to decide what type of country we will be in the coming years and decades. But, sound decisions require a budget debate rooted in facts—not ideology.

To this end, The Hamilton Project asked leading experts from a variety of backgrounds—the policy world, academia, and the private sector, and from both sides of the political aisle—to develop policy proposals that could form a partial menu of options to achieve these goals. The mandate given to the authors was to describe pragmatic, evidenced-based proposals that not only are good budget policy, but that also have economic benefits. The resulting fifteen papers are included in The Hamilton Project's latest report, "15 Ways to Rethink the Federal Budget." While not intended to cover every budget category, these papers take on a wide-ranging set of topics, including immigration, transportation, health care, and tax expenditures, and include options to reduce mandatory and discretionary expenditures, raise revenues, and improve government efficiency.

This introduction provides economic context salient to budget discussions and an overview of the fifteen proposals including their potential impact on the budget and their broader economic benefits.

The Current Economic Context

Despite concerns about the federal budget outlook, it is important to recognize that much progress has already been made toward reducing the budget deficit in a very short period. Since 2011, policymakers have legislated about $4 trillion of deficit reduction set to take place over the next ten years (Kogan, Greenstein and Friedman 2013) through the spending caps of the Budget Control Act of 2011 (BCA); tax and spending changes in the American Taxpayer Relief Act of 2012 (ATRA), which averted the fiscal cliff; and $1.2 trillion from the sequestration now scheduled to go into effect March 1, 2013. Figure 1 shows how these policies are projected to drive down the debt-to-GDP ratio over the next several years. This ratio is important because it represents how fast the debt is growing relative to the economy as a whole. As figure 1 shows, if the sequestration goes into effect (or is offset through other policies), the debt would grow to a high of about 78 percent of GDP in 2014 before falling and reaching about 74 percent in 2023.

On paper, at least, current policies plus the sequestration roughly stabilize the debt-to-GDP ratio over the decade. But there are at least three reasons why policymakers cannot yet declare victory. First, sequestration imposes a broadly unpopular set of deep, across-the-board spending cuts to both defense programs and domestic discretionary spending, and implements those cuts rapidly. The looming threat from these cuts has many policymakers searching for a more responsible substitute. If sequestration is overturned, however, then policymakers will have to find another source of budget savings to stabilize the debt. For example, according to the CBPP, policymakers would need to find an additional $1.5 trillion in savings over the next decade to hold the debt-to-GDP ratio at 73 percent (Kogan, Greenstein and Friedman 2013).

A second issue is that policies that stabilize the budget over the next decade are unlikely to stabilize the deficit in the long run. Pressures from the aging of the U.S. population and the rising costs of health care will drive up spending on Social Security and major health-care programs from more than 10 percent of GDP today to almost 16 percent of GDP in twenty-five years (Congressional Budget Office [CBO] 2012). Unless the growth in these programs is slowed or revenues rise to match increased levels of spending, the debt will continue to grow rapidly in coming decades.

A third concern is that recently-enacted deficit reduction has increased fiscal drag on the economy abruptly while the national economy remains weak—and the timing of the sequester threatens to slow near-term growth further. The United States currently faces an employment deficit of almost 11 million jobs. Figure 2 shows this jobs gap, which is the number of jobs that the United States needs to create to return to prerecession employment rates. Even at relatively robust rates of employment growth, it will take years to recover fully. Given the weak economic environment, a more appropriate approach is to enact credible deficit reduction today but to delay its implementation until the economy is on sounder footing. This approach would enhance market confidence, provide support for employment and incomes, and still make progress reducing the longer-term deficit.

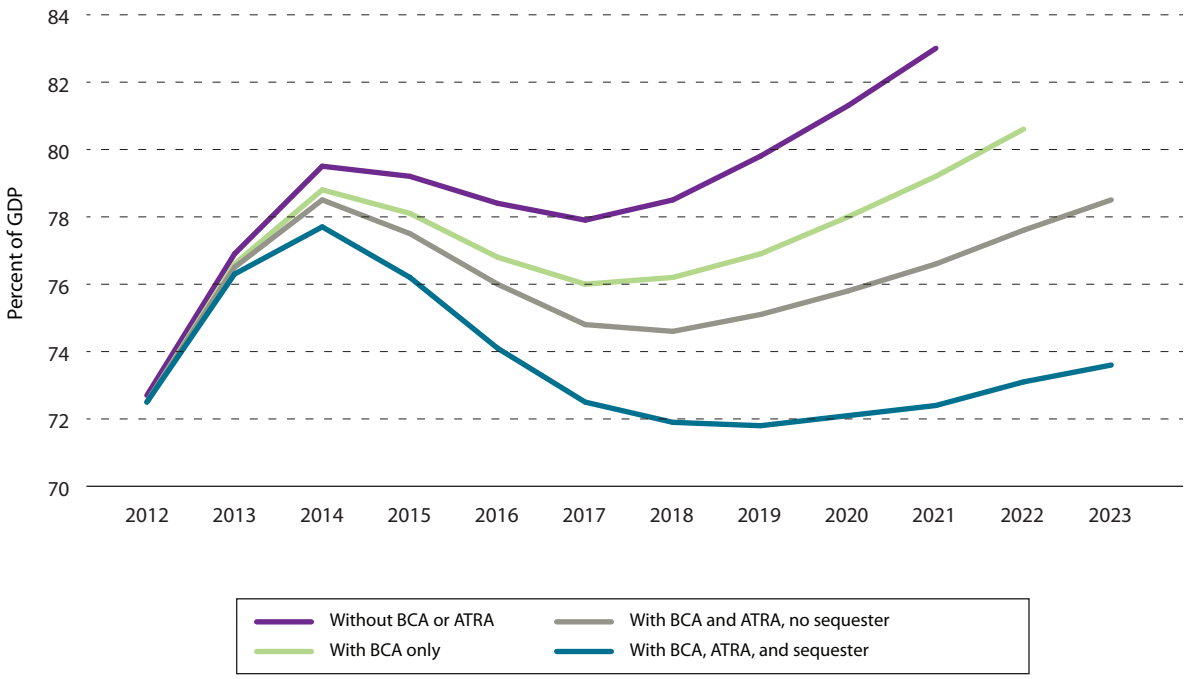
Finally, even after the recovery from the Great Recession, Americans will still face longer-term economic challenges, including the prospect of continued stagnant or falling wages. Over the past several decades, forces such as technological change, globalization and changing patterns of trade, and changes in labor market institutions (including falling union coverage and a declining real minimum wage) have led to large gains for some workers and starkly reduced opportunities for others, leading to dramatic increases in income at the top and rising income inequality. Shrinking opportunities for low-income families could propagate disparities between generations and slow gains in living standards for some Americans, and reduce the economic mobility at the heart of the American Dream.

As one illustration of these growing disparities, figure 3 shows how changes in parents' earnings and living arrangements

FIGURE 1.

Debt-to-GDP Ratio under Various Policy Assumptions, 2012–2023

If sequestration goes into effect, federal debt is projected to be about 74 percent of GDP in 2023; if sequestration is reversed, debt-to-GDP is expected to climb.



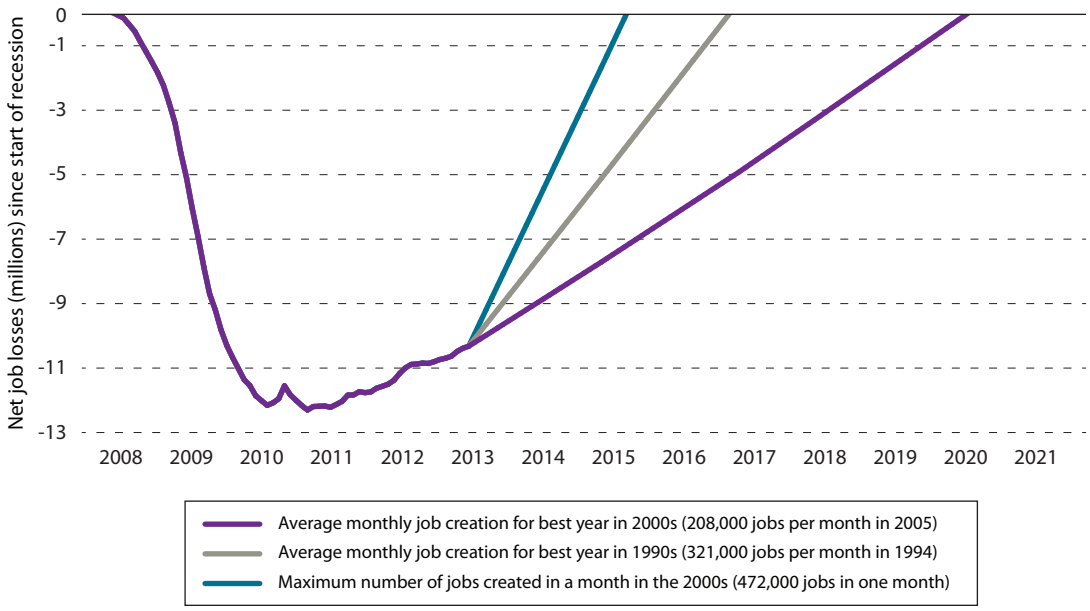
Sources: CBO 2011, 2013; OMB 2012a.

Note: The lines showing pre-BCA and pre-ATRA debt-to-GDP ratio only cover the years for which those policies were scored. All cases assume CBO current law baseline, adjusted to extend current Medicare payment rates, assuming the extension of 2001/2003 tax rates, and with other adjustments in disaster and war funding. See endnote for full calculations and sources.

FIGURE 2.

The Jobs Gap to Date and in the Future Under Different Rates of Job Creation

Even at robust rates of employment growth, it will take years to return to pre-recession employment levels.



Source: BLS n.d.

have affected the resources available to children by comparing the family earnings of children at different points on the income distribution in 1975 with their counterparts in 2010. Today, half of the children in the United States are better off than children at the same point in the income distribution were thirty-five years ago, while the other half of American children live in households with lower real earnings than their counterparts thirty-five years ago.

The federal government historically has played an important role in preparing the nation to face these types of challenges. Investments in education, infrastructure, research, and the maintenance of a social safety net have helped increase the productivity of the workforce, promote economic opportunity, and protect against the downsides from America's vigorous embrace of technological innovation and global competition.

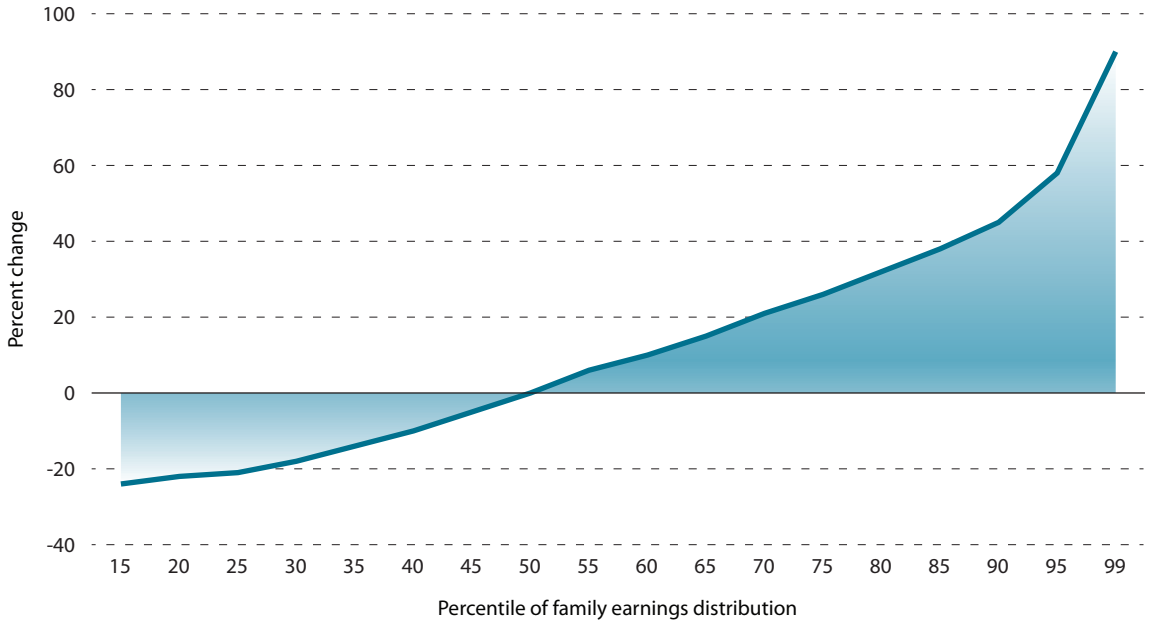
These investments are threatened in the current budget, particularly if the sequestration takes effect. As shown in figure 4, domestic non-defense discretionary spending—the budget category that includes many of these investments—is projected to fall to historic lows as a share of GDP in the coming decade. Such reductions in non-defense discretionary spending imply real cuts to investments that have had broad and meaningful benefits for U.S. innovation and economic growth: less funding for the National Science Foundation, less research into new sources of energy, less training and workforce development, and less spending on education through initiatives such as Pell Grants. This non-defense discretionary spending supports our ailing infrastructure, enables research and development to improve health and foster innovation, and increases access to higher education at a time when we have fallen from second to fifteenth place in college completion rates, among OECD countries (Greenstone et. al 2012a).

If policymakers are to stabilize the long-run budget deficit and address our nation's economic challenges, a more holistic approach is in order. One potential avenue is through higher revenues. In the past two or more years of deficit reduction, spending cuts have outpaced revenue increases by a ratio of nearly four to one (of course, this ratio would change if sequestration does not take effect in its current form) (Kogan 2013). Another avenue is to identify ways to slow the growth in entitlement spending. Over the course of the past half-century, health-care costs have increased rapidly to consume a larger share of our national resources. Because the federal government pays for a sizable share of medical spending through programs like Medicare, Medicaid, and the Children's Health Insurance Program, and will soon provide subsidies to low-income purchasers of private insurance, this cost growth has imposed an increasing burden on the nation's

FIGURE 3.

Change in Family Earnings of Children, 1975–2010

In the last 35 years, the gap between low- and high- income children has widened.



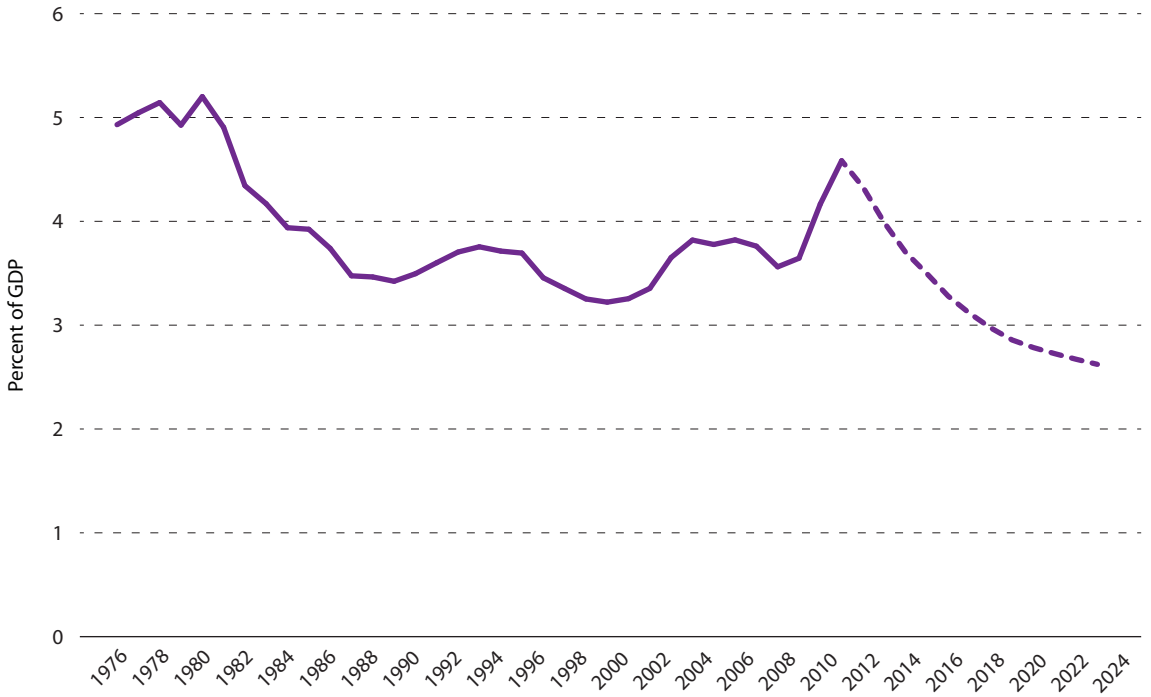
Source: King et al. n.d.

Note: Annual family earnings adjusted for family size.

FIGURE 4.

Non-Defense Discretionary Outlays, 1976–2023

Non-defense discretionary spending is projected to fall to historic lows in the coming decade.



Source: OMB 2012b; CBO 2013.

Note: Figures include automatic reductions scheduled to go into effect on March 2013.

finances. Coupled with an aging population, spending on these programs plus Social Security has more than doubled in terms of both percentage of GDP and percentage of total federal spending since 1962. Although defense spending as a share of GDP has decreased since 1962, it has consistently remained a significant portion of the budget since the late 1970s (OMB 2012b). With defense, health care, and Social Security composing such a large portion of the federal budget, there is less room for other important investments.

Fifteen Ways to Rethink the Federal Budget

Previous Hamilton Project discussion papers have examined and proposed reforms in various areas of the federal budget, from corporate and individual income taxes, to infrastructure, health care, training, and K–12 education. Building on this work, The Hamilton Project commissioned fifteen proposals by outside authors and created a platform for those ideas to help inject new and pragmatic thinking into the budget debate. The proposals are arranged in four categories. In the first section, authors focus on ways to improve entitlement spending by reforming disability insurance, Medicare, and natural hazard and mitigation programs. In the second section, the authors propose innovative approaches to tax reform by taking a close look at fossil fuel tax subsidies, the home mortgage interest deduction, and other aspects of the tax system. In the third section, the authors suggest new sources of revenue and efficiency, including instituting a carbon tax and user fees for transportation infrastructure. The final section offers two proposals for responsible cuts to the defense budget.

Table 1 on the next page presents each proposal and its potential impacts on the economy and the deficit over a ten-year period. Viewed individually, the proposals offer specific reforms and evidence-based policy ideas to achieve budgetary savings and broader economic benefits. Taken together, they offer a menu of policies that could contribute meaningful deficit reduction and help the country confront its most pressing economic challenges.

TABLE 1.

Summary of Proposals

Paper Title	Proposal	Broader Benefits to the U.S. Economy	Deficit Reduction as Estimated by Authors (10-year)
Section 1. An Enduring Social Safety Net			
1. Transitioning to Bundled Payments in Medicare Michael Chernew and Dana Goldman	Proposes a global payment system, where provider systems are paid a fixed fee per beneficiary to cover all spending.	Promotes efficiency in the Medicare program by providing incentives to treat disease rather than paying for individual services; continues to encourage improvements in the quality of care, but at lower costs.	$100 billion
2. Reforming Federal Support for Risky Development David R. Conrad and Edward A. Thomas	Proposes to reform federal disaster programs to prioritize hazard mitigation, and change incentives to encourage risk reduction in local public- and private-sector investments.	Reduces budget costs of natural disasters; reduces risks to life and property of Americans living in disaster-prone areas.	$40 billion
3. Restructuring Cost Sharing and Supplemental Insurance for Medicare Jonathan Gruber	Proposes an integrated, progressive Medicare cost-sharing structure with new limits on out-of-pocket expenses; imposes a tax on supplemental insurance policies to reflect costs shifted to Medicare.	Insures consumers against high out-of-pocket costs; aligns the costs faced by consumers with the actual cost of care; discourages incentives in private plans that encourage excess use of Medicare benefits.	$125 billion
4. An Evidence-Based Path to Disability Insurance Reform Jeffrey B. Liebman and Jack A. Smalligan	Proposes three early intervention demonstration projects to help people with disabilities stay at or return to work. Also proposes mandatory funding for initial eligibility determinations and redeterminations so that the Social Security Administration can perform more timely and thorough eligibility reviews, thereby improving accuracy and reducing program costs.	Potential to increase employment and economic engagement of workers with disabilities and provide more rapid and reliable resolution of disability insurance claims for those who cannot work. Results of the pilots would inform broader reforms of the disability insurance system, leading to additional longer-term benefits.	$10 billion – $20 billion
Section 2. Innovative Approaches to Tax Reform			
5. Eliminating Fossil Fuel Subsidies Joseph E. Aldy	Proposes to eliminate twelve tax provisions that subsidize the production of fossil fuels in the United States.	Levels the playing field among fossil fuel producers and relative to other business investments; leads to potentially lower global fuel prices by providing the United States with increased leverage in negotiations over eliminating fossil fuel subsidies in the developing world.	$41 billion
6. Better Ways to Promote Saving through the Tax System Karen Dynan	Proposes improving incentives for saving by low-income households by expanding use of behavioral approaches and incentives; reduces inefficient tax expenditures for higher-income households.	Improves saving and economic security for low-income households; reduces expensive and ineffective federal subsidies for high-income households.	$40 billion
7. Limiting Individual Income Tax Expenditures Diane M. Lim	Proposes limiting itemized deductions to 15 percent, with special provisions to maintain incentives for charitable giving.	Raises revenue more efficiently by reducing tax expenditures; limits potential negative impacts on subsidized sectors by preserving certain tax incentives; equalizes implicit subsidies across middle- and higher-income taxpayers.	$1 trillion

Paper Title	Proposal	Broader Benefits to the U.S. Economy	Deficit Reduction as Estimated by Authors (10-year)
8. Replacing the Home Mortgage Interest Deduction Alan D. Viard	Proposes replacing the mortgage interest deduction with a 15 percent refundable credit based on up to $300,000 of mortgage principal.	Reduces the artificial incentive for the construction of high-end homes by reducing and better targeting the tax breaks for housing.	$300 billion
Section 3. New Sources of Revenue and Efficiency			
9. Funding Transportation Infrastructure with User Fees Jack Basso and Tyler Duvall	Proposes expanding the use of user fees and tolls to fund ground transportation.	Raises revenues, reduces congestion on major roadways, reduces pollution; promotes wiser infrastructure investments.	$312 billion
10. Creating an American Value-Added Tax William G. Gale and Benjamin H. Harris	Proposes a 5-percent value-added tax on consumption starting in 2017, and offsets regressive impacts through refundable cash payments.	Raises revenue in a manner that does not distort saving and investment choices.	$1.6 trillion
11. The Many Benefits of a Carbon Tax Adele C. Morris	Proposes a $16 per ton carbon dioxide tax, consolidates and rolls back redundant climate-change regulations, reduces corporate income tax rates, and offsets tax burden on the poorest households.	Reduces the buildup of greenhouse gas emissions; replaces command-and-control regulations and expensive subsidies with transparent and powerful market-based incentives; promotes economic activity through reduced regulatory burden and lower marginal tax rates.	$199 billion
12. Overhauling the Temporary Work Visa System Pia M. Orrenius, Giovanni Peri, and Madeline Zavodny	Proposes replacing the current system for allocating temporary worker visas with permit auctions for employers.	Maximizes the economic benefits of work-oriented visas by allocating visas to firms (and immigrants) based on market needs; raises revenue through auctions.	$7 billion – $12 billion
13. Increasing the Role of the Private Sector in Housing Finance Phillip Swagel	Proposes to increase private participation in mortgage securitization markets, privatize the mortgage finance firms of Fannie Mae and Freddie Mac, and provide secondary government insurance on housing securities.	Improves incentives for risk taking and investment in the mortgage market and market for homes; reduces taxpayer exposure to risk; fosters competition and innovation in housing finance.	$134 billion
Section 4. Budgeting for a Modern Military			
14. National Defense in a Time of Change Gary Roughead and Kori Schake	Proposes restructuring and restrategizing the military force structure by scaling back ground combat troops, altering acquisition practices, and reforming compensation packages.	Improves the military's ability to respond to modern challenges, particularly in Asia and the Middle East; makes military procurement of assets more efficient and competitive; designs benefit packages more in line with troops' preferences.	$500 billion
15. Making Defense Affordable Cindy Williams	Proposes changes to slow the growth of costs for military health care, pay, weapons acquisition, and operation and maintenance; offers one option to downsize the military consistent with the Budget Control Act and another to reduce and reshape the forces strategically, consistent with rebalancing toward Asia and the Pacific.	Addresses growing internal costs in the defense budget to preserve military capabilities; reshapes military forces in a way that reduces future budgets while keeping a strong and ready military.	$540 billion– $770 billion

Proposal 1: Transitioning to Bundled Payments in Medicare

Michael Chernew
Harvard Medical School

Dana Goldman
University of Southern California

Deficit Reduction (10-year): $100 billion

Broader Benefits: Promotes efficiency in the Medicare program by providing incentives to treat disease rather than paying for individual services; continues to encourage improvements in the quality of care, but at lower costs.

Introduction

The core challenge for the health-care system in general—and for care financed by the federal government through Medicare—is how to reduce inefficient spending while continuing to improve the quality of care. The fee for service (FFS) system, as currently practiced, is at the heart of this challenge, particularly for Medicare, because it is focused on providing and paying for medical services rather than on promoting and incentivizing medical outcomes.

The existing FFS portion of Medicare, which enrolls almost 75 percent of Medicare beneficiaries, relies on a byzantine system of fee schedules. There are thousands of codes for different services; setting the appropriate fee is enormously complex. Mispriced fees create incentives leading to the overuse (or underuse) of medical services. As a result, resources flow to overpriced activities and infrastructure. Importantly, the FFS system reduces incentives for providers to be efficient over the entire episode of care (Chernew, Frank, and Parente 2012; Landon 2012).

We propose a strategy for transitioning away from FFS payment to a global payment model. These changes are designed to promote efficiency in the Medicare program and facilitate the ability of health-care providers to continue to improve the quality of care, but along a dramatically slower spending trajectory. Compared to likely budget scenarios outlined in the Congressional Budget Office's (CBO's) "Alternative Fiscal Scenario," for example, this proposal would reduce Medicare outlays within the ten-year budget window by more than $100 billion; by reducing the growth in health spending, it would reduce spending in later years (CBO 2013). Moreover, this proposal could contribute to lower outlays for other government-financed health care, and to improvements in the provision of health care in the economy at large. In particular, we support three proposals:

1. The Medicare program should create a global payment model (that can operate independently from the existing FFS system), in which provider systems are paid a fixed fee (or given a fixed budget) to cover all beneficiary spending.

2. Congress and Centers for Medicare and Medicaid Services (CMS) should create regulatory neutrality between Medicare Advantage (MA) plans and accountable care organizations (ACOs).

3. Congress and the CMS should create a safe haven from regulations if an organization accepts global payment.

DISCLAIMER: The views expressed in this paper are solely those of the authors and not of any institutions or government agencies with which they are or have been affiliated.

There are many advantages to transitioning toward a global payment model. One important advantage is that such a model orients the incentives of providers toward taking advantage of efficiencies. It should be noted that a global payment model will likely require organizational changes; there are some concerns that it may lead to lower-quality care. We believe, however, that these concerns can be addressed within the system we advocate.

HEALTH-CARE TERMS[1]

Accountable Care Organization (ACO): An ACO is a group of health-care providers who give coordinated care and chronic disease management, and thereby improve the quality of care for patients. The ACO's payment is tied to achieving health-care quality goals and outcomes that result in cost savings.

Fee for service (FFS): FFS is a method in which doctors and other health-care providers are paid for each service performed. Examples of services include tests and office visits.

Global Payments System: As opposed to FFS, this is a method in which doctors and other health-care providers are paid a fixed fee to cover all beneficiary spending.

Medicare Part A: Hospital insurance paid for by a portion of the Social Security tax. It helps pay for inpatient hospital care, skilled nursing care, hospice care, and other services.

Medicare Part B: Medical insurance paid for by the monthly premiums of people enrolled, as well as by general government funds. It helps pay for doctors' fees, outpatient hospital visits, and other medical services and supplies that are not covered by Part A.

Medicare Part C (Medicare Advantage, or MA): A type of Medicare health plan offered by a private company that contracts with Medicare to provide Part A and Part B benefits.

Medicare Part D: Prescription drug coverage that is voluntary and paid for by the monthly premiums of enrollees and Medicare.

The Challenge

The American health-care system is enormously complex. To guide what can often be an esoteric discussion, the box below contains some important terms and definitions related to the health-care sector.

Medicare's unmanaged FFS system is particularly convoluted, to say the least. While many organizations use FFS within settings with other tools to affect behavior, Medicare's approach has led to considerable inefficiencies (Reinhardt 2012). There is a separate fee schedule for every type of nondrug provider. All these schedules are complicated. The physician payment system has more than 7,000 codes for unique services. Many are variants on the same type of service. For example, there are ten codes for physician office visits that vary based on new versus established patients, and on the level of complexity. There are rules to define each visit; using these rules, providers assign a complexity level based on time spent or the nature of the visit. For example, a level-three office visit is one that requires at least two of the following three components: an expanded problem-focused history, an expanded problem-focused examination, and medical decision making of low complexity. For other services, there are also multiple codes: there are more than forty codes for CT scans based on the part of body scanned and which type of contrast agent is used. This level of intricacy pervades the system.

Moreover, setting the appropriate fees is thorny because the fee schedule must adjust for economies of scope (scanning two body parts in one sitting should cost less than twice scanning a single body part). Assumptions about capacity utilization, which may vary in different settings, and the lifetimes of high-cost equipment are needed to set an appropriate fee.

The existing set of fees is clearly flawed. The variation in fees for any given service based on the setting of care is almost surely wider than can be justified, although some variation may be appropriate. The process for setting physician fees (a process that relies heavily on recommendations from committees of physicians) and facility fees is cumbersome and widely criticized for favoring specialties over primary care. For example, under this system primary physicians are paid considerably less per hour for cognitive services than specialists are paid for procedures (Bodenheimer, Berenson, and Rudolf 2007).

The problems that arise because of mispriced services extend beyond simple inequitable allocation of funds across providers. Mispriced fees create incentives that result in overuse (or underuse) of medical services. They incent resources to flow to overpriced activities and infrastructure and away from underpriced activities and infrastructure.

Perhaps the most important point is that the FFS system diminishes incentives for providers to be efficient over the entire episode of care (i.e., for all of the care associated with the treatment for a particular problem or condition over a period of time). If hospitals work to reduce readmissions, they lose income. If physicians reduce unnecessary office visits, they lose income. While undoubtedly providers strive to provide high-quality care, in a purely economic sense it is difficult for them to justify devoting resources to reducing use of unnecessary services or to finding less-resource-intensive ways to deliver an episode of care.

We therefore believe that the Medicare payment system is ripe for reform. The proposal might not save considerable budget savings when judged against current law (the bar against which the fiscal consequences of payment reform is judged) because that trajectory is at a historic low. In that context, it could be interpreted as improving health outcomes within the current cost structure. However, this current law baseline includes cuts to physician payments that policymakers have been reluctant to implement in the past, cuts that, if not implemented, would increase deficits by more than $100 billion over ten years. Hence, an alternative interpretation is that the proposal could contribute about $100 billion of deficit reduction that policymakers would otherwise have needed to find elsewhere.

The Proposal

Our proposal is based on three provisions:

1. **The Medicare program should create a global payment model (that can operate independently from the existing FFS system), in which provider systems are paid a fixed fee (or given a fixed budget) to cover all beneficiary spending.**

   The global payment is similar to both the global budget used in the existing pioneer ACO model and the per beneficiary premium contribution used in the MA plan (Chernew, Frank, and Parente 2012). Specifically, under our model, the CMS will pay a health plan or provider system a fixed payment (or set a fixed budget) to cover all medical services, including prescription drugs. As described below, MA plans and ACOs will be able to charge beneficiaries a premium above the global rate that represents the federal contribution.

   Unlike the existing ACO and MA models, under our program, the fixed payment will be set in a manner independent of the existing FFS system. Under the existing system, the operation of the ACOs and MA plans rely on the existence of the FFS program, which, if ACOs and MA plans are successful, will wither.

   The budget effects of a global payment model depend on the global payment rates. Setting the global payment is a political decision. We advocate, as a default, that the payment be set to match the current law, per beneficiary Medicare spending, and that it rise at the rate of the current law per beneficiary spending trajectory. This trajectory is rising even after inflation adjustment, but at a much slower rate than rates in the past. Thus, a revised fee trajectory that will allow inflation adjusted per beneficiary payment to rise at the same rate as current law (about 1.1 percent per year) could be developed so that the ten-year budget score remains the same. This is equivalent to about 0.7 percentage points less than GDP growth over the next ten years. Congress could always modify the global rate as it does with the existing fee schedule, but we propose any changes be implemented with a three-year lag to provider plans or providers, with certainty about the target and assurances that efficiency gains will not be captured by the government via lower rates the following year.

2. **Congress and the CMS should create regulatory neutrality between MA plans and ACOs. In a global payment model, the payment can go either to a health plan, as in the MA program, or to a provider system, as in the ACO program. Regulation should strive to level the playing field between these two organizational forms.**

   Most importantly, this means that the payment rates for MA plans and ACOs should be equivalent. Accomplishing this equivalence will require attention because MA payment rates are set based on county spending, and ACO rates are based on delivery system specific spending. A transition period will be needed, but we believe that ultimately we should move to payment rates that are adjusted for case mix and differences in input costs across areas, but not rates that are reflective of different practice styles across delivery systems or geographies.

   Other areas of regulation should be examined as well. For example, MA plans currently control benefit design and can use that authority to implement value-based insurance design plans, which align copays with the value of medical services. They also can use benefit design to incent beneficiaries to use preferred providers. ACOs do not have this authority at this time. Allowing ACOs to have such authority would address concerns about leakage, but might require other changes, such as having beneficiaries proactively select their ACO as opposed to being assigned by the CMS to an ACO without their knowledge.

   Moreover, in MA, plans bid relative to an administratively set benchmark. If they bid below the benchmark, plans can offer more-generous benefits or rebate Part D or Part B premiums. They can offer even-more-generous benefits if they charge an additional premium. If they bid above the benchmark, they must charge a premium for the standard benefit. They can offer additional benefits if they charge an additional premium. ACOs do not have that freedom. Allowing them such flexibility would allow ACOs that are particularly efficient to attract more beneficiaries, and allow those that are higher quality to charge for any added expense. Perhaps both of those objectives can be met if ACOs establish their own MA plans, but there

are regulatory hurdles to that strategy. Other differences between the programs, such as degree of risk sharing, also exist. Total uniformity is not needed and some heterogeneity may be desirable, but regulation should not favor one organizational form over another.

In both programs, policymakers must be concerned with market power, with fees charged by MA plans or ACOs above the global rate, and with fees providers charge to health plans. For example, caps of additional premiums that could be charged might be imposed to address MA premiums and ACO supplemental fees. These caps could be related to measured quality.

Addressing antitrust concerns in the market for health-care services (e.g., what providers charge MA plans) is more complex because of the vast number of services being purchased and the variation in how providers and plans contract (e.g., diagnosis-related group [DRG] versus per diem). Because integration of care may generate efficiencies, regulatory response to market power might focus on price regulation as opposed to breaking up delivery organizations. Limits on the ratios between negotiated fees charged to MA plans and Medicare rates may be needed, but as the FFS system withers, this approach will not be sustainable and other benchmarks (such as national average prices) will be needed.

3. **Congress and the CMS should create a safe haven from regulations if an organization accepts global payment.**

   Many regulations in Medicare are designed to prevent overutilization of care incented by the FFS system. These include regulations against self-referral, various caps on service use, or required utilization review for services such as occupational therapy. In a global payment model, these incentives are eliminated. As a result, they simply represent administrative inefficiencies and needless restrictions. Thus, organizations accepting global payment may be exempt from such rules.

ADVANTAGES TO THIS PROPOSAL

The fundamental challenge facing Medicare is how to slow the rate of growth in public spending while still providing needed access to care for beneficiaries and sufficient resources for providers. The FFS system is an impediment to achieving that goal. The spending trajectory that exists under current law, dominated by FFS, sets ambitious goals; many have questioned whether those goals can be sustained. More important, the FFS system does not allow providers to capture savings from efficiencies they may achieve. This reduces incentives to invest in finding such efficiencies. A global payment model provides such incentives. Similarly, a global payment model also encourages providers to direct care to the most efficient setting as opposed to exploiting differential payment across settings in the current system. Moreover, a global payment model can eliminate the need for some intrusive regulations. Finally, a global budget model provides predictability in spending and spending growth.

Yet despite these advantages, we recognize a number of challenges exist. The most important point here is that success under a global payment model likely requires organizational change. Many providers may not be ready to accept the risk inherent in global payment. By keeping the current system as a fall back, providers will not be forced into the global payment model. Of course, these organizations may not fare well in the existing system with the current schedule of fee updates. As payment rates fail to keep up with input price inflation, they will face financial distress, so relative to current law global payment may be appealing. In Massachusetts, diffusion of global payment was very rapid, and included practices that were not part of large integrated systems. Furthermore, under the global payment model we propose, inflation-adjusted payment rates rise each year, suggesting organizations do not need to reduce spending to be successful: they only must control the rate at which spending increases.

We also recognize that even in a global payment model there will be uses for FFS and FFS-type systems. For example, risk adjustment may require continued collection of service-level data that may use the existing coding system, though perhaps modification can be made as the purpose changes (Ginsburg 2012). Moreover, within provider organizations (or between MA plans and providers) a payment system will be needed (Landon 2012). That system may have aspects of FFS (e.g., bonuses for productivity), but the decisions about how to balance financial incentives with other managerial techniques will reside with the organization, not the government.

Another concern is that such models will encourage health-care systems to provide poor-quality care. Evidence from the 1990s is that while HMOs do not uniformly lead to worse quality of care, elderly and chronically ill patients enrolled in HMOs had worse quality-of-care outcomes than their FFS counterparts (Miller and Luft 1997). Existing evidence from newer models suggests that such models may improve some aspects of quality (Song et al. 2011). Yet quality measures are imperfect and these concerns about adverse effects on quality are genuine. Greater development of quality measurement systems is required.

There are several reasons to believe quality concerns can be mitigated. For example, because payment rates would be rising, the financial resources exist to provide ever-improving quality, and efforts to eliminate waste may actually improve

quality in some cases (because incentives would encourage providers to reduce the rates of complications and delivery of needless services, some of which could have adverse side effects). Furthermore, by allowing providers to charge above the global rate, those consumers who wish to pay more for better-perceived quality will be allowed to do so.

The potential for copremiums or surcharges above the global rate raises another concern about the impact on disparities in access. Lower-income individuals will be less able to buy access to potentially higher-quality systems. Quality measurement systems can be used to create a minimum standard, but again, such systems are inevitably imperfect. Therefore disparities must be monitored and policymakers may need to develop systems to protect low-income beneficiaries. But it is useful to note that under the current system, lower cost is not synonymous with lower quality; it may be the case that a global payment system, with plans or delivery systems accountable for outcomes, provides even better quality for low-income beneficiaries. Thus, relative to the status quo, this proposal may be an improvement.

A final concern is that the system we propose does not save any money relative to the status quo. Under current law, inflation-adjusted spending per beneficiary is forecast to rise at historically low rates (0.7 percentage point below GDP growth compared to an average of 1.5 percentage points above GDP since 1985) (CBO 2012). Under our proposal, policymakers could opt for lower spending targets, but we consider the existing current law trajectory to be sufficiently ambitious. It should be noted that relative to the alternative fiscal scenario, this plan would reduce spending by about $100 billion over ten years.

It is important to recognize that, under a global payment model, further savings can only be captured by the government if the global payment is reduced. For example, reductions in benefit generosity only save money for Medicare if the global payment rates are adjusted accordingly. Regardless of whether Medicare sets the payment to reduce spending relative to current law, our proposal focuses on transforming the incentives in Medicare to encourage efficiency and render the existing spending forecasts more feasible.

Conclusion

The Medicare program is in dire need of payment reform. The FFS system is difficult to manage, lacks incentives for the delivery system to invest in achieving efficiencies, and has historically encouraged unsustainable spending growth. We propose replacing the FFS system with a global payment model designed to limit public expenditures to the current law trajectory, which would represent a significant departure from past levels of spending growth.

Many of the structures needed to implement our proposals exist under current law, including the MA and ACO programs. Yet our proposal differs from current law in three important ways: First, we break the tie between payment and FFS spending. Second, we strive to harmonize the ACO and MA programs. Third, we create regulatory safe havens for organizations accepting global payment. Certainly the challenges to such a migration are great, but the alternative—payment rates that statutorily rise at rates below the rate of inflation in input prices and offer no incentives for efficiency—seems even less appealing.

Proposal 2: Reforming Federal Support for Risky Development

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Deficit Reduction (10-year): $40 billion

Broader Benefits: Reduces budget costs of natural disasters; reduces risks to life and property of Americans living in disaster-prone areas.

Introduction

Within the past decade, citizens of the United States have experienced a series of devastating natural disasters, including Hurricanes Sandy, Katrina, and Rita; the tornado outbreaks of 2011 and 2012; and an annual slew of increasingly destructive wildfires. These disasters have exerted a significant human toll, destroying homes, uprooting families, and bankrupting local businesses. The devastation caused by these disasters has increased substantially in recent years, and unfortunately the forecast does not predict a respite: most climate experts and economists expect that the United States will continue to experience escalating damages from natural hazards such as severe weather, floods, and wildfires.

As these tragedies have proven time and again, Americans are generous in times of disaster. We have seen communities come together as neighbors help one another recover and rebuild, and we have witnessed outpourings of support and charitable contributions from concerned citizens across the country. Considerable amounts of federal aid are also often sent to areas affected by natural catastrophes, and the federal government insures many Americans living in flood-prone regions through the National Flood Insurance Program (NFIP), which was created in 1968 as an agreement between the federal government and local communities, wherein the federal government makes flood insurance available to residents of communities that adopt and enforce a floodplain-management ordinance. Through such relief efforts and programs, the federal government plays an important role in insuring losses incurred in disasters and in reducing the costs and harms of future disasters.

The increasing frequency, intensity, and costs of disasters have placed tremendous budgetary pressure on the institutions intended to avert and mitigate disasters and to provide relief to disaster victims. Because federal taxpayers often cover much of the bill for the damages of a natural disaster, individuals, developers, and local governments can face incentives to develop and redevelop areas that are at risk for natural disasters. The first step in reforming federal disaster support is for policymakers to reduce unnecessary damage caused by human occupancy of at-risk areas. We believe the federal government should continue to play a strong role providing much-needed assistance to Americans who are the victims of natural disasters, but that the federal role should also require and incentivize steps to ensure that residents and communities make decisions and undertake investments to mitigate future losses.

The federal government neither does nor should dictate where people can live, own property, or operate their businesses. The federal government can, however, rethink and reform its appropriated and nonappropriated support for development activities and postevent reconstruction to support and nurture better zoning regulations, building codes, and natural-hazards management programs, to help ensure that individuals avoid especially hazardous locations.

To make the federal government's disaster-relief efforts more effective, from both environmental and economic perspectives, we propose a series of reforms that fall into three broad categories:

1. Incentivize and otherwise implement higher disaster-resistant development standards for any type of federal support for new or reconstructed public and private housing, industry, and infrastructure investments.

2. Require greater private and local cost-sharing of disaster costs.

3. Further reform the NFIP.

Natural disasters are, by their nature, unpredictable, and this makes calculating the fiscal effects of our proposals difficult, but our conservative estimate is that our reforms would save the federal government at least $40 billion over the next ten years. In addition, these proposals will promote a safer, less-disaster-prone future, and will mitigate potential harm to those that choose to remain in areas that Mother Nature regularly visits with wildfires, earthquakes, storms, and floods.

The Challenge

THE ECONOMIC COSTS OF NATURAL DISASTERS

The costs of rebuilding from repeated disasters—especially floods, which are the United States' most frequent and costly natural disaster—go well beyond the repair of individual structures. In addition to the human costs of natural disasters, there are costs to local governments from responding to crisis situations and later repairs to roads, bridges, and other infrastructure. There also are costs to volunteer agencies; to private organizations; and to insurance companies, as well as to their premium payers. Damage to fragile river and coastal ecosystems cannot be fully quantified. That damage affects not only critical habitats, but also the natural flood-protection capacity and capability of these ecosystems to provide initial barriers against the next severe weather event. In June 2005, the National Science Technical Council (NSTC) reported that the cost of disasters to the nation, including emergency response, public and private property damages, and business disruption, had already reached $1 billion a week (NSTC 2005, 3).

Cummins, Suher, and Zanjani note, "[D]evelopment has been steadily increasing in catastrophe-prone areas, so the property at risk is far greater now than at any time in the past . . . and the combination of rising standards for federal assistance and the growing private exposure suggests that the 'stealth entitlement' of federal disaster assistance has grown large enough to merit a deeper assessment" (2010, 1). They also demonstrate that, given recent trends, a net present value of unfunded liability in disaster assistance over the next seventy-five years could be between $1 trillion and $5.7 trillion, comparable to the projected shortfall in the Social Security system ($4.9 trillion) over the same period (Cummins et al. 2010, forthcoming).

One needs only view the breadth and cost of responses to Hurricanes Katrina, Rita, and Wilma in 2005, and the recent Hurricane Sandy Emergency Supplemental Appropriation to realize the growing costs of federal disaster management. From 1989 to 2011, Congress provided a total of $292 billion (2010 dollars) in federal disaster assistance through thirty-five separate appropriations acts. Most of those funds were appropriated toward the end of that window: between 2005 and 2010, Congress appropriated $163 billion, the vast majority of which went to Hurricane Katrina relief, with major funds allocated for programs of thirteen separate federal departments and seven independent agencies (Congressional Research Service [CRS] 2011).

With increasing frequency, the federal government has been waiving state and local cost-sharing for Stafford Act Disaster Assistance, which provides emergency aid to state and local governments, and major Corps of Engineers building programs, thus bringing the federal burden of the government costs of these natural disasters to 100 percent. Much of the funding supported rebuilding at lower, riskier elevation levels than the original structures, and often only paid lip service to enforcing Jimmy Carter's 1977 Executive Order 11988, which directed that critical facilities and infrastructure be located outside or elevated above five-hundred-year flood levels (that is, levels only observed in the most extreme of floods). Much of the Katrina relief funds, for example, were provided without serious requirements to mitigate likely risk from future catastrophes.

In the two Hurricane Sandy emergency supplemental bills, a combined total of just over $60 billion was provided for programs of ten federal departments and seven independent agencies. Again, most of the Sandy legislation constituted spending to repair federal facilities and provide grants to communities for repairs, while only weakly referring to long-term recovery, with few or no tangible directed standards to ensure significant future hazard mitigation. Interestingly, as the bills were being passed, the governors of New York and New Jersey, and Mayor Bloomberg of New York City, announced new state and local policies and plans that give some in the disaster-mitigation community hope for emphasis on stronger rebuilding standards and use of voluntary buyouts and permanent evacuation of some of the highest-risk and damaged areas. The actual outcomes of these plans remain to be seen.

THE PROBLEM OF CLIMATE CHANGE

Part of the driving force behind the increase in federal disaster spending is climate change and its associated increases in the frequency and costs of natural disasters. The nation's climate scientists continue to warn of damage from climate change, caused by increasing storm intensities, rising sea-levels, and other factors. The recent draft National Climate Assessment currently under public review, for instance, finds that since 1992 the rates of sea-level rise have doubled over rates of the previous century. Current projections forecast one to four feet of sea-level rise over the next hundred years, which is especially disconcerting, because nearly 5 million Americans live within four feet of elevation of their local high-tide levels (National Climate Assessment and Development Advisory Committee [NCADAC] 2013, 4–10). Another study conducted for the Federal Emergency Management Agency (FEMA) projects that, due to both population increases and climate changes, flow volumes of major floods would likely increase "as much as 50 to 60 percent relative to present day values in areas of the Pacific Northwest, urbanized areas of the West and areas of the Northeast" by the end of the century, with substantial increases in many regions in the next few decades (Kolat et al. 2012, 451). These predictions portend considerably expanded floodplains across the nation with more-frequent damaging floods.

MORAL HAZARD AND THE FEDERAL ROLE IN DISASTER RESPONSE

Gilbert White famously observed, "Floods are acts of God, but flood losses are largely acts of man." That observation is very much supported by the United Nations' 2009 Global Assessment Report on Disaster Risk Reduction, which indicates that worldwide losses from natural disasters are increasing, as more and more people occupy disaster-prone locations. New research suggests that the United States should expect huge increases in disaster spending due to current land-use practices, irrespective of any additional toll that will be caused by climate change, land subsidence, and sea-level rise (Thomas and Bowen 2009).

The economic concept of moral hazard helps explain why risky areas are being developed in the first place, and then rebuilt in the same manner following a natural disaster. Moral hazard arises when one party takes on risk knowing that the costs that could result would be borne by another party. In the case of natural disasters, individuals are more likely to develop at-risk areas if they know that they will not bear most of the costs should that area be struck by a catastrophe.

This concept also explains why local governments do not adopt more-stringent zoning codes for preventing the development of at-risk areas. Water views and water rights make some properties more attractive and more valuable, despite being more vulnerable to floods. This benefits the local economy through higher real estate and other taxes and from enhanced economic activity. This makes the development of these floodplain areas attractive from the perspective of local authorities, who are also charged with adopting and enforcing zoning and building codes in those hazardous locations.

Because the federal government is bearing an increasingly large share of the financial burden for natural disasters, this exacerbates the moral hazard that encourages building in at-risk zones: if developers and local authorities know the federal government will pay most of the costs for a disaster, there is even less incentive to avoid development in risky areas. This trend toward increasing federal assumption of disaster costs, in both total cost and in relative proportions, is new; a few decades ago, the costs of natural disasters were largely borne by state and local governments and victims (or their insurers), generally without large federal-level expenditures (Moss 1999, 2002). In the fifteen years before Hurricane Katrina, the federal government bore, on average, 26 percent of the costs of major hurricanes, but since 2005 the federal government has paid almost 70 percent of the costs (Abel et al. 2012). These costs are passed on to the taxpayers through a cornucopia of federal programs, ranging from direct payments through FEMA, the Department of Housing and Urban Development, and the Department of Agriculture, to Small Business Administration loans, to tax benefits from deductions for casualty losses (Thomas et al. 2011).

This means that poorly designed, engineered, constructed, and sited development continues on high flood-risk properties, especially in coastal areas and other flood-prone locations, and that the federal government is responsible for a sizable share of potential losses that result in the event of disaster.

The Proposal

MITIGATING FUTURE DISASTERS

The escalating threat of natural disasters requires actions that will reduce the costs of these hazards as well as reforms that make more-efficient use of federal relief funds. Among the most beneficial and reliable savings are those that result from reducing or eliminating subsidies for government hazard insurance to better internalize costs for the highest-risk properties, and those from developing and implementing more-effective hazard-mitigation standards through federal investments and economic assistance. This section provides several specific areas for improvement.

Lower the premium subsidy for crop insurance

The federal government currently provides a 60 percent taxpayer subsidy to purchase federal crop insurance. This provides incentives to grow crops in marginal, high-hazard locations that would otherwise be too risky. Last year, a combination of record crop prices, increased use of insurance, major drought and flood conditions, and a lack of conservation compliance requirements led to record crop insurance costs of $13 billion (Sumner and Zulof 2012). Lowering the premium subsidy for crop insurance and requiring conservation-compliance regulation that prohibits cropping in wetlands and other highly erodible soil areas could result in major savings for the nation. According to the Government Accountability Office (GAO), the savings could amount to $1 billion annually, potentially more with even higher standards (GAO 2012). In addition, the Congressional Budget Office (CBO) estimates that reducing the crop insurance premium subsidy from 60 percent to 50 percent would save more than $5 billion over the next five years, and almost $12 billion over the next ten (CBO 2011).

Eliminate subsidies for risky development

Another way to prevent unnecessary disaster costs is to eliminate subsidies that support the development or redevelopment of areas that are at-risk for flooding or other disasters. Taxpayers currently subsidize such risky development through federal grants for infrastructure projects in at-risk areas, through Stafford Act loans and grants, and through the tax system through real estate–tax and mortgage-interest deductions, and deductions for casualty losses. Further, the federal government also frequently assumes the costs of uninsured private losses in the wake of catastrophe, providing implicit insurance in case of loss. Some progress has already been made in reducing these federal subsidies. The Coastal Barrier Resources Act of 1982 (CBRA), for instance, eliminated federal subsidies, including federal flood insurance and infrastructure funding, for undeveloped areas within the nation's approximately three hundred coastal barrier islands and nearby low-lying land areas along the Atlantic and Gulf Coasts, and around the Great Lakes. While such treatment has not halted new at-risk development on all barrier islands, such development has considerably slowed, especially where state and local cooperation exists. A Department of the Interior (2002) study conservatively estimated nearly $1.3 billion in federal budget savings from 1983 to 2000, largely through reduced infrastructure and disaster-assistance costs from the CBRA. Expanding the zones included in the CBRA domain—especially undeveloped areas and high-risk, developed areas that are likely to be permanently inundated by sea-level rise within just a few decades—would slow risky development in disaster-prone areas, resulting in greater future savings.

Invest in Pre-Disaster Mitigation and other similar projects

Federal funds that provide incentives for local governments to take on hazard mitigation would more than pay for themselves through future savings. For example, FEMA's Pre-Disaster Mitigation program provides grants to help communities engage in projects that can lessen casualties and property damage from earthquakes, floods, hurricanes, and other natural hazards. Pre-Disaster Mitigation–funded projects from 2004 to mid-June 2008 cost nearly $500 million, but CBO estimates that the reduction in future losses associated with those projects has a present value of $1.6 billion, for an overall benefit-to-cost ratio of three to one (CBO 2007).

The growing risk of flood- and storm-related damages requires stronger executive direction for managing these risks. Executive direction for federal action has existed for more than thirty-five years, starting with Executive Order 11988 of May 24, 1977, dealing with floodplain management. Long-term efforts aimed at avoiding and managing these risks, however, have succumbed time and again to short-term economic incentives. Executive Order 11988 should be applied with strong commitment to expenditures for disaster assistance and economic development, with a strong emphasis on leading investments and community development to avoid and mitigate flood risks.

Improve zoning and environmental regulations

Proper zoning and environmental regulations have the potential to mitigate much of the damage that typically accompanies natural disasters. A significant factor in the Hurricane Katrina damage was the substantial loss of wetlands, which can act as a protective barrier in coastal regions. Further environmental regulations to protect and rehabilitate coastal wetlands are necessary, and can be partially achieved through better zoning laws that prohibit wetland-damaging development. Building projects should also be restricted in other areas at great risk for natural disasters. To that end, among other steps, building codes should be more strictly enforced and updated to require increased "freeboard" through elevating building construction considerably above calculated flood levels to take into account sea-level rise, climate variability, and uncertainty in prognostications about future flood heights. These precautions can prevent significant future casualties and property damage.

FEDERAL COST SHARING

When a natural disaster as catastrophic as Hurricane Katrina or Sandy hits, the federal government should—and does—provide assistance to state and local governments for infrastructure repair. When the federal government bears too high a percentage of the cost of rebuilding, however, it exacerbates the

moral-hazard problem and reduces local incentives to diminish risks and control the costs of repairs. Reducing the federal share of the costs of natural disasters would improve incentives for local governments to invest in disaster-mitigating projects and reforms and to carry out rehabilitation in the most efficient and cost-effective way possible.

Remove tax deductions for damaged property not in compliance with federal standards

Greater internalization of costs by those who choose to reside in areas of high risk can also help shift much of the burden from federal taxpayers and help bring down overall costs of natural disasters. One way to help achieve this goal is for the IRS to remove deductions for losses and damages that result from failure to comply with federal standards. We propose removing deductions for damaged properties failing to carry required flood insurance and removing deductions for local real-estate taxes and mortgage interest for properties built in areas at the most serious risk of disaster, but that are not built to current federal minimum standards. Pre-existing structures could be partially grandfathered in so that their owners, who tend to be disproportionately elderly and low-income, are not adversely affected. Eliminating these deductions will not only reduce the federal share of loss-coverage, but also will encourage people to take better precautions against damage from natural hazards by purchasing insurance.

Tie federal relief to communities' future disaster mitigation

Another way to reduce the federal government's cost burden and ensure that federal funds are spent appropriately is to harmonize federal programs and require more-effective floodplain management and hazard-mitigation standards to accompany all federal spending such as Community Development Block Grants, especially those made following disasters. Recent disaster appropriation bills, for example, have added huge amounts of assistance to be delivered through community block grants. To ensure that the funds will be spent appropriately, and to reduce the costs of subsequent disasters, local authorities should adopt and enforce standards to increase the focus on disaster mitigation and community planning to reduce risks. Recent Sandy legislation included $16 billion for such grants. A 2007 analysis building on work by the Multihazard Mitigation Council (2005) showed a three-to-one benefit-to-cost ratio for hazard-mitigation investments (CBO 2007). The potential savings from requiring Community Development Block Grants investments to emphasize hazard mitigation would be considerable, likely in the tens of billions of dollars.

Currently, disaster policy pays little attention to how communities actually manage their risks and vulnerabilities, except through some inadequate planning requirements. Because states and communities set and implement basic land-use laws and building codes, it is critical to give communities a clear stake in implementing hazard mitigation. A model for this approach could be the NFIP's Community Rating System, a program that provides incentives in the form of discounted flood insurance premium rates for communities to engage in floodplain management activities that exceed minimum NFIP requirements.

In this vein, the federal cost sharing under the Stafford Act Public Assistance, which helps states and local governments rebuild infrastructure and provides other emergency aid, should be set on a sliding scale based on how effectively a community had attempted to mitigate loss, rather than at the current level of 75 percent of eligible costs basis (subject to increases at the discretion of the president). Frequent decisions to go above the Stafford Act's minimum 75 percent federal share mean that local communities face little or no out-of-pocket cost from damage to local infrastructure. Although such decisions by the federal government are well-intentioned attempts to assist communities in times of need, eliminating these costs for state and local governments discourages mitigation investments and could have the unintended consequence of increasing losses from future disasters. Using a sliding-scale to set the federal share of costs is similar both to the NFIP's Community Rating System described above and to the system long used by the insurance companies in the United States to incentivize behavior that reduces fire risk and losses. Similar sliding-scale treatment should also be made for local cost-shares for Army Corps of Engineers flood control and Department of Transportation disaster assistance. Shifting to these incentive-based policies for hazard mitigation would ensure that local communities have more of a vested interest in making investments that minimize risks.

Work with private insurance companies to promote more effective coverage

Uninsured losses are also a major burden for federal taxpayers, who often end up bearing most of the financial burden for these losses following a catastrophe. Many homeowners in high-risk areas forego private insurance against disasters or flood coverage through the NFIP. For example, 90 percent of Californians do not have earthquake insurance, and many NFIP policyholders decide to cancel their insurance after several years without witnessing a major flood (Kunreuther and Michel-Kerjan 2012). When a catastrophe does occur, much of the time the federal government assumes most of the costs for these uninsured losses. Kunreuther and Michel-Kerjan (2009) propose that policymakers encourage individuals in at-risk areas to enter into long-term insurance, where the policy is written for the property, not the individual, and the policy is fixed for a long time period, rather than one year. Long-term

insurance contracts offer more rate certainty for policyholders and also discourage individuals from canceling insurance policies after long periods without disasters.

There are other methods by which policymakers can institute greater private cost-sharing to lessen the burden borne by the federal government after a natural disaster. We recommend purchasing reinsurance for NFIP catastrophic-loss coverage from the private sector and setting surcharges to reflect costs. In addition, policymakers should encourage entry by private insurers to cover the routine risks while the federal government focuses aid against catastrophic risks. This strategy conserves federal funding and manpower for larger-scale disasters; in addition, private insurance may be more efficient in some circumstances.

REFORMS TO THE NATIONAL FLOOD INSURANCE PROGRAM

There are also several opportunities for reforms within the NFIP to incentivize activities that would reduce the likelihood and costs of flood-related losses. For one, the NFIP should charge risk-based premiums and update risk assessments for the effects of climate change. This includes updating flood maps, mapping five-hundred-year floodplains, and requiring actuarial-based insurance in at-risk areas. Such steps would reduce risks by allowing potential builders and homeowners to select their sites more carefully, possibly before building or investing in flood-prone areas.

The NFIP should phase in actuarial rates for 800,000 subsidized older, primarily residential properties, which have a higher risk of flood damage and were not part of the Biggert-Waters Flood Insurance Reform Act of 2012. A means-tested voucher system should be instituted to address any hardships for lower-income residents, however. The associated savings from this reform amount to $600 million annually (FEMA 2012). We also recommend that the NFIP phase in actuarial rates for future increasing shoreline erosion hazards and incorporate erosion setback requirements for new or reconstructed buildings on erosion-prone coasts, including the coasts of the Great Lakes. Over the next sixty years, erosion will likely claim one in four houses within five hundred feet of U.S. shorelines. In 2000, approximately 350,000 structures were located in this zone—excluding all densely populated urban city areas (H. John Heinz Center and FEMA 2000). Additionally we recommend phasing in actuarial rates for areas that will be impacted by inevitable sea-level rise or inland flood-height increases due to improper development upstream. Costs of losses due to sea-level rise and future likely development in upper watersheds are not incorporated in NFIP rates, yet the NFIP will pay for most such losses (Larson and Plasencia 2001). These reforms could, in the authors' opinions, yield $400 million in annual savings, and even more if higher standards are imposed.

Conclusion

Not only is the United States experiencing natural disasters that are more catastrophic, but also, from both financial and human perspectives, each disaster is becoming more expensive. As we consider changes in federal policy that can best reduce the mounting toll of these hazards, we must be guided by the principle that the best disaster response and recovery come from proper planning, land use, and building codes that prevent disasters from occurring in the first place. While the federal government will continue to support those Americans who are the victims of these catastrophes, policymakers must work to promote disaster mitigation and devise a more equitable cost-sharing structure for natural disasters. Indeed, such an approach will save money and, more importantly, lives.

Proposal 3: Restructuring Cost Sharing and Supplemental Insurance for Medicare

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Deficit Reduction (10-year): $125 billion

Broader Benefits: Insures consumers against high out-of-pocket costs; aligns the costs faced by consumers with the actual cost of care; discourages incentives in private plans that encourage excess use of Medicare benefits.

Introduction

As the federal government considers options for deficit reduction, all eyes are on the Medicare program. Medicare is the single biggest driver of the long-run deficit problem facing the United States. According to the most recent projections from the Trustees for Medicare, our long-run obligations in terms of Medicare exceed the taxes we will collect to finance that program by $42.7 trillion over the entire future path of the program (Board of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds 2012).

Traditionally, efforts to control the costs of the Medicare program have focused on the "supply side," changing the method and amount that Medicare pays its providers. There has been much less focus on the "demand side," using financial incentives to encourage less medical spending by enrollees. Indeed, the most important change in the demand side of Medicare in the past fifty years was the introduction of the Medicare Part D program, a prescription drug benefit, which substantially increased program spending.

Yet efforts both to improve the value of the Medicare program for beneficiaries and to lower its costs to the government would benefit from some focus on the demand side. Medicare confronts enrollees with a very poorly designed set of financial incentives. Some services are provided at no enrollee cost while others expose enrollees to uncapped financial risk, without regard to value. Facing such exposure, most enrollees have obtained some form of supplemental coverage from the government (Medicaid coverage of the "dual" population) or employers (employer-provided retiree health insurance), or have purchased coverage on their own (so-called Medigap coverage or Medicare Advantage plans). Supplemental insurance is typically expensive, and the self-purchased products deliver much less value per dollar of premium than does traditional health insurance. Moreover, because supplemental insurance covers the patient costs of care, it encourages enrollees to consume more care. Supplemental insurance thus induces increased medical spending, the bulk of which is financed by Medicare, and imposes an important fiscal externality on the program.

In this chapter, I present a proposal to address these shortcomings with the existing Medicare cost-sharing structure. I propose a new cost-sharing structure within Medicare that will provide more protection to elders than the existing program, and will save many of them money by removing the costs of supplemental coverage.

The Challenge

BACKGROUND: COST SHARING AND SUPPLEMENTAL INSURANCE IN MEDICARE

Other than Medicare Part D, Medicare beneficiaries receive benefits through three programs. One program, Medicare Advantage, allows participants to enroll in private plans, which the government subsidizes. In the other two programs, the government directly provides insurance: Medicare Part A covers hospital care, including services such as inpatient care and skilled nursing, while Medicare Part B covers doctors' fees and other medical services not covered by Part A.

The existing level of cost sharing in Medicare Parts A and B is both variable and uncapped, with an overall structure that is hard to rationalize. The current structure is

- A deductible per hospital episode of $1,156;
- Additional charges per day for stays of more than sixty days;
- A skilled nursing facility (SNF) copayment of $141.50 per day for twenty-one to one-hundred days;
- A $162 deductible for Part B services; and
- An uncapped 20 percent coinsurance rate for most Part B services.

This is a problematic cost-sharing structure for a number of reasons. First, patients who use similar amounts of hospital services can pay very different amounts depending on whether hospitalizations are considered part of the same episode. Second, the sickest patients who stay in the hospital the longest bear the highest hospital costs. The sickest patients with the most need for SNF services pay the most, amounting to over $10,000 for a hundred-day stay. Out-of-pocket exposure under Part B is also unlimited; patients can bear out-of-pocket costs that are a huge fraction (if not a multiple) of their income if they use extensive SNF or Part B services. Meanwhile, other services such as home health care and clinical and laboratory services are delivered with no cost sharing.

Perhaps for these reasons, only about one in ten Medicare beneficiaries faces this cost sharing. The remainder have supplemental coverage that picks up some or all of these costs. This supplemental coverage comes from one or more of five sources:

- The Medicaid and Qualified Medicare Beneficiary (QMB) programs cover all cost sharing (except for some nominal amounts) for the lowest-income elders. The income and asset limits to which individuals are subject in order to qualify for this program vary by state, although there is a federal floor at roughly 75 percent of the federal poverty line.
- The QMB program extends this cost-sharing protection to elders below the poverty line (or higher income in some states) who meet certain (higher) asset limits.
- Employer-provided retiree health coverage replaces Medicare cost-sharing provisions with (typically more-modest) employer-sponsored insurance (ESI) cost-sharing provisions.
- Individually purchased supplemental (Medigap) policies typically cover most cost sharing.
- Enrollment in privately run Medicare Advantage plans typically provide much lower cost sharing.

A well-known problem with supplemental coverage is the fiscal externality on the Medicare program. This arises because supplemental coverage increases medical utilization (by lowering the price faced by consumers), and the burden of that higher utilization is borne largely by Medicare (through the majority of spending that occurs after cost sharing). This significantly raises overall Medicare spending.

Estimating the size of this externality has been difficult because individuals who choose supplemental coverage may differ from those who do not. Two recent estimates from quasi-experimental analysis of changing supplemental coverage generosity suggest an externality of 30-45%; that is, for every $1.00 of coverage provided by supplemental coverage, Medicare spending rises by 30 to 45 cents.[1]

Another problem with individually purchased supplemental coverage is that it is a highly cost-inefficient product; Starc (2012) estimates an administrative load for Medigap policies of around one-third, largely due to substantial advertising and endorsement expenditures. These policies are not subject to limits put in place by the Affordable Care Act (ACA), which requires that health insurance for small groups and individual purchasers have an administrative load of no more than 20 percent.

CBO-SCORED OPTIONS

The starting point for recent debates over reforming cost sharing in Medicare is several options considered by the Congressional Budget Office (CBO) in its December 2008 volume, *Budget Options: Volume 1, Health Care*. In particular, CBO considered the following reforms:

- ***Integrated (and increased) cost sharing.*** This cost sharing would replace the variable and uncapped out-of-pocket payments under Parts A and B with an integrated structure that applies to all (combined) Part A and Part B costs, consisting of a $525 deductible, a 20 percent coinsurance rate above the deductible, and a $5,250 out-of-pocket maximum. CBO estimates that such a reform would save the Medicare program $32 billion over a decade.
- ***Restricted Medigap coverage.*** To reduce the Medicare externality, the government could restrict the ability of Medigap plans to cover cost sharing. The particular option considered by CBO is a restriction that Medigap could not cover the first $525 of cost sharing, and could only cover 50 percent of the next $4,275. CBO estimates that this reform would save Medicare $53 billion over a decade.

- ***Combined cost sharing and Medigap reforms.*** Were Medicare to combine the two previous reforms, CBO estimates that it would save Medicare $95 billion over a decade (which is larger than the programs by themselves due to interaction effects between them).

These are innovative concepts that have permeated policy debates over reforming Medicare. But the proposals also have limitations that have made many wary of endorsing them. In particular, there are legitimate concerns about affordability of revised cost sharing among elders. Many elders live on low incomes, with 17 percent living below the poverty line and almost half living below twice the poverty line. Elders up to the federal poverty line have their cost sharing fully covered by the Medicaid and QMB programs, although participation in these programs is less than full: many elders do not take advantage of that coverage. At the same time, an elder at twice the poverty line enjoys no protection. That is, under the first CBO plan, an elder with an income of about $22,000 could face an out-of-pocket cost of $5,250, or more than 25 percent of his or her income. This is an unreasonable burden to impose.

In addition, the proposed regulation on supplemental plans is very stringent and does not allow the plans to reflect diversity of elders' tastes for supplemental coverage. In particular, some elders may prefer first dollar Medigap coverage as a paperwork reduction device or simply as a way to avoid having to worry about liquidity at the time of service. At the same time, allowing supplemental plans to cover 50 percent of out-of-pocket costs after $525 still imposes a very large fiscal externality on Medicare. Moreover, this restriction is inequitable because it does not apply to employer-sponsored retiree insurance, a major sources of retiree coverage.

The Proposal

A few revisions to the CBO options could provide many of its benefits (and much of its cost savings) while providing protection to low-income elders that is much more valuable.

REVISION #1: PROGRESSIVE OUT-OF-POCKET MAXIMUM

Medicare would introduce an *income-related out-of-pocket maximum*. Rather than a flat amount of $5,250, the out-of-pocket maximum could be related to income in the same way that the ACA relates to income, with a schedule that sets the maximum as a share of the Health Savings Account (HSA) out-of-pocket payment limit:

- 100%–200% of poverty: one-third of HSA limit ($1,983)
- 200%–300% of poverty: one-half of HSA limit ($2,975)
- 300%–400% of poverty: two-thirds of HSA limit ($3,987)
- 400% of poverty and over: HSA limit ($5,950)

In addition, to minimize the burden on the lowest-income elders, the deductible would be reduced to $250 below 200 percent of poverty.[2]

There are two disadvantages of this plan. The first is administrative: computing the out-of-pocket protections would require knowing elders' incomes. This would require coordination between Medicare and the IRS, akin to the coordination that is being used to implement the ACA. The IRS would alert Medicare as to elders' incomes, and Medicare would set a cost-sharing limit based on those values. This cost-sharing limit would be communicated to elders and would be applied by Medicare at the point of service. While income information is available from the IRS only with a lag, elders typically live on fixed incomes that make changes in income less of a concern; that said, there would a mechanism, as in the ACA, to allow elders to apply for lower out-of-pocket limits as their income falls. For the lowest-income elders that do not file taxes, there would have to be an alternative mechanism to allow elders to report their incomes to Medicare.

A related issue is that for those with supplemental coverage, the insurance companies would need to know their income in order to integrate their payments with Medicare's. Even though the IRS would simply release information on the family's income category, this raises potential privacy concerns. To resolve these concerns, all elders would be allowed at the start of the year to deny insurers' access to this information, in which case insurers would default to the highest out-of-pocket limit.

The second disadvantage of this plan, however, is that by itself it is unlikely to produce any budget savings. The lower out-of-pocket maximums on low-income elders will likely offset any revenue gains from this approach. A recent study by the Kaiser Family Foundation found that lowering the out-of-pocket limit in the CBO plan to $4,000 across the board reduced rather than increased revenue (Kaiser Family Foundation 2011).

REVISION #2: TREATMENT OF SUPPLEMENTAL INSURANCE

The rationalization of cost sharing under Medicare mitigates the need for supplemental insurance, but elders have diverse tastes for supplemental coverage and might not want just one restricted option. Instead, I propose a tax on supplemental coverage to offset the fiscal externality to the Medicare program. This tax would apply in different ways to different forms of supplemental coverage. The exact level of this tax would be subject to political negotiations, but the enormous

externalities documented above suggest that a tax rate of up to 45 percent would be justified. While such a tax rate seems high, consumers then would face the overall cost of supplemental insurance, including the cost to Medicare, when making decisions about how much coverage to purchase.

- There would be an excise tax of up to 45 percent on Medigap plan premiums.
- Employer-sponsored retiree coverage for those over age sixty-five (but not for early retirees) would be taxed at the same rate as well.[3]
- Finally, Medicare Advantage plans are unique in that they pay the full costs of patient care, so that they will effectively "internalize" this externality. However, the amount that Medicare Advantage plans are paid is tied to traditional Medicare costs, which includes this externality. As this externality is resolved for traditional Medicare, it will lower program costs and thereby reimbursement to Medicare Advantage plans in a manner that will cause them to rationalize their own cost-sharing structures.

IMPLICATIONS

The budgetary implications of this proposal are difficult to infer. A recent Medicare Payment Advisory Commission (MedPAC) proposal (MedPAC 2012) that is similar to the CBO approach, but that includes a 20 percent tax on Medigap plans rather than a ban on first dollar coverage, was estimated to reduce net (of Medigap tax revenues) Medicare spending by 0.5 percent to 4 percent, depending on the responsiveness of supplemental coverage. Relative to that score, the present proposal would save less because of the progressive cost-sharing structure, but would ultimately save much more because of the (presumably) higher rate and the application to employer retiree coverage as well as to Medigap. A net savings of 2.5 percent of Medicare spending, or roughly $12.5 billion per year, seems a reasonable guess based on this other work. But this estimate obviously depends critically on the tax rate for supplemental insurance and other plan details.

While the effects of this overall proposal for government budgets are likely to be quite positive, the impact on elders will be mixed. Elders will receive real protection against financial risk in a way that corresponds to their ability to bear such risk. And since supplemental coverage will no longer be necessary to provide financial protection, elders will save billions of dollars in spending on Medigap policies that are highly inefficient. Of course, the implications depend on the extent to which elders drop their supplemental coverage in the face of this tax versus retaining the coverage at much higher prices.

Conclusion

The Medicare program is the single largest spending-side contributor to our long-term budget shortfall, and as such is destined to receive an outsized share of attention in debates over reducing the deficit. To date, these debates have focused on the supply side, with proposals that either cut provider payments outright, or introduce alternative payment methodologies that might be able to deliver lower costs without sacrificing quality of care.

But the demand side of Medicare should not be ignored. This is a program with a broken and ineffective set of demand-side incentives that are masked by overpurchase of supplemental insurance coverage by elders. By rationalizing cost sharing and making supplemental insurance purchasers face the fiscal externality they are placing on Medicare, we can both reduce deficits and provide more-effective protection for elders against the costs of their medical care.

Proposal 4: An Evidence-Based Path to Disability Insurance Reform

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Jack A. Smalligan

Deficit Reduction (10-year): $10 billion – $20 billion

Broader Benefits: Potential to increase employment and economic engagement of workers with disabilities and provide more rapid and reliable resolution of disability insurance claims for those who cannot work. Results of the pilots would inform broader reforms of the disability insurance system, leading to additional longer-term benefits.

Introduction

Disability insurance is the leading edge of the demographic tsunami that is starting to flood U.S. social insurance programs. Americans who are between the ages of fifty and sixty-five are four times more likely than those between the ages of twenty and forty-nine to be receiving disability insurance benefits. For the past decade, the same baby boomers who are just beginning to create fiscal challenges for Medicare and Social Security have been in their peak years of disability insurance receipt. Spending on disability benefits through the federal Disability Insurance (DI) and Supplemental Security Insurance (SSI) programs has increased from 0.7 percent of GDP in 1980 to 1.2 percent of GDP in 2013. Spending on Medicare and Medicaid benefits for DI and SSI recipients is also slightly more than 1 percent of GDP.

The good news is that spending on disability cash benefits appears to have peaked. With baby boomers transitioning off disability benefits and onto Social Security retirement benefits, and with the next cohorts slightly smaller than the baby boomers, the Congressional Budget Office (CBO) projects that spending on DI will fall by 0.1 percent of GDP between now and 2022 (CBO 2012).

But even though the fiscal burden of disability insurance is not expected to worsen, the program is in significant need of reform. This policy note summarizes the conclusions of a year-long research project designed to establish an evidence-based path to disability insurance reform. Our complete findings are available in Liebman and Smalligan (2013). The project was motivated by the observation that, while a consensus is emerging that changes are needed to the U.S. disability insurance system, there is no agreement around any specific reforms, nor does there appear to be a path in place that will lead to such agreement. Moreover, in most cases we lack the evidentiary base necessary to judge whether specific reforms would do more good than harm.

We therefore recommend a path that identifies promising reforms that are administratively realistic, pilots them or otherwise acquires the evidence necessary to judge their merits, and then rolls them out more broadly if proven benefits are established.

Two immediate steps are needed to start down this path. First, Congress should authorize three demonstration projects centered around early intervention. The key to reducing disability insurance costs is to intervene as early as possible

DISCLAIMER: Jack Smalligan's contribution to this paper is based on work that he performed while on sabbatical from OMB as a guest scholar at the Brookings Institution and a research fellow at the Harvard Kennedy School. The views expressed in this paper are solely those of the authors and not of any institutions or government agencies with which they are or have been affiliated.

to assist individuals in remaining at work. Waiting until after an individual has been approved for benefits is too late. Second, Congress should give the new Social Security commissioner the tools necessary to improve the disability determination system. Most important, funding for state disability determination services should be placed on the mandatory, rather than the discretionary, side of the budget. This will allow the Social Security Administration (SSA) to make investments in administrative capacity that will reduce spending on benefits—for example, by reducing the backlog of continuing disability reviews.

Like reforms to other social insurance programs, these changes will have a relatively small budget impact over the next ten years, but have the potential to produce much larger savings in later years. A package with these two reforms could save $10 billion to $20 billion over the coming decade, mostly through more thorough initial reviews. If the early intervention pilots are successful and taken to scale, annual savings of as much as 0.1 percent of GDP would be possible.[1]

The Challenge

There are three main reasons why disability insurance is in need of significant reform:

First, there is a sizable minority of the beneficiary population who would be better off with a form of assistance that is different from the one they are receiving today. These individuals need assistance that helps them back on their feet and returns them to employment, instead of receiving the current benefit package that essentially provides lifetime cash benefits in exchange for a promise never to do substantial work again. Changes in the disability insurance program and in low-skill labor markets, along with the decline in other forms of public assistance, have made this subset a larger fraction of the DI and SSI beneficiary population.

Second, many of the actors in the disability insurance system have misaligned incentives. Employers and private disability insurance companies have incentives to sign workers up for DI rather than to help them get back to work. States have incentives to encourage low-wage workers to sign up for SSI and DI so as to shift both assistance costs and health-care costs to the federal government. Because its administrative budget is discretionary spending while benefits are mandatory, the SSA has an incentive to underinvest in administrative capacity even when doing so increases total program costs. And labor supply disincentives are inherent in any transfer program with imperfect screening for need. Reforms that improve the alignment of incentives have the opportunity to both improve program outcomes and reduce costs.

Finally, although there has been some recent progress, the disability determination system remains a problem. Beneficiaries wait too long for decisions. Too many decisions are appealed. Different standards are applied within and across the stages of the claims process. There is a backlog of more than 1.4 million continuing disability reviews. What is needed is a set of reforms that invests in getting decisions right initially and reduces the need for appeals.

The Proposal

After spending a year interviewing experts, reading research, conducting original data and policy analysis, and observing program operations in the field, we believe even more strongly than we did when we began the project in our original premise that program improvements are needed; we also believe, however, that we currently lack the evidentiary basis for judging which fundamental changes should be implemented. We therefore recommend a path that identifies promising reforms that are administratively realistic, pilots them or otherwise acquires the evidence necessary to judge their merits, and then rolls them out more broadly if proven benefits are established.

We have two specific recommendations: demonstration projects and new tools for the Social Security commissioner.

RECOMMENDATION 1: DEMONSTRATION PROJECTS

First, Congress should give SSA and its partner agencies authority for three demonstration projects centered around early intervention. Research consistently shows that it is too late to intervene after a person has begun receiving disability insurance benefits. Extensive programs like the Ticket to Work program have had little success helping current beneficiaries return to work. Even going through the extended process of applying for benefits—which expects that a person not engage in substantial work while the application is pending—has been shown to cause real harm to the future earnings potential of workers whose disability applications are turned down.

One demonstration would screen disability applicants and target those who appear likely to be determined eligible for benefits but who also have the potential for significant work activity if provided with a proper range of services. In exchange for suspending their disability insurance application, these applicants would be offered a package of benefits including targeted vocational and health interventions, an Earned Income Tax Credit (EITC)-like wage subsidy, and, potentially, a few months of an emergency cash diversion grant. By substituting work supports and wage subsidies for cash benefits, the demonstration would aim to improve the well-being of applicants while simultaneously

achieving near-term cost neutrality and long-term savings. For this intervention to be cost-effective, it will be important to retain tight eligibility criteria for the new work supports, concentrating services on individuals who otherwise have a high probability of being approved for benefits.

Interventions are likely to be even more effective if they occur well before an individual reaches the point of applying for benefits. The other two demonstration projects try to move the early intervention to earlier points.

A second demonstration would allow states to reorganize existing funding streams to target populations that are likely to end up receiving a lifetime of SSI or DI benefits in the absence of assistance. Today a wide range of funding streams including vocational rehabilitation funding, Medicaid, Temporary Assistance for Needy Families (TANF), and workers compensation reach individuals who may be at risk of being disability insurance beneficiaries. States would be given the flexibility to reorganize these funding streams to target specific at-risk populations in a coordinated way and would receive incentive funding if they demonstrated success at improving outcomes and reducing participation in DI and SSI. In many ways, where we are with disability insurance today is similar to where we were with cash welfare in the 1980s before the welfare waiver demonstrations. To make progress in early intervention and inform future reform efforts, we need to unleash a wave of innovation and learning at the state level similar to what occurred in the late 1980s and early 1990s when states were given waivers to experiment with their Aid to Families with Dependent Children (AFDC) programs; the lessons learned then informed the 1996 federal welfare reform.

For example, a state could propose to provide integrated employment supports to all persons with severe mental illness who meet certain criteria. The state would propose to allocate a given percentage of its federal vocational rehabilitation and mental health funding to cover the costs of these services, as well as a given percentage of Medicaid state matching funds. The federal government would provide some additional funding for the start-up costs of this initiative through a grant, and would offer the state bonus payments if the effort achieved a significant reduction in new DI/SSI awards based on mental illness as of the third year, with rewards and penalties if that target level was surpassed or not achieved. In effect, the bonus payments would allow the federal government to share the DI/SSI savings achieved, thereby aligning incentives between the two levels of government. States would be encouraged to use randomized evaluation designs where administratively feasible.

A third demonstration would target employers. Autor and Dugan (2010) and Burkhauser and Daly (2011) have proposed reforms to disability insurance that create incentives for firms to help keep their workers employed rather than having them stop working and receive disability insurance. Specifically, Autor and Duggan proposed that mandatory private disability insurance replace federal benefits for the first two years of disability, and Burkhauser and Daly proposed a system of experience rating similar to that used in the unemployment insurance system. We think it will be difficult to test the potential of employer-based incentives in a way that restricts existing benefits or imposes new mandates or penalties on firms. Therefore, we propose a demonstration program that would provide a tax credit against their DI payroll tax for firms that can reduce the disability incidence of their employees by at least 20 percent.

Firms would volunteer to participate in the demonstration. For each employer participating in the demonstration, a baseline predicted rate of DI enrollment would be established, using historical data and information on the current profile of employees. Current employees would be tracked for three years from the implementation date of the pilot, whether or not they continued to be employed by the firm. If the employee, current or former, becomes eligible for DI with a date of onset within three years of the implementation date of the pilot, the employee would be counted as part of the firm's DI enrollment rate. An evaluation contractor would compare DI participation against baseline projected participation. If DI participation falls by a statistically significant amount, the employer would be credited with three-quarters of the annual DI savings. In the pilot, firms would not be at risk if DI participation exceeded baseline projected participation. However, a two-sided risk-sharing approach could be used if the program were implemented more broadly. In some cases, employers might use the potential credit to underwrite the cost of private disability insurance policies that seek to reduce the incidence onto DI. In other words, employers and private disability insurance companies could enter into agreements to share any realized credit. Many employers who might volunteer would already offer private disability insurance, and it would be reasonable to expect private insurers to view this as a promising new area of business.

Any financial incentive for employers to avoid having their former workers claim DI creates a risk that the incentives will lead to hiring discrimination against workers from population groups with higher-than-average disability incidence or against specific workers who employers view as having a higher-than-average probability of claiming benefits. Such discrimination is illegal under the Americans with Disability Act (ADA) but could nevertheless occur in ways that are hard to detect. One option to address this concern would be to limit initial tests to the current workers in a firm. However, this would limit our ability to learn about the discrimination risk from the demonstration.

RECOMMENDATION 2: NEW TOOLS FOR THE SOCIAL SECURITY COMMISSIONER

Second, we recommend that Congress give the new Social Security commissioner the tools necessary to significantly improve the disability determination system.

Specifically, we propose that the funding for state disability determination services be switched to the mandatory side of the budget—matching how the administrative costs of TANF, Medicaid, and Food Stamps operate. Under the current system, SSA underinvests in administrative capacity, saving money in its capped discretionary budget in ways that significantly increase benefit payments that are mandatory spending. For example, SSA has a backlog of 1.4 million continuing disability reviews even though the SSA actuaries estimate that every $1 spent on continuing disability reviews saves $9 in future benefits (SSA 2012). With Disability Determination Services (DDS) funding transferred to the mandatory side of the budget, SSA would have the resources to reduce backlogs, perform continuing disability reviews, and, most important, develop sufficient evidence at the DDS stage so that more-accurate decisions are made up front and fewer cases are appealed. We also would recommend that SSA use this authority to enhance the level of review and claims development the DDSs perform when an initial denial is appealed. This additional DDS work would reduce the need for appeals to the administrative law judge stage of the process and improve the quality of the evidence for those claims that are appealed. This authority should be accompanied with an expectation that, to the extent SSA uses additional administrative funds, it must show that the expenditures more than pay for themselves in reduced benefits. When this new authority is up for reauthorization after five years, Congress would ask GAO and the Social Security Office of the Actuary to assess whether the reform has reduced overall costs. If SSA failed to meet that goal, the new authority should expire and DDS spending should revert to the discretionary side of the budget.

In order to encourage consistency in the disability determination process across states and to prevent states from using the mandatory funding authority to pad their workforces without improving quality and productivity, we also recommend that the commissioner be given the authority to move work across states.

This is a particularly auspicious time to start down the path toward disability insurance reform. First, the need for deficit reduction is leading to a broad discussion about the structure of U.S. social insurance programs and a budget deal could be the legislative vehicle for obtaining the legislative authority necessary to pilot disability insurance reforms.

Second, the confluence of a new presidential term and the appointment of a new Social Security commissioner makes it practical from an administrative standpoint to embark on reforms that are likely to take several years of sustained attention to implement. Past reform efforts have stalled when they have begun during the second half of a commissioner's term.

Finally, the DI trust fund is scheduled to be exhausted in 2016, implying that some legislation will need to occur before that date. Even if Congress follows the traditional approach and simply reallocates resources between the OASI and DI trust funds, the legislation will offer another vehicle for obtaining the necessary authorities, and indeed it seems possible that some members of Congress would demand steps toward more-fundamental reform as the price of voting for the trust fund reallocation.

Conclusion

The reforms discussed in this brief have the potential to improve outcomes for Americans with disabilities—by helping some get back to work and by providing more-rapid and more-reliable resolution of disability insurance claims for those who cannot work. Over the longer term, they have the potential to reduce budgetary costs. But realizing that potential is going to require sustained attention, experimentation, and evaluation over a decade. The sooner we start that process, the sooner we can realize the benefits.

Proposal 5: Eliminating Fossil Fuel Subsidies

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Deficit Reduction (10-year): $41 billion

Broader Benefits: Levels the playing field among fossil fuel producers and relative to other business investments; leads to potentially lower global fuel prices by providing the United States with increased leverage in negotiations over eliminating fossil fuel subsidies in the developing world.

Introduction

The federal government has subsidized the production of fossil fuels through the tax code for a century. While such subsidies may have once supported incremental investment in what was a very risky economic activity—drilling that may not yield a productive hydrocarbon field—the advances in technology and the high prices for oil in recent years have significantly changed the risk–reward calculus for domestic hydrocarbon investment. Indeed, the impact of these tax preferences on investment decisions is dominated by factors driving world oil prices (e.g., Asian demand and political events in the Middle East) and by the technological improvements in drilling for shale gas and oil and tight oil. Today, the U.S. government effectively transfers by way of tax expenditures more than $4 billion annually from taxpayers to fossil fuel producers (primarily oil and gas firms) with very little to show for it.

This proposal calls for eliminating twelve tax provisions that subsidize the production of fossil fuels in the United States. Implementing this proposal will contribute to a leveling of the playing field among oil and gas companies, since independent producers enjoy greater tax benefits than the oil majors, and will promote the efficiency in allocating capital across the U.S. economy. Since these subsidies have a very small impact on production, their removal will not materially increase retail fuel prices, reduce employment, or weaken U.S. energy security. This proposal complements other proposals to simplify the corporate tax code, and thus could facilitate the political support necessary to enact a simpler, more efficient corporate tax code. In addition, removing U.S. fossil fuel subsidies would enable the U.S. government to make the case more effectively that large developing countries (such as China, India, and energy exporters) should phase out their fossil fuel consumption subsidies that contribute to higher oil prices in the United States.

The Challenge

The U.S. tax code has provided tax preferences for oil and gas production activities for a century. Given the uncertainties that characterized drilling in the early twentieth century, government subsidies mitigated the risk of such investments and were intended to promote production of fossil fuels. Technological advances have dramatically lowered the prospect of oil and gas drilling resulting in a dry hole, thereby reducing the risk to investors, and have increased scientific understanding of the adverse pollution impacts from fossil fuel combustion, including premature mortality and global climate change. Moreover, the globally integrated nature of the oil market means that factors beyond U.S. production, such as Asian economic growth and OPEC production quotas, drive world oil prices and gasoline prices at the pump.

Since 1913, firms have been able to expense so-called intangible drilling costs, which are drilling-related expenditures that do not have salvage value such as labor and drilling fluids, in lieu of depreciating them over the economic life of a well. This policy differs from the depreciation rules that cover most capital investments in other industries of the American economy. By allowing an oil and gas firm to expense these costs instead of depreciating them over the economic life of the well, the firm benefits based on the differential between the expensed costs and the present value of the costs depreciated over the typical economic life of such a project. These intangible drilling costs represent about two-thirds of U.S. drilling costs.

Since 1926, firms have been able to employ preferential depreciation rules under percentage depletion that allow them to deduct a percentage of their revenues (as opposed to their costs) of developing a well. In contrast to the principle that capital costs should be depreciated over the economic life of a project, this percentage-depletion provision disconnects depreciation benefits from project costs by making depreciation a function of revenues. Since revenues reflect crude oil prices, which are typically driven by the fundamentals of the world oil market, the accounting of depreciation of a project for tax purposes may have little to no relationship with project costs. Percentage depletion is calculated at 15 percent of revenues for oil and gas, and at 10 percent for coal.

In more recent decades, a variety of other subsidies have been employed to support fossil fuel production. Some of the prominent subsidies, such as the unconventional natural gas production tax credit that spurred initial commercialization of hydraulic fracturing (fracking) techniques in shale gas fields, have expired. Unlike the tax credit that supported fracking for natural gas, none of the current tax expenditures for fossil fuels targets novel techniques or explicitly promotes innovation. Several other subsidies in the tax code are designed to phase out at specified oil prices and are not applicable in today's high-crude-oil-price environment, such as the enhanced-oil-recovery tax credit that subsidizes the injection of carbon dioxide or other tertiary methods to recover oil and gas. In recent years, oil and gas producers have been able to claim a 6 percent deduction and coal producers a 9 percent deduction of taxable income under the manufacturing tax deduction established in 2004.

In total, there are twelve provisions in the tax code that subsidize activities associated with the production of fossil fuels that impose an estimated $41.4 billion ten-year revenue loss on the federal treasury (Office of Management and Budget [OMB] 2012). Revenue losses may turn out to be even higher, as the significant increase in domestic drilling activity—there were four times as many rigs drilling in the United States in 2012 as there were in 2008 (Morse et al. 2012)—could translate into greater claims on these tax preferences. Recent assessments of U.S. hydrocarbon reserves illustrate the prospect for the United States to double domestic crude oil production by 2020 and for natural gas production to continue to increase and enable net exports of gas. Depending on the types of oil and gas companies undertaking this exploration and development, and their liabilities before consideration of these tax preferences, the effective impact of these subsidies on the deficit could grow substantially over the next decade. It is important to note that if crude oil prices increase over time, as currently forecast by the Energy Information Administration (2013), then the magnitude of the percentage-depletion subsidy could increase, since it is a function of revenues and, therefore, prices.

Proponents of fossil fuel subsidies claim that these subsidies support American energy independence. This argument does not appear to be applicable to coal, as the United States has been largely self-sufficient in coal over its history, with modest imports and exports in recent years. Moreover, it is quite unlikely that the current oil and gas subsidies explain this bullish outlook for domestic oil and gas production, since most of the prominent subsidies—such as intangible drilling costs expensing and percentage depletion—have been in the tax code over the 1970–2009 period that was characterized by a nearly 50 percent decline in U.S. oil production.

More important, the economic analyses of the impact of oil and gas subsidies show very little response in domestic production to these tax preferences. In one analysis of subsidy elimination, the estimated reduction in U.S. oil production would amount to about 26,000 barrels per day (Allaire and Brown 2009). This is quite modest considering the rapid growth in domestic oil production, which has grown, on average, each month by more than 30,000 barrels per day since January 2009. Thus, these tax subsidies do not meaningfully increase production, and as a result they do not stimulate job creation or lower U.S. oil, petroleum product, and natural gas prices. As largely inframarginal subsidies, they convey billions of dollars of benefits to the firms claiming them without an identifiable benefit for consumers or for the nation's energy security.

The applicability of tax provisions varies between independent oil and gas producers and integrated companies (those that produce and refine hydrocarbons). While independents can expense all their intangible drilling costs, integrated firms may expense only 70 percent of these costs and must depreciate the balance over five years. The percentage-depletion provision applies only to properties that produce less than 1,000 barrels of oil equivalent per day. Furthermore, only independents may use percentage depletion; integrated firms must use cost depletion. As a result, major oil companies likely face a lower, but positive, effective tax rate than the marginal corporate income tax rate, while independents likely face a negative tax rate (Metcalf 2009).

Eliminating these tax preferences for fossil fuel development would improve the efficiency of the tax code with respect to capital investment. The current approach provides favorable incentives that skew investment toward fossil fuel development and away from other productive uses of capital. Moreover, the limits and restrictions on the use of several of these subsidies (such as percentage depletion) further skew investment and drilling activity away from the oil majors and toward smaller, independent oil and gas producers.

TABLE 5-1.

Provisions of the U.S. Tax Code that Subsidize Fossil Fuel Extraction

Tax Provision	10-year revenue score (billions of dollars)
1. Expensing intangible drilling costs	$13.9
2. Domestic manufacturing tax deduction for oil and gas	$11.6
3. Percentage depletion for oil and gas wells	$11.5
4. Percentage depletion for hard mineral fossil fuels	$1.7
5. Increase geological and geophysical expenditure amortization for independents	$1.4
6. Expensing of coal exploration and development costs	$0.4
7. Capital gains treatment for royalties	$0.4
8. Domestic manufacturing tax deduction for coal	$0.3
9. Deduction for tertiary injectants	$0.1
10. Exception for passive loss limitations for working interests in oil and gas properties	$0.1
11. Enhanced oil recovery credit	$0
12. Credit for oil and gas produced from marginal wells	$0
Total	**$41.4**

Source: OMB (2012).

Note: The last two provisions in this table are not expected to have a revenue impact because they phase out at oil prices below the levels expected over the ten-year scoring window.

The Proposal

This proposal calls for eliminating twelve provisions in the U.S. tax code that deliver tax preferences for oil, gas, and coal production activities. Table 5-1 lists the twelve provisions and their estimated ten-year revenue score from the FY 2013 budget proposal from the Obama administration (OMB 2012). These tax provisions effectively reduce the cost to drill or mine for fossil fuels by allowing firms to expense in the current year various costs instead of depreciating them over the economic life of the project and to deduct costs and claim tax credits for specific activities (several of which are not operational at today's high oil prices).

Three oil and gas provisions—expensing intangible drilling costs, the section 199 domestic-manufacturing tax deduction for oil and gas, and percentage depletion for oil and gas wells—represent 89 percent of the fiscal benefits from eliminating fossil fuel subsidies. The expensing of intangible drilling costs permits an oil and gas producer to expense instead of depreciate over the economic life of the well the costs that are associated with elements of a drilling project that do not have scrappage value. The domestic manufacturing tax deduction for oil and gas is a version of a broader tax deduction that is intended to support domestic manufacturing activities. Of course, oil and gas production are not manufacturing activities, and one cannot relocate a hydrocarbon field to another country as one could with a manufacturing facility. Finally, the percentage depletion for oil and gas wells allows small producers to deduct a percentage of their revenues in lieu of (and in excess of) costs as a basis for depreciation (or, as referred to in the context of exhaustible resources, depletion).

BUDGET IMPACT

Eliminating the fossil fuel subsidies under this proposal would deliver approximately $41.4 billion in greater revenues to the U.S. Treasury over a ten-year period, according to the FY 2013 budget proposal by the Obama administration (OMB 2012). Again, this figure may be a low estimate of the revenue gains from eliminating these subsidies, as domestic oil production has increased in recent years, reversing a trend of declining production for most of the past four decades. Some analysts project that U.S. oil production could double over the next decade. If this doubling were to occur, then the magnitude of the federal tax expenditures subsidizing oil development and production could easily exceed the estimates in table 5-1, which reflect much-more-modest projected changes in oil production over time.

ECONOMIC BENEFITS AND COSTS

Per unit of drilling activity, independent oil and gas producers benefit more than the major oil companies from these tax preferences. Several of the tax provisions apply exclusively to independent oil and gas producers. Because independents finance projects substantially through cash flow instead of through raising debt, this proposal to eliminate the tax provisions that subsidize the activities of those independents could impact their financing strategy. For example, these companies may need to raise debt and equity for their drilling projects, not unlike how firms in other sectors of the economy finance major projects. Eliminating these subsidies would level the cost of capital across various types of oil and gas producers. This would result in a more-efficient allocation of capital in the U.S. economy.

Because these subsidies do not effectively stimulate much additional production, eliminating them in the United States would deliver relatively modest environmental benefits. One recent analysis showed that eliminating the intangible-drilling-cost expensing provision and percentage cost depletion would have lowered U.S. carbon dioxide emissions by about 4 million metric tons annually over 2005–09, or less than 0.2 percent of emissions from petroleum consumption over that period (Allaire and Brown 2012). If such reform of U.S. fossil fuel subsidies leveraged reform of fossil fuel *consumption* subsidies in developing countries, then it could significantly lower global carbon dioxide emissions, to the benefit of the climate. (See International Implications section below.)

U.S. POLITICAL CONTEXT

President Obama has advocated for the elimination of fossil fuel subsidies in each of his budget proposals to Congress since 2009. Congress has not acted on this package in its entirety. In 2011, the U.S. Senate failed to secure the sixty-vote supermajority necessary to pass S. 940, the Close Big Oil Tax Loopholes Act, which would have eliminated the intangible drilling cost expensing and the section 199 manufacturing deduction for the major oil companies. Supporters of these tax provisions subsidizing fossil fuels claim that eliminating these provisions would cost jobs, reduce U.S. energy security, and hurt small businesses. As noted above, these provisions do not meaningfully impact production; instead, they effectively transfer monies from taxpayers to the owners of oil, gas, and coal companies. Thus, they are not a cost-effective way to promote job creation, and the record of declining oil production over 1970–2008 (except for the coming online of the Alaskan North Slope fields) indicates that they do not deliver on energy security goals. Finally, it is important to note that these subsidies accrue to some of the largest companies in the world, and some of the smaller oil companies (e.g., the independents) still have market capitalizations in the tens of billions of dollars. A small business in fossil fuel industries is meaningfully larger than a small business in most other sectors of the U.S. economy.

Several approaches could broaden political support for eliminating fossil fuel subsidies. First, the elimination of fossil fuel tax preferences could be paired with corporate tax reform that lowers the marginal tax rate on corporate income. This is generally consistent with a variety of proposals to clean up the corporate tax code—e.g., remove various deductions, tax credits, and other tax preferences—in exchange for a lower marginal rate. Even a modest reduction in the marginal rate and the elimination of these tax preferences would likely elicit support from major oil companies, since those companies benefit less than the smaller producers from the subsidies. Second, one could propose eliminating all energy subsidies, which would appeal to some deficit hawks; see EIA (2011) for a summary of energy subsidies. Of course, the support for clean-energy technologies delivers positive societal benefits in terms of cleaner air, and other policies—such as a carbon tax, a clean-energy standard, or other legislation that creates private-sector demand for these technologies—should be paired with this subsidy reform. Such a proposal would anticipate a likely challenge to subsidies for renewable and energy efficiency technologies, especially since these tax preferences have sunset provisions (unlike the fossil fuel subsidies) and thus require legislative action to sustain them every few years.

INTERNATIONAL IMPLICATIONS

At the 2009 Pittsburgh G-20 summit, the leaders of the twenty largest developed and developing economies agreed to phase out fossil fuel subsidies. The United States spearheaded this agreement, and has continued to receive attention from leaders in subsequent G-20 meetings. Progress in delivering on this objective has been mixed, though, starting with the failure of the United States to remove its subsidies. Leadership via eliminating these subsidies would empower the United States to push on other large developed and developing economies to rationalize their fossil fuel prices.

Whereas the United States subsidizes fossil fuel production, most fossil fuel subsidies in the developing world support consumption by lowering prices below competitive market levels. The fossil fuel consumption subsidies in the developing world, approximately $500 billion per year, significantly exceed fossil fuel production subsidies, which are on the order of $100 billion, and fossil fuel subsidies globally result in increased consumption and hence higher prices. Eliminating global fossil fuel subsidies would yield significant economic, energy, and environmental benefits. Global oil consumption

could fall by more than 4 million barrels per day, which would lower crude oil prices and benefit consumer nations like the United States. Global carbon dioxide emissions contributing to climate change would fall about 7 percent by 2020 and 10 percent (by more than 5 billion tons of carbon dioxide per year) by 2050 (International Energy Agency [IEA] 2012).

POTENTIAL FOSSIL FUEL SUBSIDIES BEYOND THE SCOPE OF THIS PROPOSAL

This proposal focuses on a narrow set of tax provisions that reduce the tax liability for various oil, natural gas, and coal production activities. A variety of other federal policies and programs that could be considered fossil fuel subsidies are beyond the scope of this proposal. For example, federal spending on highway and related road construction may enable greater gasoline and diesel consumption. Limiting liability for economic damages associated with an offshore oil and gas drilling accident effectively subsidizes drilling activity by shifting the expected costs of an oil spill to the local communities or the government, or both. Perhaps most important, a large economic literature has highlighted the significant pollution—and, in the case of transportation fuels, congestion costs—that burning fossil fuels imposes on American society. If fossil fuels bore the full cost that they impose on the economy, then the federal gasoline tax could be quadrupled and coal could be taxed on the order of 200 percent (Jorgenson 2012; Parry and Small 2005). Some of this full social costing of fossil fuels would reflect the carbon dioxide emissions from fossil fuels; such a carbon tax is explored elsewhere in this volume (Morris 2013), but air pollution–related premature mortality comprises a majority of the increase in taxes necessary to correct for these market failures.

Conclusion

The elimination of subsidies for U.S. fossil fuel production could provide meaningful deficit-reduction benefits without increasing energy prices, adversely impacting U.S. energy security, or undermining job creation. Since the investment decisions in new production primarily reflect fossil fuel prices and technological innovations in this sector, these subsidies represent transfers from taxpayers to the owners of capital in these industries. Removing these subsidies from the tax code would help level the playing field among fossil fuel producers and among all firms securing capital for project investment. Moreover, such an effort could contribute to *lower* fuel prices in the United States if it enables the U.S. government to leverage compliance by other large economies with the G-20 pledge to eliminate fossil fuel subsidies, which tend to subsidize consumption in the developing world and thus prop up global energy prices.

Proposal 6: Better Ways to Promote Saving through the Tax System

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Deficit Reduction (10-year): $40 billion

Broader Benefits: Improves saving and economic security for low-income households; reduces expensive and ineffective federal subsidies for high-income households.

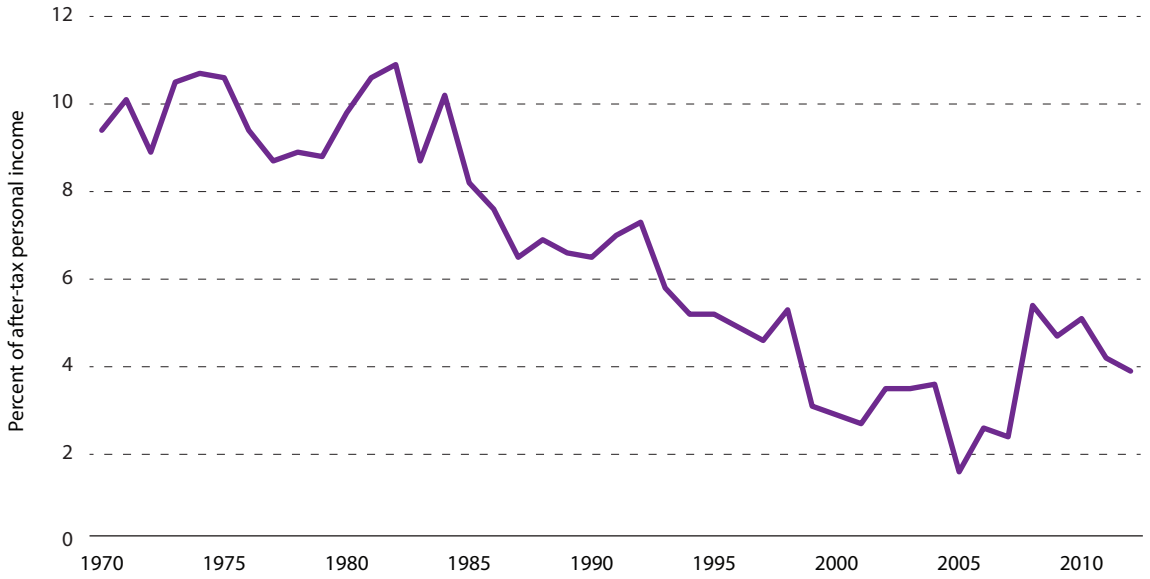
Introduction

The U.S. personal saving rate has declined dramatically over the past several decades and is currently very low by historical standards. Americans saved about 4 percent of after-tax personal income in 2012, down from average saving rates of 5.5 percent in the 1990s, 8.6 percent in the 1980s, and 9.6 percent in the 1970s (figure 6-1).

Increasing personal saving in the United States is a desirable policy goal. To be sure, over the near future there would be a downside to households saving more because that means they would be spending less, and, in turn, the economic recovery would not be as strong as it otherwise would be. But, over the longer run, higher personal saving would lead to stronger economic growth. The correlation between a country's saving rate and its investment rate remains large and significant

FIGURE 6-1.

U.S. Personal Saving Rate, 1970–2012



Source: Bureau of Economic Analysis.

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despite the globalization of international capital markets (Obstfeld and Rogoff, 2000). Hence, higher personal saving in the United States should increase investment in this country, which, in turn, should raise our capital stock and our productive capacity.

In addition to promoting higher personal saving in the aggregate, policy also should encourage higher saving among individual households. Households need savings in order to cope with unforeseen disruptions to their income and unanticipated consumption needs. Having such reserves is even more important now than it was in the past because household income volatility has trended upward amid ever-more-competitive and dynamic labor markets: recent research has found that the share of households experiencing a 50 percent plunge in income over a two-year period climbed from about 7 percent in 1971 to 10 percent in 2008 (Dynan, Elmendorf, and Sichel 2012). Moreover, as policymakers look for ways to reduce growing budget deficits, they may cut social programs so that the need for households to have precautionary reserves may be even higher in the future.

Saving also provides households with opportunities. Funds accumulated through saving can be used to pay for college tuition and to purchase big-ticket items such as cars and homes. Saving is likely even more important to attaining homeownership than it was in the past, given the greatly reduced availability of low-down-payment mortgages in the wake of the recent mortgage crisis. In addition, saving puts some households in a better position to establish businesses.

Finally, higher saving is important to households because it means that they will enjoy a better standard of living in retirement. Although most people can expect to receive social security benefits when older and many will receive regular payouts from defined benefit pensions, these sources of income are generally not sufficient to make up for the step down in earnings that occurs at retirement. As a result, many older households will need to supplement pension income with accumulated wealth if they wish to maintain the consumption levels they had when younger. Encouraging adequate retirement savings among lower-income households is particularly important given the available evidence suggesting that these households are much more likely than other households to experience a material drop in their consumption at retirement (Hurst 2008). The possibility of austerity-driven cuts to programs that help older Americans makes the issue even more pressing.

The Challenge

Many people seem to have trouble saving despite the clear benefits. According to the 2010 Survey of Consumer Finances, only 52 percent of households reported having saved over the preceding year (Bricker et al. 2012). Low- and moderate-income households are the least likely to save adequately, as evidenced by their very low levels of accumulated assets. Among households with heads between the ages of forty-five and fifty-four, the typical household in the lowest quintile of the net worth distribution had financial assets that amounted to less than one week of income and had liquid financial assets that amounted to only a few days' of income. The typical household in the next highest quintile had seven weeks' of income in financial assets and just over one week of income in liquid financial assets. While these latter households are in a better position to weather a temporary disruption to income, the amount of financial assets that they have accumulated could support only a very short period of retirement in the absence of considerable pension income.

Against this backdrop, it is notable that the U.S. government currently puts hundreds of billions of dollars each year into policies that are aimed at promoting higher saving. For example, capital income, such as dividend payments and capital gains, is subject to a lower rate of taxation than is ordinary income such as labor earnings. According to the Joint Committee on Taxation (JCT; 2012a), the lower tax rates for capital income cost the government $93 billion in fiscal year 2012. In addition, the interest on U.S. Savings Bonds is tax deferred, costing the government about $1.5 billion per year. The investment income on saving associated with certain life insurance products is also tax favored at a cost of roughly $30 billion per year.

The U.S. tax code also has features that directly subsidize retirement savings. Employer contributions to defined benefit pension plans on behalf of their employees are not taxed, nor are employee contributions to defined contribution pension plans such as 401(k) programs (both up to some limit). The money in these plans is subject to tax when withdrawn, but, in the meantime, these investments can compound without being taxed each year. Individuals also can set up two types of tax-advantaged deferred retirement accounts, called Individual Retirement Accounts (IRAs), on their own: Traditional IRAs are much like 401(k) plans in that contributions are not taxed until withdrawal. Contributions to Roth IRAs are made on an after-tax basis, but generate investment earnings that compound tax-free until withdrawal. An additional incentive for low- and moderate-income households to save is the Retirement Savings Contribution Credit, commonly known as the Saver's Credit, through which taxpayers with

income below certain thresholds may be able to take a tax credit of up to $1,000 ($2,000 if filing jointly) for making eligible contributions to a retirement account. According to the JCT (2012a), the tax spending associated with retirement savings programs amounted to an estimated $136 billion, with the vast majority of the latter sum (more than $120 billion) associated with employer-sponsored defined benefit and defined contribution plans and small amounts going toward IRAs ($12 billion) and the Saver's Credit ($1 billion).

Likewise, our tax code has provisions aimed at encouraging saving for education expenses, although the subsidies associated with these provisions are extremely small. Limited contributions can be made to tax-advantaged Coverdell Education Savings Accounts and 529 Savings Plans. Although the contributions themselves are not deductible from an individual's federal tax liabilities, the principal grows tax-deferred and distributions for the beneficiary's college costs are exempt from tax. The federal tax spending associated with these education saving incentives amounted to just $0.7 billion in fiscal year 2012 (JCT 2012a).

The impact of these various incentives on aggregate and household-level saving is unclear. They all raise the effective return on saving, but the empirical evidence on the general responsiveness of saving to changes in the return is mixed (see Elmendorf 1996). Specific studies of the retirement savings programs also have yielded mixed results. In the most comprehensive study to date, Chetty and colleagues (2012) examine the response to retirement savings incentives in Denmark, which are very similar in structure to those in the United States. They find that most individuals—roughly 85 percent—are so-called passive savers who do not respond to changes in incentives to save, whether from their employer or from the government. The minority of individuals that respond by changing the contributions to their retirement accounts tend to offset these actions with adjustments to their saving in other forms such that there is little impact on their overall savings. With the authors concluding that each dollar of tax spending on these types of subsidies increases total saving by $0.01 (one cent), the study suggests that an enormous amount of tax spending aimed at promoting retirement saving in the United States may be doing little to raise aggregate personal saving.

There are many ways in which the saving incentives currently embedded in our tax system are particularly poorly designed when it comes to the goal of encouraging saving among low- and moderate-income households. The majority of benefits from savings tax preferences go to upper-income households, not only because they simply have more income to potentially save, but also because, on the margin, households in higher tax brackets achieve greater reductions in their tax liabilities for each tax-deductible dollar. At the extreme other end of the income distribution, households with income so low that they have no federal income tax liability receive no benefit at all from the deductibility of their contributions. Indeed, a Tax Policy Center (2009) analysis of the major retirement savings tax expenditures suggested that 84 percent of the benefits went to tax units with cash incomes above $100,000, whereas less than 1 percent went to tax units with cash incomes less than $30,000.

In addition, the very complicated rules associated with some of the tax incentives make it difficult for households who are less financially adept to use them. Research has demonstrated that many households lack basic financial literacy, have difficulty planning, and are prone to making basic financial mistakes (see, e.g., Agarwal et al. 2009; and Lusardi and Mitchell 2007). These limitations likely explain why the rate of take-up on the Saver's Credit is very low (Duflo et al. 2007). One would expect similar logic to apply to accounts, such as IRAs, that individuals have to set up and maintain themselves.

Employer-provided retirement saving programs may mitigate some of these behavioral obstacles to retirement saving, particularly if they have automatic enrollment or default contribution rates. A large literature supports the view that such features do raise saving, particularly for low-income households (see, e.g., Beshears et al. 2012; and Gale, Gruber, and Orszag 2006). Indeed, firms often include these features in order to induce participation by lower-earning employees because IRS nondiscrimination rules limit the share of the benefits that can go to their highly compensated employees. However, only about 55 percent of American workers outside of the military and federal government currently have employers that offer 401(k)s and similar retirement savings plans (Bureau of Labor Statistics 2012).

Low- and moderate-income households may also be reluctant to save through existing retirement programs because they cannot readily access their savings for other uses. Their already low levels of liquid financial assets mean that unanticipated job loss or consumption needs can be particularly disruptive. Although these households have some access to the funds they have saved through retirement accounts, they typically would have to pay a penalty to withdraw the money before age fifty-nine and a half.[1]

To be clear, these arguments do not suggest that eliminating the tax subsidies associated with 401(k)s and similar programs would be a good idea. As noted above, features commonly associated with these programs—such as automatic enrollment and default contribution rates—do tend to raise the savings of low- and moderate-income households. If eliminating the tax subsidies reduced employers' willingness to offer 401(k) programs in the first place, then doing so would run counter to the goal of encouraging saving among low- and moderate-income households.

The Proposal

A set of reforms to the existing system should make the saving incentives offered through the U.S. tax code more effective at a lower cost. The organizing principle is that tax savings incentives are reduced for higher-income households since such programs appear to be having little effect on the overall saving of this group, with some of the revenue from the reduction in subsidies put toward making saving easier and more attractive for low- and moderate-income households. The reforms are as follows:

- **Cap the rate at which deductions and exclusions related to retirement saving reduce a taxpayer's income tax liability at 28 percent.** Such a change would reduce the benefit associated with contributions to 401(k)s, IRAs, and other qualified retirement accounts for the higher-income tax payers whose tax rate exceeds 28 percent. As discussed above, studies of households' responses to retirement tax incentives suggest that the (mostly high-income) individuals that do alter contributions in response to changes in the return on these investments tend to simply offset these adjustments with changes in other forms of saving. The Tax Policy Center has estimated that entirely eliminating the tax preference for new contributions to defined contribution plans would raise about $30 billion from households in the top 5 percent of the income distribution, which is very roughly the fraction of households that would be affected by a deduction rollback. Limiting the value of the deduction to 28 percent would reduce its value to taxpayers in the 33 to 39.6 percent tax brackets by roughly one quarter. So, if we estimate that the rollback would raise about 25 percent as much revenue as completely eliminating it, the proposal should raise about one quarter of $30 billion, or $7.5 billion per year.

- **Take steps to ensure that more workers are covered by some type of retirement saving plan.** Simply providing more workers with access to a retirement saving vehicle should make it easier and more convenient for them to save. To do so, we need legislation that will:

  - Increase the tax credit that small businesses can take for startup pension plan expenses. Small businesses are much less likely than large businesses to offer retirement savings plans to their employees, presumably because the costs of creating and administering such plans tend to be much higher per employee in small businesses.[2] Small businesses can currently claim a tax credit of 50 percent of startup costs, up to $500 per year, for three years.

  - Establish an automatic IRA program. A second, and complementary, way to ensure that more workers are covered by some type of retirement saving plan is to require employers that do not sponsor a qualified retirement plan to offer automatic-enrollment payroll deductions that put 3 percent of an employee's compensation into a Roth IRA. Very small and newly established firms would be exempt. Although employees would be permitted to opt out of such deductions, the available evidence from studies of 401(k)-type programs with automatic enrollment suggests that many would stay with the program and, in turn, increase their saving. The costs to the firm of setting up a program could be defrayed through a temporary business tax credit.

  The cost of a similar proposal that included doubling the small employer pension startup tax credit (to $1,000 per year) and introducing somewhat smaller startup tax credits for small employers that begin to offer an automatic IRA arrangement was estimated by the JCT (2012b) to cost $300 million in 2015, with the cost rising to about $600 million in 2022.

- **Make the Saver's Credit refundable and easier to understand.** As noted earlier, many households with very low incomes do not benefit from the Saver's Credit because they have no federal income tax liability against which to apply the credit. Making the credit fully refundable so that taxpayers receive the value of the credit even if it results in a net refund from the government, would greatly increase the payoff to making contributions to qualified retirement plans for these households. A second critical reform is for the rules associated with the Saver's Credit to be simplified. Gale, John, and Smith (2012) propose replacing the current system, which features a credit rate that declines as income rises, with a flat refundable credit that is deposited directly into a retirement saving account. Importantly, this framework could be presented as being much like a 401(k)-type plan with employer matches and thus would seem familiar to many households. Given evidence that low-income households do respond to matching incentives when they are easy to understand (Duflo et al. 2006), such a change should spur new saving by this group. A proposal providing a flat 50 percent credit while reducing the maximum credit from $2,000 to $500 was projected to cost the government around $3 billion per year (see JCT 2010).

- **Remove obstacles to firms establishing expanded savings platforms that would allow employees to save for both retirement and nonretirement purposes.** As noted above, lower-income households may be reluctant to lock away their savings in accounts that they cannot readily access for emergency purposes or other needs like college expenses. John (2012) proposes that firms offer their employees

TABLE 6-1.

Impact of Retirement Saving Reforms on Federal Deficit

Reform	Approximate change in federal deficit
Cap retirement savings–related deductions at 28%	–$7.5 billion
Ensure that more workers are covered by some type of retirement saving plan by increasing the small employer pension startup tax credit and establishing an automatic IRA program	$0.3–$0.6 billion*
Reform the Saver's Credit	$3.0 billion
Remove obstacles to expanded savings platforms	Negligible

* Lower end represents first-year cost; cost expected to double over the next ten years as take-up rises.

access to nonretirement savings accounts through the same system as the one they are using for their retirement savings accounts. These accounts would offer more-flexible saving options to employees through a familiar framework; features like defaults and automatic enrollment could be used to further encourage participation. The nonretirement accounts would not be tax-advantaged nor would they be subject to the associated regulatory requirements such as Employee Retirement Income Security Act (ERISA) rules. These expanded savings platforms are growing in popularity in the United Kingdom, with the experience there suggesting that competitive forces alone should provide sufficient incentive for the financial firms that manage employer-sponsored retirement accounts to offer additional products under the same platform. Thus, the main role for the government would be to clarify the rules and regulations to make it clear that such accounts are acceptable; the cost to the government of this proposal should be very small.

As shown in table 6-1, the reforms, on net, would reduce the federal deficit by about $4 billion. Savings incentives are reduced for households that have a lot of income (and therefore a lot of capacity to save), but the available evidence suggests that these households are, if anything, likely to respond by shifting the composition of their portfolios rather than by saving less overall. Moreover, the reforms should materially raise saving by households at the lower end of the income distribution such that personal saving might even rise in the aggregate. Of course, these reforms alone are only a starting point when it comes to promoting adequate savings by these households, particularly given that so many of them currently hold so few assets. An even more aggressive reduction in the subsidies for higher-income households could leave room to develop other types of programs to promote saving by low- and moderate-income households.

Conclusion

Although the saving-related reforms suggested here result in a fairly modest reduction in the federal deficit, they are a step in the right direction and could be combined with reforms in other areas to have a more significant effect on the nation's fiscal sustainability and, in turn, on economic growth. Higher saving by less-advantaged households should also be a positive for economic growth, as it would provide these households with more opportunities and greater economic security, resulting in a stronger workforce and more-resilient consumer demand.

Proposal 7: Limiting Individual Income Tax Expenditures

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Deficit Reduction (10-year): $1 trillion

Broader Benefits: Raises revenue more efficiently by reducing tax expenditures; limits potential negative impacts on subsidized sectors by preserving certain tax incentives; equalizes implicit subsidies across middle- and higher-income taxpayers.

Introduction

It is often said that base-broadening tax reform—that is, expanding the definition of taxable income—should be an important part of solutions to address the fiscal trilemma of reducing the deficit, promoting fairness, and encouraging economic growth. Such reform would be expected to garner bipartisan support, but getting policymakers to move from that vague sound bite to specific policy proposals, without the usual ideological bickering, is another story. In this paper I argue why an across-the-board reduction in broad classes of individual income tax preferences, rather than targeting certain tax expenditures within a comprehensive overhaul of the tax system, could be an easy step to ensure we achieve our nation's fiscal and economic goals, despite our seemingly dysfunctional political system. Indeed, if implemented correctly, base-broadening reform could raise tax revenues by more than $1 trillion over the next decade.

The Challenge

REDUCING DEFICIT SPENDING, PROGRESSIVELY

It is difficult to reduce the deficit in a way that burdens the rich relatively more than others (in a progressive manner) without going to the tax side of the federal budget ledger, because the benefits of most government spending—whether they come from income transfer programs such as Medicare or Social Security, or from public goods and services—are broadly enjoyed by the entire population. Raising revenue to reduce the deficit allows the burden to be steered more toward higher-income households, at the same time providing an opportunity to reduce rather than increase the size and scope of government if the revenue is raised by broadening the tax base (reducing so-called individual tax expenditures) rather than by raising marginal tax rates.

There are several reasons why reducing individual income tax expenditures is a sensible, progressive approach to deficit reduction. Because the income tax system is progressive, many holes (exemptions, deductions, and credits) and dips (the parts of the base subject to lower rates) in the income tax base tend to benefit higher-income households the most. Therefore, unlike most direct spending, many subsidies embedded in tax expenditures disproportionately benefit the rich, since the highest-income households in the highest marginal tax rate brackets receive the largest subsidy rates. For example, a high-income household whose taxable income reaches the 35 percent tax rate bracket would receive a 35 percent discount per dollar of mortgage interest paid, so that for every $1,000 in mortgage interest, that household's tax liability (and true cost of holding a mortgage and owning a home) is reduced by $350. A lower-income household in the 15 percent tax bracket, by contrast, would receive only a 15 percent subsidy (or $150

DISCLAIMER: The views expressed in this paper are my own and do not necessarily reflect the views of my employer, The Pew Charitable Trusts.

for every $1,000 paid in mortgage interest), even if its total mortgage interest paid were just as much as that paid by the high-income household.

We can make an especially progressive approach to deficit reduction by mostly or entirely reducing these tax expenditures, which disproportionately benefit higher-income households. One way to accomplish this progressive deficit reduction is by capping the total dollar value of tax expenditures or by restricting them to certain marginal tax rates, decreasing the effective subsidy rate for higher-bracket households. Another method is through means testing, or, in other words, by gradually phasing down or out tax expenditures over higher income levels.

REDUCING THESE TAX EXPENDITURES TO ADDRESS OUR MACROECONOMIC CONCERNS

Our economy currently faces the dual challenges of persistent demand-side weakness in the short term, and inadequate public and private saving to grow the supply side of the economy over the longer term. Reducing the deficit by raising revenues through base-broadening strategies would be an effective fiscal policy plan to respond to both conditions.

If we can raise revenue by broadening and leveling the tax base without having to raise marginal rates, there unambiguously would be a net positive effect on supply-side economic growth, from increased public saving (due to lower deficits), an improved allocation of resources (due to a more neutral tax treatment across sectors of the economy), and maintenance of incentives for private saving and labor supply (due to lower or constant marginal tax rates).

By raising revenue primarily from higher-income households, there would be less potential damage to the near-term, demand-constrained economy, since high-income households are not as cash-constrained to begin with and hence are less likely to reduce consumption when their incomes fall. In fact, anticipation of near-term reductions in tax expenditures could stimulate those presently subsidized activities, because taxpayers would be encouraged to engage in those activities before effective tax rates on them are scheduled to rise.

Reducing these individual tax expenditures primarily at the top also would help reverse the decades-long trend of rising income inequality and the more recent trend (since 2001) of tax policy exacerbating that inequality.

By reducing overall tax expenditures, policymakers can minimize the extent to which they would have to increase marginal income tax rates to achieve a given level of deficit reduction. But if a base-broadening effort alone fails to raise adequate revenues to meet these fiscal targets, marginal tax rate increases may be necessary to make up the difference, and are justified provided that the economic benefits of the additional deficit reduction outweigh the economic costs resulting from the increased distortions on private incentives. Experience and research, in fact, suggests that the effects of marginal tax rates on private saving are small relative to the effects of aggregate revenue-level changes on public and national saving (Greenstone, Looney, and Samuels 2012, fact 9).

A POLICY APPROACH THAT IS POLITICALLY FEASIBLE, ADMINISTRATIVELY EASY, AND DESIGN FLEXIBLE

There may be economic arguments for reducing or eliminating some income tax expenditures more than others, but across-the-board approaches are probably more feasible than reducing particular tax expenditures, because lobbying pressures may be less prevalent when no one particular interest or industry is being singled out. On the other hand, across-the-board approaches certainly will not be easy unless there is significant public support for "mutual sacrifice" solutions.

Many across-the-board approaches to trimming tax expenditures are easy to specify and implement and can be calibrated to different revenue goals and marginal tax rate specifications. Rate-increasing and base-broadening approaches can be viewed as both policy substitutes and complements in order to scale and fine-tune the combined tax policy changes to their various economic purposes and fiscal goals.

The Proposal

There are several different ways to reduce income tax expenditures across the board, which can be sorted into two categories: those that reduce the tax subsidies by affecting the size of the subsidies at the margin (a price-incentive effect), and those that reduce the subsidies primarily by capping or limiting the total value of the subsidies (an income effect).

The following are three policy options that reduce the price-subsidy effects of tax expenditures, thereby affecting the price-incentive effects:

1. Limit marginal-tax-rate-dependent tax preferences to one of the lower-bracket rates. President Obama has proposed a limit of itemized deductions to the 28 percent rate in each of his past budgets; in 2012 he expanded the proposal to include some other tax expenditures such as the exclusion of employer-provided health benefits and the preferential tax rate on dividends. The Congressional Budget Office (CBO) estimated that this expanded version would raise $523 billion over ten years (CBO 2012). (The prior versions of the 28-percent limitation, which were limited to itemized

deductions, were estimated to raise almost $300 billion over ten years.) The CBO has also described a proposal to further limit the rate on itemized deductions (but not other tax preferences) to 15 percent. The CBO estimates this proposal would raise $1.2 trillion over ten years (see CBO 2011, revenue option 7, pp. 151–152).[1]

2. Convert marginal-tax-rate-dependent tax preferences to nonrefundable tax credits. This is similar to option 1 except it would benefit non-itemizers as well, and everyone would receive the same subsidy rate regardless of one's marginal tax rate bracket. The Tax Policy Center (TPC) has estimated the effects of a 15 percent credit to replace not just itemized deductions, but also the exclusion of employer-provided health insurance and the preferential tax rate on capital gains and dividends. The TPC estimates the option would raise more than $2.7 trillion over ten years (Baneman et al. 2012).[2]

3. Reduce a broad variety of tax expenditures by the same percentage. This is sometimes called a "haircut" approach. For example, the TPC estimated that a 39 percent cut in a broad class of tax expenditures (including the employer-provided health insurance exclusion, itemized deductions, and the preference given to capital gains and dividends) would raise almost as much revenue as the 15 percent credit option (around $2.4 trillion over ten years).

The following are three policy options that reduce the dollar value of tax expenditures (the income effect) without affecting the prices of tax-expenditure-subsidized activities at the margin (below or above any phaseout/phase-down range):

4. Cap the total dollar value of itemized deductions without regard to income level. This is a popular option that was discussed in negotiations about the fiscal cliff in December. The TPC has estimated the effects of $17,000, $25,000, and $50,000 caps (which would raise $1.6 trillion, $1.2 trillion, and $727 billion, respectively) over ten years relative to the (old) current-law baseline (with all of the 2001–2003 tax cuts expired).

5. Limit the total value of a combination of tax expenditures to a certain percentage of income. The TPC estimates that a cap of selected tax expenditures at 3.9 percent of adjusted gross income would raise approximately the same amount of revenue as the 15 percent credit and the 39 percent haircut.

6. Phase-down (or phaseout) of tax expenditures at higher incomes. The dollar cap (option 4) is like a variant of the percent of income limit (option 5). A phasing down (or even out) of overall tax expenditures at higher incomes can be considered a more progressive version of either. We actually had such a policy prior to the 2001 tax cuts (and extensions); this is just the old Pease provision—that is, a limitation on itemized deductions. The maximum reduction under Pease was 80 percent of itemized deductions; the phaseout rate was 3 percent of adjusted gross income in excess of the threshold (high) income level. This is yet another reason why the pre-2001 version of tax law, including its version of Pease or an even larger phasedown, might be a good fallback option if other ways of raising revenue by way of reducing tax expenditures cannot be agreed on. In the fiscal cliff deal, the Pease provisions were reinstated but only for households with gross incomes above $250,000 (or $300,000 joint).

Policymakers have considered several of these options in their debates over how to achieve base-broadening tax reform; they have tended to focus on trying to agree on one option as the best. But combinations of these price and income approaches are certainly possible policies. For example, we could limit both itemized deductions and other tax expenditures to the 28 percent marginal rate and cap the total dollar value. We also could means-test a cap in deductions or exemptions so that the policy affects only households over a certain income threshold.

Other variants on these approaches may be warranted in order to fine-tune the incentive effects of the policies. For example, some have suggested that the itemized deduction for charitable contributions is both desirable and effective, so policymakers could exempt the charitable-contributions preference from any limits or reductions to itemized deductions.

Another approach to trim the overall cost of tax expenditures is to cut them from the first dollars rather than from the last by putting a floor on qualifying activities, such as the current treatment of deductible medical expenses, which has a floor of 7.5 percent of adjusted gross income. While limiting last-dollar benefits is more likely to cut the tax benefits more progressively than reducing first-dollar benefits, it also reduces the marginal incentive of the tax subsidy for people over the ceiling. Some experts therefore argue for putting floors on activities that policymakers want to continue subsidizing (e.g., charitable contributions) and for putting ceilings on the tax subsidies that are judged to have fewer social benefits (e.g., mortgage interest).

These base-broadening policies to reduce overall tax expenditures also can be combined with and substituted for marginal tax rate increases, to achieve revenue goals and fine-tune progressivity goals.

Besides the rate structure applied to labor income, another important part of the progressivity calculus is what to do with the current preferential tax rates on capital gains and

dividends. Reducing that preference could be far more progressive than limiting itemized deductions, for example.[3] There are many other ways in which the tax system taxes various forms of capital income at lower rates as well, so any base-broadening efforts that have increased progressivity as a top goal should look at filling in the dips in the tax base (the parts of the base subject to lower rates) and not just the holes. (See Op-Ed by Lawrence Summers in the *Washington Post*, "A Tax Reform to Cut Complexity, Increase Fairness," December 16, 2012.)

As is evident, there are many ways by which policymakers could pare back individual income tax expenditures. Each method has its advantages and disadvantages—and, indeed, any of the methods discussed here could be appropriate—but there are three approaches that I find the most compelling. First, policymakers should limit itemized deductions to 15 percent (without converting fully to refundable credits) in order to raise more revenue than the limit to 28 percent. Second, if keeping the current level of tax incentives for charitable giving is a concern, policymakers can allow charitable contributions above a certain dollar amount or percentage of adjusted gross income to remain deductible at the taxpayer's marginal tax rate. This would allow policymakers to keep these higher subsidies for higher-income households who make the largest charitable donations. Third, if base-broadening changes cannot meet policymakers' deficit-reduction target, the remainder of the revenue should be raised through marginal tax rate increases. This should be achieved using a combination of bringing tax rates on capital gains and dividends at least closer to ordinary income tax rates, and applying across-the-board percentage increases in marginal tax rates, increasing each rate by the same percentage.

In other words, this is an incremental, rather than fundamental, tax-reform strategy. Rather than going for a wholesale replacement of the federal income tax system, policymakers should start with the tax structure in place, first trying to achieve as much progressive base-broadening as they can, then increasing marginal tax rates to raise the requisite amount of revenue. Raising about $1 trillion in tax revenues over ten years from this combination of proposals should be fairly doable, even given the political constraints. Whether marginal tax rates will have to increase, and by how much, depends on how comprehensive the limit on itemized deductions is. Because this approach to limiting itemized deductions does not eliminate any taxpayer's current tax subsidy, but merely reduces the subsidy so that high-income households receive no higher subsidy rate than other households, the effect on the subsidized sectors of the economy should be small. However, it is possible that some of the policy options discussed in this paper could be phased in—for example, gradually reducing the top subsidy rate down to 15 percent over a few years, instead of immediately—to make the proposal more politically palatable.

Conclusion

Limiting deductions and exemptions will raise a significant amount of revenue over the next decade and will help the United States achieve many of its other economic and fiscal goals. The policy has bipartisan appeal and would be quick to implement; furthermore, its announcement could actually be stimulative in the short term. By moderating marginal tax rate increases on taxable income, it would not harm supply-side growth in the long term. The approach also would work towards eliminating the rather perverse ("upside-down") nature of the distribution of tax breaks, which currently provides larger percentage subsidies to higher-income individuals; as such, the proposal would improve progressivity and reduce income inequality. Thus, an across-the-board policy approach to reducing federal income tax expenditures seems ideal to reduce government spending and deficits in a progressive, economically efficient way. Considering the accompanying $1 trillion in savings over the next ten years, it is hard to think of a legitimate excuse for continuing to avoid these policy changes.

Proposal 8: Replacing the Home Mortgage Interest Deduction

Alan D. Viard
American Enterprise Institute

Deficit Reduction (10-year): $300 billion

Broader Benefits: Reduces the artificial incentive for the construction of high-end homes by reducing and better targeting the tax breaks for housing.

Introduction

The federal tax treatment of owner-occupied housing cries out for reform. Current tax policy offers unwarranted subsidies for the purchase of expensive homes by high-income taxpayers, but does little to promote homeownership by those of more modest means. To address these problems, I propose to replace the mortgage interest deduction with a 15 percent refundable credit and to reduce the size of the mortgages eligible for the credit while providing transition relief. Although this proposal is not ideal in every respect, it offers an effective way to scale back and better target the tax system's housing tax breaks while raising revenue in a progressive manner. Over ten years, such a proposal could increase revenues by approximately $300 billion.

The Challenge

THE CURRENT TAX PREFERENCE

An owner-occupied home provides a return in the form of housing services, the value of which can be measured as the cost of obtaining the same services from a rental property. To maintain neutrality with respect to the current taxation of business capital, the tax system would need to tax homeowners on this return, often called imputed rent, while allowing a deduction for the associated costs, including mortgage interest payments.

The current income tax system does not do this. Instead, it gives homeowners the best of both worlds, sparing them from tax on imputed rent, yet allowing many of them to deduct their mortgage interest payments. Although taxpayers who claim the standard deduction may not deduct mortgage interest, itemizers may deduct the interest paid on up to $1 million of mortgage debt plus up to $100,000 of home equity loans. The dollar limits are not adjusted for general inflation or for home price fluctuations. Mortgage interest on a second home may be deducted, provided that the total interest deduction remains within the dollar limits. Essentially the same rules apply under the alternative minimum tax, except that home equity loan interest cannot be deducted.

The tax advantage for owner-occupied housing is not the mortgage interest deduction, which would be allowed under a neutral tax system, but rather the tax exemption for imputed rent. It is convenient, however, to break down the tax advantage into two components, one of which is linked to mortgage interest. Suppose that a taxpayer who itemizes deductions and is in the top 39.6 percent bracket (rounded to 40 percent for simplicity) owns a home worth $1.5 million with a $1 million mortgage. If the home provides a 5 percent rate of return in terms of housing services and the mortgage rate is also 5 percent, then the taxpayer receives $75,000 of imputed rent and pays $50,000 of mortgage interest. Under a neutral tax system, the homeowner would pay $10,000 of tax on imputed rent minus mortgage interest; under the current tax system, the homeowner actually receives a $20,000 tax saving from deducting the mortgage interest. The $30,000 total tax advantage provided by the current tax system, which is equal to 40 percent of the imputed rent, can be broken down into a $20,000 benefit from the mortgage deduction and a $10,000 benefit from the failure to tax imputed rent minus mortgage interest. Table 8-1 summarizes these calculations.

TABLE 8-1.

The Tax Consequences of Owning a $1.5 Million House with a $1 Million Mortgage under Neutral and Current Tax Systems

	Neutral Tax System	Current Tax System
Assumptions		
Imputed Rent	$75,000	$75,000
Mortgage Interest	$50,000	$50,000
Tax Calculations		
Tax on Imputed Rent	$30,000	$0
Tax Savings: Interest Deduction	$20,000	$20,000
Net Tax	$10,000	–$20,000

Note: The calculations assume a 40 percent tax rate, a home valued at $1.5 million, a mortgage of $1 million, a 5 percent rate of return on housing, and a 5 percent mortgage interest rate.

Applying this breakdown to national data, the Department of the Treasury listed the mortgage deduction as a $111 billion tax expenditure, and the failure to tax imputed rent minus mortgage interest as a $59 billion tax expenditure for fiscal 2014 (Office of Management and Budget [OMB] 2012, 250).[1]

ECONOMIC FLAWS

Because the basic flaws of the current tax treatment are well known, I cover this ground only briefly. There may be good economic grounds, and there is certainly strong political support, for promoting homeownership, but there is no case for subsidizing bigger or more-expensive homes. Yet, the current tax treatment is more geared toward the latter objective, offering the largest benefits to taxpayers in the highest brackets and providing more-generous treatment to taxpayers who itemize than to those who claim the standard deductions. Indeed, the current tax policy may actually impede homeownership for taxpayers of more modest means because the preferences for high-bracket itemizers drive up the demand for homes and boost home prices.

The tax advantage is likely to have a powerful effect on the demand for owner-occupied housing, particularly for high-income people. James Poterba and Todd Sinai conclude that, relative to a neutral system that taxes imputed rent, the current system reduces the cost of investing in owner-occupied housing by about 20 percent on average and by almost 40 percent for the highest-income households (Poterba and Sinai 2011, 559–561).

The Proposal

The tax system should be changed to curtail this artificial incentive that inefficiently diverts resources away from business capital and toward the construction of high-end homes.

SUMMARY AND COMPARISON TO OTHER PLANS

Starting in 2015, the mortgage interest deduction is converted to a 15 percent refundable tax credit available to all homeowners, including those who claim the standard deduction and those with no income tax liability. The credit is limited to interest on $300,000 of mortgage debt (in 2013 dollars), with no tax relief for mortgages on second homes or on home-equity loans. The dollar limit is indexed to the consumer price index (CPI) in the same manner as the bracket endpoints and other dollar values in the tax code. Taxpayers with existing debt are allowed to claim 90 percent of the current-law deduction in 2014 on that debt, declining 10 percent per year thereafter, with the option to switch to the credit at any time.

By replacing the deduction with a credit, the proposal follows an approach that has been embraced by many economists and that has appeared in several recent reform plans.[2] The President's Advisory Panel on Federal Tax Reform's 2005 plan also featured a 15 percent refundable credit, on mortgages up to 125 percent of the median home price in the taxpayer's county, and no relief for second homes and home-equity loans. Taxpayers were allowed to choose between the deduction and the credit for five years, with the dollar limits phased in over four years and the second-home and home-equity provisions effective immediately (President's Advisory Panel on Federal Tax Reform 2005, 73–74, 237–238). The Bipartisan Policy

Center's (BPC's) November 2010 plan called for a 15 percent refundable credit, administered as a matching grant, on up to $25,000 of interest payments, with no tax relief for second homes. The limit would remain fixed in nominal terms and no transition relief was mentioned (BPC Debt Reduction Task Force 2010, 35–36, 126). The Simpson-Bowles December 2010 illustrative tax reform plan featured a 12 percent credit with a $500,000 limit and no tax relief for second homes and home-equity loans, with "appropriate transition relief" (National Commission on Fiscal Responsibility and Reform 2010, 26–27). A proposal in President Obama's budget would limit high-income households' federal income tax savings to 28 percent of deductible mortgage interest payments, with no transition relief. For the affected taxpayers, the deduction would effectively be replaced by a 28 percent tax credit, but there would be no tightening of the $1 million limit (U.S. Department of the Treasury 2012, 73–74).

JUSTIFICATION

This proposal seeks to promote sound economic policy while being sensitive to political realities. Like the other recent reform plans, this proposal does not end the tax preference for homeownership, but merely scales it back and retargets it toward less-expensive homes and taxpayers of more modest means. The economic merits of a homeownership preference depend on whether homeownership generates spillover benefits for society as a whole, perhaps by promoting social stability or by encouraging residents' neighborhood involvement. Rather than wading into this contentious debate, however, this proposal accepts the political reality that complete removal of the tax preference, or even of the mortgage deduction, is impossible, and instead seeks to target the tax preference in a more rational manner. Opinion polls suggest that many Americans who are unwilling to eliminate the mortgage deduction are willing to restrict it.[3]

Political realities also shape another feature of the proposal. Although it would be preferable to directly eliminate the tax advantage for expensive homes by taxing imputed rent on such homes, imputed rent taxation is politically impossible and administratively difficult. Like the other reform plans, the proposal allows imputed rent to remain untaxed and instead limits the mortgage deduction. As discussed further below, this approach regrettably leaves fully intact the current tax advantage for the equity that homeowners have in their homes and limits the tax advantage only on the mortgaged portion of home value.

These concerns should not overshadow the fundamental advantages of the proposal. For the mortgaged portion of home purchases, everyone receives the same 15 percent marginal incentive on modestly priced homes and no one receives any additional incentive for expensive homes. The proposal substantially limits the tax preference for expensive homes while increasing homeownership assistance for taxpayers who are less well off.

The proposal sets a uniform national limit on the size of a mortgage that can receive tax relief, which is the approach taken by the current $1 million limit and the BPC and Simpson-Bowles plans. Arguments can be made for the alternative approach of having the limits vary with local home prices, as in the Tax Reform Panel's plan. Linking the limit to local home prices might help ensure that tax relief applies to modestly priced homes everywhere in the country by accounting for variations in the price of modest homes. It might also ease political opposition in high-cost areas.[4] But there are countervailing considerations. Although it might be desirable to link the limit to a measure of the local cost of buying a home of fixed quality, the median home price may be a poor proxy for that unavailable measure. In areas with higher median home prices, homeowners may be living in homes of higher quality and enjoying better community amenities. They should not receive additional tax relief to accommodate those choices, particularly if they are affluent. In addition, setting higher limits for higher-cost areas might increase political resistance to the proposal in low-cost areas. Moreover, if the limit were linked to each area's home prices, then it also would presumably rise and fall over time with swings in home prices. But, there is no reason for the creditable portion of a homeowner's mortgage payments to change year to year over the life of the mortgage in response to home price movements. A uniform nationwide limit that is indexed to the CPI avoids those problems and is also simpler.

There is no easy way to select the right level of the limit. Previous reform plans have made a variety of choices. The BPC's $25,000 interest limit is consistent with a $312,500 mortgage at an 8 percent mortgage rate or an $833,333 mortgage for a borrower with a 3 percent rate. To avoid this sensitivity to interest-rate fluctuations, this proposal follows current law and the Panel and Simpson-Bowles plans by applying the limit to the mortgage value rather than to the interest payments. This proposal adopts a $300,000 limit, significantly more restrictive than the $500,000 Simpson-Bowles limit. Census Bureau data show that the median sales price for a new home was $248,900 and the mean price was $304,000 in December 2012; the nominal values of these series peaked in March 2007, with the median at $262,600 and the mean at $329,400 (U.S. Census Bureau 2013). The proposal's $300,000 limit therefore accommodates a mortgage roughly equal to the mean new-home sales price.

Although the $300,000 limit may seem stringent, it provides even expensive homes with a substantial tax advantage, though not to the same extravagant extent as the current tax system. Recall the previous example of the owner of a $1.5 million home who received a $30,000 tax advantage under current law by avoiding $10,000 of tax on imputed rent minus mortgage interest and reaping a $20,000 tax saving from the mortgage deduction. Under this proposal, that owner would keep the $10,000 tax advantage from the exemption of imputed rent minus mortgage interest and also would receive $2,250 from the 15 percent mortgage credit. The proposal seems stringent only when compared to the unrestrained tax breaks in place today.

The proposal offers significant transition relief, a policy that is desirable in its own right as well as being politically necessary. Because housing is a large investment and taxpayers have relied on a longstanding policy, they should receive some protection from unexpected changes. It certainly is far better to address concerns about market disruption by providing transition relief than by scaling back the underlying reform.

There is ample room to alter the proposal's parameters and design features. Disagreements about details should not be allowed to impede the adoption of a reform that better targets housing tax preferences.

ECONOMIC EFFECTS

The proposal seeks to direct economic resources away from expensive homes, which have been artificially advantaged by the tax system, and toward other sectors of the economy. Like any proposal that limits the mortgage deduction rather than taxing imputed rent, however, its effectiveness may be diminished by undesired changes in assets and debts. Consider yet again the taxpayer with the $1.5 million home and the $1 million mortgage. If the taxpayer responds to the proposal by selling off $1 million of other assets and paying off the mortgage, then the proposal does not diminish the housing tax advantage and raises no revenue. The tax savings previously obtained from deducting interest on a $1 million mortgage are replaced by the tax savings from no longer paying tax on the income from $1 million of other assets, as the taxpayer continues to fully enjoy the benefits of tax-free imputed rent. The same results occur if the taxpayer pays off the mortgage with $1 million borrowed against other assets and deducts the interest on the new debt as investment interest. Limits on the mortgage deduction can be thwarted because they withdraw the tax advantage only for home purchases financed by mortgages, sparing home purchases financed by other borrowing or by drawing down other assets.

In practice, though, the homeowner may not have $1 million of other assets, or may be unwilling or unable to sell or borrow against other assets. Limits on mortgage tax relief can remain effective if homeowners have little ability to change their portfolios. Fortunately, the evidence suggests that this is generally the case. Poterba and Sinai (2011) survey the extensive literature on this topic and provide new estimates of the scope of potential portfolio changes based on an analysis of the 2004 Survey of Consumer Finances. Examining a proposal to lower the mortgage deduction cap to $250,000, they conclude that, even under relatively generous assumptions about households' ability to liquidate other assets, the portfolio changes will undo less than one-quarter of the proposal's potential revenue gain. They find that changes to the mortgage deduction curtail the tax advantage of housing by almost as much as if there were no portfolio changes at all (Poterba and Sinai 2011, 555–556, 559–560).

BUDGET AND DISTRIBUTIONAL CONSEQUENCES

The proposal will raise revenue, with most of the additional tax payments made by higher-income taxpayers. The Urban-Brookings Tax Policy Center recently provided budget and distributional estimates for a reform option that would phase in a 15 percent credit and a $500,000 cap over a five-year period. Although the Center's option differs from the proposal here (the option sets a higher cap but offers less transition relief), the estimates are suggestive. Relative to an August 2011 current-policy baseline, the Center estimated a ten-year revenue gain of $324 billion from the option (Urban-Brookings Tax Policy Center 2011a).[5] The Center estimated that in 2015, 81 percent of the tax increase would fall on tax units with cash income above $200,000 in 2011 dollars, with 18 percent falling on those above $500,000 and 6 percent on those above $1 million (Urban-Brookings Tax Policy Center 2011b).[6]

TRANSITION EFFECTS

Any retrenchment of the mortgage deduction is likely to reduce the value of existing homes, compounding the recent declines in home values. The proposal offers transition relief to cushion the blow to current homeowners. Moreover, the price impact is likely to be more modest than some observers have suggested.

In general, a reduction in housing tax benefits has price and quantity effects, reducing both the value of existing housing and the quantity of new housing. As Jane Gravelle, John Diamond, George Zodrow, and others have explained, the relative sizes of the two effects depend on the flexibility of the housing supply. If the housing supply is completely fixed, the quantity effect disappears and the price effect is very strong, with the value of existing homes falling dollar for dollar with the present value of the lost tax benefits. But if the quantity of housing falls quickly in response to the tax change, the price

change is dampened as the scarcity of housing bolsters home prices. Gravelle (1996) and Diamond and Zodrow (2008) point out that previous predictions of large declines of home prices from tax reforms were based on the assumption that the housing supply is completely fixed (which is clearly untrue) or that it is very slow to adjust. They find that, under more realistic assumptions about the responsiveness of housing supply, even tax reforms that are far more sweeping than this proposal have modest price effects. For example, under an assumption of moderate flexibility in housing supply, Diamond and Zodrow (2008) estimate only a 4.2 percent decline in home equity values from a flat-tax reform that completely eliminates the tax advantage for housing. Gravelle (1996) also notes that the historical record does not support large home price impacts of tax changes.

OTHER EFFECTS

If there is no change in the standard deduction, then the availability of the credit to taxpayers claiming the standard deduction will reduce the number of taxpayers choosing to itemize, diminishing incentives to engage in other tax-deductible activity such as charitable giving. Adam Cole, Geoffrey Gee, and Nicholas Turner estimated that a similar credit proposal would reduce the number of itemizing returns by 21 million in 2021 (Cole, Gee, and Turner 2011, 993). If that result is not desired, it can be counteracted by lowering the standard deduction while increasing the personal exemption and other provisions to prevent a tax increase on low-income households.

Conclusion

Reducing the deficit will require action on many fronts. Replacing the mortgage interest deduction with a refundable credit and reducing the size of the mortgage eligible for tax relief can be an efficient and progressive part of the solution. This approach would preserve the tax incentive for homeownership while targeting it in a more effective and equitable manner.

Proposal 9: Funding Transportation Infrastructure with User Fees

Jack Basso
American Association of State Highway and Transportation Officials

Tyler Duvall
McKinsey & Company

Deficit Reduction (10-year): $312 billion

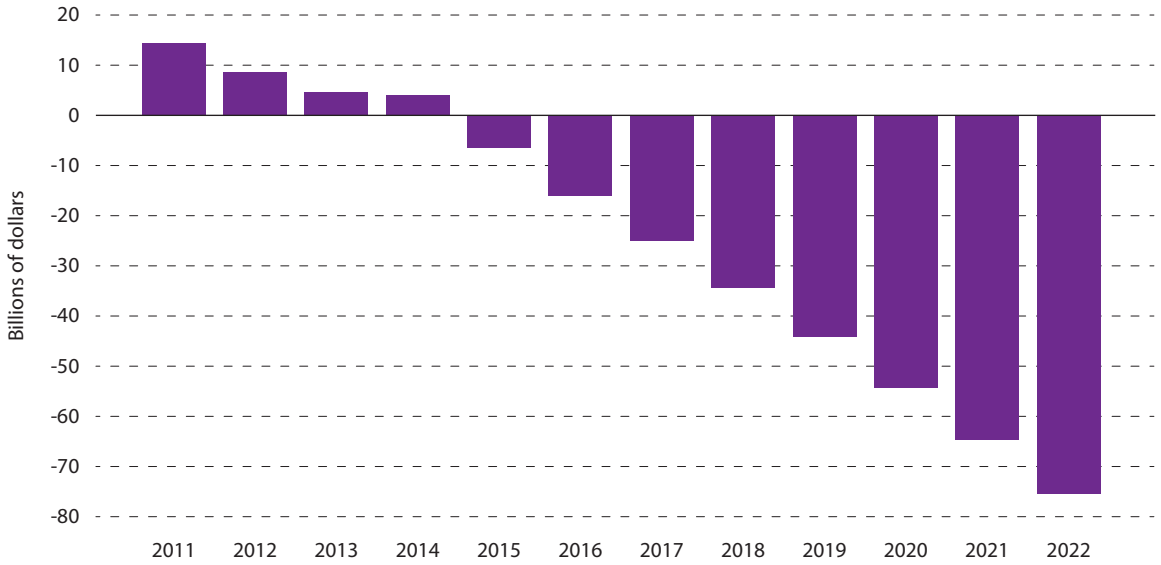
Broader Benefits: Raises revenues, reduces congestion on major roadways, reduces pollution; promotes wiser infrastructure investments.

Introduction

Federal surface transportation programs are intended to improve the quality, utility, and productivity of the surface transportation system by enhancing the system's safety (e.g., achieving reduced vehicle crashes, including fatalities) and operating performance (e.g., reducing congestion, increasing freight throughput, etc.); and by reducing the environmental impact of surface transportation. Although federal transportation spending is less than 2 percent of the overall federal budget, that spending—like spending in the rest of the budget—is currently on a collision course with reality. Unlike most federal programs, the federal surface transportation program has historically been funded by dedicated taxes on gasoline, diesel, and other transportation-related taxes. These taxes are deposited into the Federal Highway Trust Fund and

FIGURE 9-1.

Highway Trust Fund Projections



Source: CBO 2012.

then invested in roads, bridges, transit systems, and a variety of other surface transportation projects through state and local governments.

After being replenished by the general fund multiple times in recent years (adding billions to the federal deficit in the process), however, the Highway Trust Fund (the Fund) is currently projected to go negative again in 2015, with the negative balance growing rapidly each year after that (figure 9-1).

The 2012 federal surface transportation legislation Moving Ahead for Progress in the 21st Century Act (MAP-21) bought several years of solvency in the Fund, but did not address the long-term trajectory of the program. Going forward, it is undisputed in transportation policy circles that a new approach will be needed to sustainably fund surface transportation in the United States. The key questions that remain unanswered are these: How do we balance a looming near-term funding cliff with the long lead times associated with funding reforms that are more fundamental? And what role does the revenue policy choice play in improving transportation performance outcomes, particularly as it relates to congestion levels? If one accepts the premise that continued deficit spending to fund surface transportation projects is undesirable (some would argue this point), there are two distinct near-term options: (1) reduce federal spending to match revenues, or (2) adjust certain federal taxes in the near term. Given the growing costs to rehabilitate, maintain, and operate existing surface transportation, some experts express concern that state and local governments would not increase their own investments to fill the gap left by a shrinking federal program. Today, forty states rely on the federal government for more than 25 percent of their transportation funding.

Revenue options begin to expand when we look beyond the next two years, however. One approach that has been implemented relatively narrowly in the United States but that has achieved success in other countries is a direct road-pricing system where motorists pay fees directly to drive on certain roads (as opposed to paying taxes indirectly as they do today), potentially combined with some form of dedicated local taxes tied to specific transit projects. Economists from all backgrounds have strongly supported some form of direct pricing for roads, similar to the way other utilities are priced. In fact, Nobel Prize–winning economist William Vickrey proposed a specific road-pricing system to reduce congestion in Washington, DC, as far back as 1959 and in the New York City subway system in 1952. Vickrey said, "You're not reducing traffic flow, you're increasing it, because traffic is spread more evenly over time. . . . People see it as a tax increase, which I think is a gut reaction. When motorists' time is considered, it's really a savings" (quoted in Trimel 1996).

According to the U.S. Department of Transportation, an effective road-pricing system—once fully implemented—could generate between $38 billion and $55 billion annually in revenue while simultaneously reducing road congestion and reducing environmental impacts (U.S. Department of Transportation 2008a). Singapore's broad use of fully electronic road pricing is one of the key reasons the World Bank perennially ranks it number one in the world in terms of logistics performance. With a population of more than 5 million and only 250 square miles of land, Singapore's transportation system achieves free flow speeds on its expressways and arterials every day. Indeed, the key strength of such a solution is not only that it raises revenue to support surface transportation investments and operations, but also that it does so in a way that confers additional benefits including reduced congestion and pollution.

The Challenge

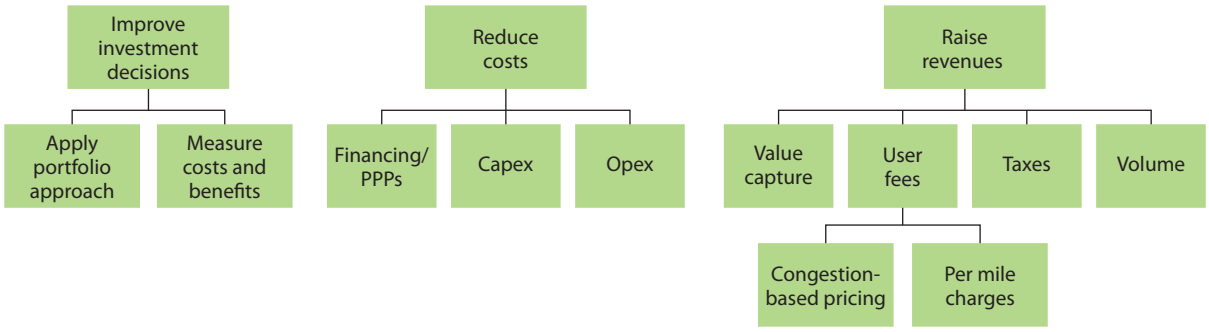
Three primary levers are available to the federal government, as well as to state and local governments in their comparable struggles to achieve fiscally sustainable approaches to transportation (figure 9-2). Often, the debate swirls solely around the revenue lever, but evidence suggests that the other levers can be quite powerful. In particular, reducing the costs of road construction and operation, as well as improving infrastructure investment decisions, are potentially as important as increasing revenues. For instance, in previous Hamilton Project papers, Eduardo Engel, Alexander Galetovic, and Ronald Fischer (2011) discussed how effective private-public partnerships for infrastructure financing can significantly reduce government costs; and David Levinson and Matthew Kahn (2011) proposed a new, more-efficient system for investing in infrastructure projects. A just-released report from McKinsey Global Institute estimates that the global infrastructure need could be reduced by 40 percent by adopting more-sophisticated approaches to selection, delivery, and operations of infrastructure systems, including surface transportation (Dobbs et al. 2013). Given how large the U.S. surface transportation system is already, it is likely that the U.S. figure is even higher than that global figure. While national policy in these areas can be quite important, state and local governments control nonrevenue decisions even more directly.

REVENUE BASELINES

In recent years, the U.S. Department of Transportation and two national commissions have looked at the question of transportation revenues to assess national investment levels necessary to maintain or improve existing conditions or performance of surface transportation systems (National

FIGURE 9-2.

Three Critical Levers Can Be Used to Close the Deficit



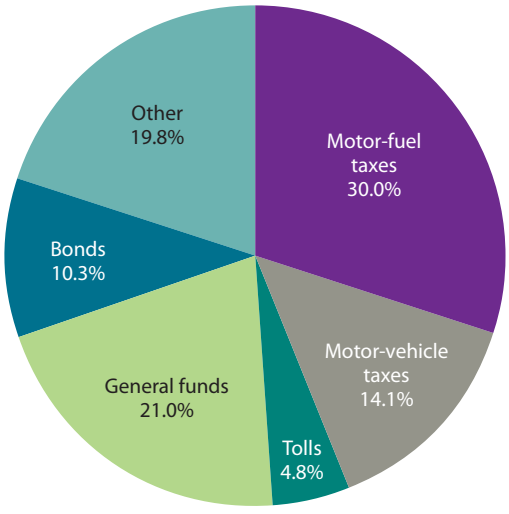
Surface Transportation Infrastructure Financial Commission 2009; National Surface Transportation Policy and Revenue Study Commission 2007; U.S. Department of Transportation 2008b).[1] The numbers from these sources coalesce around a cost-beneficial capital investment level of approximately $200 billion annually at the federal, state, and local levels of government. Currently, federal investment is approximately $52 billion per year ($40.7 billion specified for highways and $11.7 billion for transit). Maintaining the historic federal role (a debatable assumption) of approximately 40 to 45 percent of all surface transportation capital investments would imply substantial increases over the $52 billion. After the passage of MAP-21, the United States cannot maintain even existing investment levels with current revenue absent a substantial increase in state and local investment levels.

The Highway Trust Fund—which has no deficit spending authority—would experience a shortfall of $110 billion between 2015 and 2022, leading to dramatic program cuts or massive requirements from the already strapped general fund. Using gas and diesel taxes as the only federal revenue option to fill this gap would imply an $0.08 per gallon (or approximately 40 percent) increase in both taxes.

Taxes on gasoline and diesel fuel have been a relatively predictable and powerful revenue generator for many years, providing the foundation for the buildout of the interstate highway system—widely considered one of the seminal economic investments of the twentieth century. More than 90 percent of federal revenues for transportation historically came from fuel taxes until the recent general fund transfers.

FIGURE 9-3A.

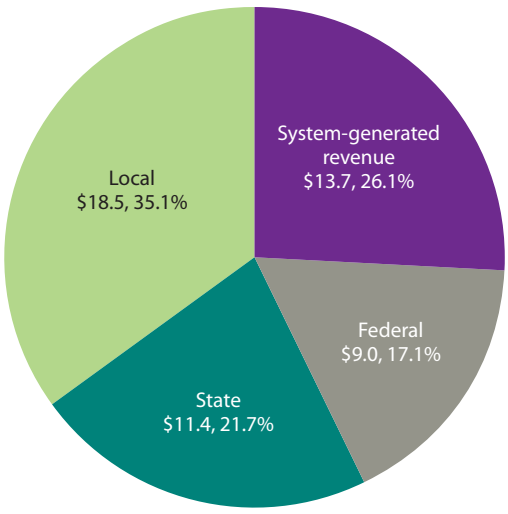
Revenue Sources for Highways, 2008



Source: U.S. Department of Transportation 2010.

FIGURE 9-3B.

Public Transit Revenue Sources, 2008



Source: U.S. Department of Transportation 2010.

TABLE 9-1.

Marginal External Cost of Driving in Major U.S. Cities

City	Total annual hours of delay	Marginal external congestion cost (cents/mile)
Los Angeles	490,552	32.4
New York	384,046	31.7
Chicago	202,835	33.7
Dallas	152,129	25.9
Miami	150,146	28.7

Source: Parry 2008.

State and local governments, on the other hand, rely increasingly on nonfuel tax revenue streams. In fact, fuel taxes nationally make up only approximately 30 percent of the total revenues for highway investment. On the rail and bus transit side, revenue sources are even more disconnected from users, with only 26 percent of revenues generated nationally from the system itself (figures 9-3a and 9-3b). According to the nonpartisan Congressional Budget Office ([CBO] 2012), the advent of corporate average fuel economy (CAFE) standards and alternative fuel vehicles will further erode fuel tax revenues by 21 percent by 2040. In the decade between 2012 and 2022, the CBO estimates that CAFE will reduce Highway Trust Fund revenues by $57 billion.

Even more important than vehicle-related shifts away from gasoline and diesel taxes, however, is the fact that indirect taxes send very weak signals to drivers about the true costs of using roads. This is particularly problematic in urbanized areas. Roads in urbanized areas make up 27 percent of total road miles, but 67 percent of all miles traveled, according to the "2010 Conditions and Performance Report" (U.S. Department of Transportation 2010). The marginal social costs of driving on urbanized roads is substantially higher than it is on nonurban roads. In other words, the costs that a driver on an urbanized highway during rush hour imposes on the public is substantially higher than the costs an off-peak driver on a lightly traveled rural road imposes. Today, that driver internalizes her own delay costs and whatever other taxes she pays. For the most-congested roads in the United States, the true costs per mile (including congestion and unreliability costs) of driving can be ten to twenty times higher than current taxes (table 9-1).

Some have argued that it would be easier to simply raise gas and diesel taxes to levels closer to the true marginal cost. This would result in substantial overtaxation, however, because that step would generally not reflect the dynamic nature in which these costs are imposed. For example, delay, unreliability, and environmental costs on a major urban beltway at 8:30 a.m. are significantly different from travel costs for the same vehicle on the same highway at 2:00 a.m. An effective charging system in the future would ideally be capable of accommodating these cost differentials in some form.[2] In order to foster a discussion about potential solutions that address this surface transportation investment gap, the American Association of State Highway and Transportation Officials (AASHTO) organized a matrix of revenue options, as shown in table 9-2.

The National Surface Transportation Infrastructure Financing Commission scored each of these potential revenue raisers based on size of revenue stream, economic efficiency and impact, implementation/administration costs, and social equity considerations (National Surface Transportation Infrastructure Financing Commission 2009). With the exception of raising gas taxes (a conversion of the current gas tax to a sales tax would represent a tax increase) or implementing a dedicated income tax—both of which are highly unpopular proposals—none of the other existing policy mechanisms, on its own, would generate sufficient revenue streams to ensure the solvency of the Highway Trust Fund, unless the taxes imposed represented very large increases over existing levels. In other words, small marginal increases of the vast majority of transportation-related taxes would likely be insufficient to maintain current spending levels. Perhaps it is unsurprising, then, that a solution to a highly foreseeable significant gap between revenues and spending has eluded the current process.

As a national transportation strategy matter, these options also suffer from a variety of shortcomings. Any indirect tax, whether on gasoline, income, tires, automobiles, or driver's licenses, can solve for only one side of the supply and demand equation. More revenues can help recapitalize existing assets and build new capacity, but none of the revenues listed above has the ability to reflect the actual costs of driving. In other words, none of the revenue streams listed above will work to sustainably reduce congestion—a problem that continues to

TABLE 9-2.

Surface Transportation Revenue Options

Surface Transportation Revenue Options (all revenue estimates in millions of dollars)		
Funding Mechanisms	**Illustrative Rate**	**Total Revenues**
Container tax	$15.00	$ 41,361
Customs revenues (partial dedication)	1.0%	$2,451
Drivers license surcharge (Annual)	$5.00	$6,926
Excise tax on diesel (increase and indexing)	$0.15	$45,060
Excise tax on gas (increase and indexing)	$0.10	$94,505
Freight bill – all modes	1.0%	$55,415
Heavy vehicle use tax (increase)	15.0%	$977
Imported oil tax	$1.00	$21,171
Registration fee on light duty vehicles (annual)	$10.00	$16,387
Registration fee on trucks (annual)	$15.00	$797
Sales tax on fuel – diesel	10.6%	$79,555
Sales tax on fuel – gas	8.4%	$236,605
Sales tax on trucks and trailers (increase)	5.0%	$10,062
Tire tax on light duty vehicles	$3.00	$36,870
Truck tire tax (increase)	10.0%	$326

Source: National Surface Transportation Infrastructure Financing Commission 2009

plague most of our urbanized areas and is projected to worsen in the future.

Interestingly, without any sort of national policy consensus, the battle for the future transportation revenue stream is already well under way at the state and local levels. Between 2000 and 2008, taxes on motor fuel and motor vehicles for all levels of government grew at just 1.5 percent per year compared to strong growth in toll revenues (6.2 percent annual growth), general fund appropriations (9.7 percent annual growth), and borrowing (7.4 percent annual growth). The share of total revenues for motor vehicle and motor fuel taxes fell from 58 percent of total highway revenues in 2000 to just 44 percent in 2008 (U.S. Department of Transportation 2010).

From the perspective of the broader U.S. economy, reducing congestion is particularly important, as our metropolitan areas are more critical than ever to our growth potential. In fact, a recent paper published by the McKinsey Global Institute (Dobbs et al. 2012) shows that the United States is even more dependent on cities than is China or Western Europe. About 85 percent of U.S. GDP is generated in cities with more than 150,000 inhabitants, compared to 78 percent of GDP in China and 65 percent of GDP in Western Europe (Dobbs et al. 2012). This means that transportation revenue strategies have clear national economic policy implications. In resolving both near- and longer-term funding issues, therefore, a focus on proposals that not only are capable of generating sufficient revenue, but also that reduce congestion and entail other social and economic benefits, would seem warranted.

A New Approach

The most direct form of transportation revenue is a charge to use a specified facility. In the highway world, it is called a toll. In the transit world, it is called a fare. In the airline world, it is called a ticket price. As of this writing, the scramble for revenue streams has picked up pace, and technology to enable road authorities to charge directly for facility use with little or no impact to travel speeds (that is, without toll booths) has emerged. In the past five years, roads that do not require drivers to slow down at different charging points (open-road tolling) have opened in California, Colorado, Florida, Georgia, Minnesota, Texas, Utah, Virginia, and Washington State. Although there are different technologies, rules,

implementation approaches, and lane configurations under each of these examples, there are several common themes.

First, prices are set and work to maintain freeflow conditions on the priced lanes at all times. In other words, the level of service that was hoped for has been achieved and drivers have been responsive to the price signals they receive. This is not to say all projects have seen smooth openings. In Atlanta, for example, problems with structure of the pricing algorithm created the perverse effect of worsening congestion in unpriced lanes. This was corrected relatively quickly, however. In Miami, safety was initially a concern because some drivers were confused about the structure and others attempted to move between priced and unpriced lanes at incorrect points. This, too, has been addressed.

Second, users of these roads have had overwhelmingly positive things to say about their experience. Surveys of users of these roads routinely reveal approval ratings in excess of 70 percent and in some cases well over 80 percent. It appears that speed, reliability, and better lighting are indeed features that appeal to drivers if they are given the ability to exercise these preferences in exchange for a price. A fundamental failure of the current model is that it does not recognize the diversity of preferences people have for different attributes of travel. Not only are people's preferences quite different, but also their own preferences vary significantly from day to day. This is somewhat intuitive, but a variety of works by Cliff Winston and colleagues from Brookings have validated this (Calfee and Winston 1998; Calfee, Winston, and Stempski 2001; Small, Winston, and Yan 2005).

Third, the collateral benefits to bus travel can be an important factor in the overall benefits of priced roads. Higher speed and more-reliable buses will increase demand for bus trips, which in turn reduces the price needed to balance supply and demand. In fact, a number of federal highway research projects have shown that a 10 to 14 percent reduction in traffic volumes in a given period can reduce delays by more than 90 percent (U.S. Department of Transportation 2008). This, along with the lower bus operating costs that comes from more-stable travel speeds, creates a virtuous cycle and offers the potential for even-more-aggressive strategies integrating bus travel and road pricing.

Fourth, the revenue streams that emerge from these facilities are a side effect, not the primary reason for the prices. This changes the nature of the public discourse significantly. Leaders can explain these facilities as improving transportation system performance, not first and foremost as a way to increase government spending. The public's cynicism about the degree to which new revenues will simply be wasted on politically popular projects that produce small, if any, net benefits is quite high. As the mayor of London once said to then–Federal Highway Administrator Mary Peters when explaining the public discourse around the congestion charging system in London, "If we had explained it to the public as a revenue raiser, we would have been dead on arrival."

Aside from the obvious time-savings benefits, there are two other critical aspects of direct road pricing. First, relatively small reductions in demand during a given period of time will produce substantially larger increases in travel speeds. Basically, a road reaches a tipping point in its ability to handle volumes (approximately 1,900 vehicles per lane per hour). When that tipping point is reached, traffic speeds rapidly deteriorate, but when volumes are reduced to right below that tipping point, speeds can approximate freeflow conditions. Thus, a small 4–8 percent reduction of traffic may be sufficient to convert a highway from stop-and-go conditions to normal speeds. Second, reliability is valued almost as much as time savings, but most traffic models have had significant difficulty in accounting for these benefits.[3]

There are three basic models of road pricing that are being implemented in the United States and around the world. The first model is areawide pricing systems, where jurisdictions charge drivers for movements within specified zones. The London congestion charging system is an example of this model. This system reduced traffic delays by more than 20 percent initially, although prices have not kept up with demand growth, thereby weakening the effect over time. These systems work well to reduce traffic demand and can be adapted to tie charges relatively closely to the actual marginal cost of delay imposed. That said, any system that uses boundaries will be subject to some distortion and inefficiencies as users adjust behaviors based on the boundaries.

The second road-pricing model, called cordon pricing, is where a boundary is established and users are charged a variable fee for crossing the boundary. Subsequent movements within the boundary zone are not then charged again. Like an areawide system, cordon systems can be quite effective at increasing travel speed and reliability. Stockholm has used this approach for seven years, with citizens actually voting by referendum to retain the system—the first and only example of a popular vote tied exclusively to the imposition of congestion charges. Like an areawide system, a cordon system can produce some distortions and inefficiencies because users will perform more trips in the central business district than they would under a pricing system tied directly to actual travel in the downtown area.

The final model is a facility-based charge where variable tolls are imposed on specific facilities in specific corridors for the purposes of increasing travel speeds and reliability. All U.S. examples are this type of model. Many regions are currently

analyzing true network approaches that utilize variable pricing along all major travel corridors to some extent, including those in or around Chicago, Dallas, Houston, San Francisco, and Washington, DC, among others.

The time for implementation of these systems can be short when there is political alignment to move ahead. For example, Miami was able to convert one of the most congested stretches of Interstate 95 and create two dynamically priced lanes in less than a year. The key challenge in many jurisdictions is that the lack of familiarity and experience is a major obstacle to achieving political alignment. More than $1 billion in federal incentive grants in 2007 using a similar structure as that used in the Race to the Top education program accelerated this political alignment in each of the jurisdictions awarded funds (Atlanta, Los Angeles, Miami, Minneapolis, San Francisco, and Seattle). The other key challenge is that converting existing unpriced lanes is far more challenging politically than converting existing high-occupancy vehicle lanes or creating new capacity. To the extent it is even physically feasible, adding new capacity can often take up to ten years. The conversion of the Highway 520 bridge in Seattle from an unpriced to a priced facility in 2011 is the first example of such a conversion in the United States.

A variety of studies have been conducted to estimate the amount of annual revenues that would be generated if the country were to adopt a comprehensive approach to congestion charging. For example, in the "2008 Conditions and Performance Report," the U.S. Department of Transportation (2008a) estimated revenue generation between $38 billion and $55 billion. Obviously, the timeframe to ramp up to these levels would depend on the resolution of a variety of policy and political issues, but it is important to note that administrative and technological challenges would not be a primary impediment to a relatively quick conversion process. It is also important to note that state and local governments appear to react quite strongly to relatively small federal incentive grants.

A transition to a direct user charge system can mitigate negative impacts on low-income people, and could be included as part of a transition to a direct user charge system. Such mitigation could take a variety of forms, including enhanced bus transit services in the relevant corridors, travel credits or vouchers, and tiered pricing such that those with lower values of time or reliability could choose to travel at lower speeds. In any event, the impact on low-income drivers in a world with more direct pricing should be evaluated relative to the current transportation system, where congestion, unreliability, and transit investments targeted toward wealthier suburbs all impact low-income people negatively today.

VEHICLE MILES TRAVELED TAX

As the country grapples with the best ways to implement facility-based charges like those described above, a variety of commentators have begun talking about the need for an even more transformational solution in the longer term. Such a solution could take the form of a GPS-based charging system that could render facility-based charges unnecessary. In Germany, for example, a GPS-based charging system for trucks collects more than $5 billion a year and has been in place for more than eight years. Oregon has been studying and piloting a mileage-based user charging system since 2006, although on a small scale.

The Surface Transportation Financing Commission estimated that a $0.09 per mile charge under a mileage-based system would yield revenue levels equivalent to the existing unsustainable gas or diesel tax model (National Surface Transportation Infrastructure Financing Commission 2009). A major potential advantage of a mileage-based charging system over traditional taxes is the flexibility to design into such a system the ability to incorporate differential pricing based on time of day, type of vehicle, and so on. In fact, leaders in Wisconsin recently proposed a shift away from the gas tax to an odometer reading at the time of annual registration—a crude form of tax on vehicle miles traveled. Privacy concerns remain a major issue for systems with tracking that is more direct, even if technical advances have eliminated most risks of improper information disclosure. Despite this growing attention and interest among researchers in this topic, the transition to an efficient new end-state is likely to be slow. As a result, it is realistic to assume that it would take years for a charging system based on cost of vehicle miles traveled to be generating the types of revenues necessary to fully replace current revenue streams.

Conclusion

The United States is clearly undergoing a major shift in thinking about surface transportation revenues. Experiments around the country are yielding tremendous promise for a more efficient and sustainable long-term revenue model. While the pace of change is slower than ideal, the nature of the debate has changed materially in the past ten years. Today, it is no longer rare to hear discussions about costs, benefits, and rates of return when discussing different options. In other words, the question is not exclusively about how much, but also about how. Solutions like direct road pricing that promise multiple benefits simultaneously are likely to receive more attention and analysis in such a world. In a sector of the economy where progress is often measured in decades, not years, this is no small feat.

Proposal 10: Creating an American Value-Added Tax

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The Brookings Institution

Benjamin H. Harris
Urban Institute

Deficit Reduction (10-year): $1.6 trillion

Broader Benefits: Raises revenue in a manner that does not distort saving and investment choices.

Lawrence Summers of Harvard University explained in a quip why the United States had not adopted a value-added tax so far. "Liberals think it's regressive and conservatives think it's a money machine." If they reverse their positions, the V.A.T. may happen, he said.

—Jan M. Rosen, "Tax Watch; The Likely Forms of New Taxes," *New York Times*, December 19, 1988

Introduction

The Great Recession and its aftermath have left the United States with a difficult fiscal situation: a weak economy that would benefit from short-term stimulus, but also projected medium- and long-term budget shortfalls, even after the economy recovers, that indicate the need for fiscal consolidation. Addressing these medium- and long-term problems will likely require a combination of spending cuts and revenue increases. While tax reform would be a laudable goal even in the absence of a fiscal problem, building a better tax system becomes even more imperative when revenue requirements rise and the equity and efficiency of the tax code are put under greater scrutiny and pressure.

We propose a value-added tax (VAT) to contribute to the U.S. fiscal solution. A 5 percent broad-based VAT, paired with subsidies to offset the regressive impacts, could raise about 1 percent of GDP, or about $160 billion, per year. Although it would be new to the United States, the VAT is in place in about 150 countries worldwide and in every non–U.S. OECD country. In recent years, the VAT has raised about 20 percent of the world's tax revenue (Keen and Lockwood 2007). This experience suggests that the VAT can raise substantial revenue, is administrable, and is minimally harmful to economic growth. Additionally, the VAT has at least one other potential advantage worth highlighting: a properly designed VAT might help the states deal with their own fiscal issues. Although a VAT would be regressive relative to current income, this regressivity can be easily offset by transfers that would make the net burden progressive. A VAT should only be imposed after the economy has returned to full employment, as the depressing effects of increased taxation in a demand-driven economy would suppress the economic recovery.

As the United States faces heightened long-term fiscal pressure, policymakers face the challenge of raising revenues in a way that puts as little burden on the economy as possible. While much of the discussion so far has focused on changes to income taxes, a consumption tax—here offered in the form of a VAT—offers advantages over higher income tax rates in terms of economic efficiency.

Like a retail sales tax, a VAT is a tax on consumption. Under a VAT, businesses pay taxes on the difference between their total

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sales to other businesses and households and their purchases of inputs from other businesses. That difference represents the value added by the firm to the product or service in question. The sum of value added at each stage of production is the retail sales price, so in aggregate the VAT simply replicates the tax patterns created by a retail sales tax and is like other flat tax rates on aggregate consumption. The key distinction is that VATs are collected at each stage of production, whereas retail sales taxes are collected only at point of final sale. This distinction makes the VAT more administrable than a retail sales tax.

In the most common implementation of the VAT, producers are taxed based on their total output, and then receive credit for taxes they have paid on purchases to other firms.[1] The tax credit thus acts as an incentive for compliance, and the VAT in practice is less likely to be evaded than is a retail sales tax.[2] The VAT is therefore widely preferred to a retail sales tax when considering options for taxing consumption.

A VAT is also border-adjustable, since taxes on exports can be rebated at the border and imports can be taxed at the VAT rate. While this is sometimes touted as providing economic benefits, it is actually a neutral treatment of these items. Taxes assessed on imports ensure an even playing field across imported and domestic consumption goods, and the rebate for exports ensures that exporters are only taxed on the consumption of their product.

The Proposal

We propose the United States add a new 5 percent VAT to be applied to all consumption except for spending on education, Medicaid and Medicare, charitable organizations, and state and local government. This VAT would be paired with a cash payment of about $450 per adult and about $200 per child to offset the cost to low-income families (the equivalent of annually refunding each two-parent, two-child household the VAT owed on the first $26,000 of consumption). In all, this VAT could raise about 1 percent of GDP, or about $160 billion per year as of 2013. However, the proposal should not be implemented until the economy is fully recovered from the recent downturn. CBO projects that this will not happen until 2017. If the VAT described here were implemented in 2017, policymakers could still raise $1.6 trillion in revenue over the remainder of the current 10-year budget period (2014-23). Policymakers may also choose to create a VAT with a higher rate and to adjust the rebates to achieve the desired revenue and distributional effects.

REVENUE

A VAT is a critical revenue stream for industrialized countries. Among non-U.S. OECD members in 2009, the VAT raised 6.4 percent of GDP in revenue and accounted for 19.2 percent of revenue raised at all levels of government. As with any tax, revenue from a VAT depends on the rate structure and the base. The standard VAT rate, the rate charged on most goods and services, has remained relatively steady in recent years in non-U.S. OECD countries. In 2012, it ranged from a low of 5 percent in Japan to a high of 27 percent in Hungary. The average rate was 18.7 percent (OECD 2012).

The VAT yield ratio, an indicator of its efficacy, measures VAT revenues as a share of GDP divided by the standard VAT rate; it shows the percent of GDP that can be raised for each one percent rise in VAT tax rate. A ratio of 0.3, for example, implies that a 10 percent VAT raises 3 percent of GDP in revenues.[3] Note that the yield ratio does not include the net costs of policies intended to compensate low-income households for VAT payments, nor does it include the offsetting effects that the VAT may have on other revenue sources. The yield ratio simply measures how much revenue is actually gained from the VAT itself.

In 2012, in non-U.S. OECD countries, the yield ratio ranged from a low of 0.21 in Mexico to a high of 0.58 in New Zealand. Most countries fell within a range of 0.30 and 0.45 (OECD 2012). The yield ratio depends critically on the extent to which the VAT tax base is kept broad, rather than narrowed by preferential rates or exemptions on certain goods or services. In practice, most OECD countries apply preferential rates to some items. Of the thirty-three OECD countries with a VAT in 2012, sixteen exempted certain goods and twenty-seven applied at least one nonzero reduced rate to a subsector of goods. Only Chile and Japan had no preferential rates (OECD 2012).

A low-rate VAT could generate substantial revenue. Based on estimates from Toder and Rosenberg (2010), we estimate that the United States could raise gross revenue of $355 billion in 2012 through a 5 percent VAT applied to all consumption except for spending on education, Medicaid and Medicare, charitable organizations, and state and local government. This would represent about 2.3 percent of GDP and produce a yield ratio of 0.45 (table 10-1).

However, as discussed below, gross VAT revenue can be reduced by preferential tax treatment, cash subsidies to households, and offsets in other tax bases. Preferential treatment is afforded certain types of consumption through either exclusions, or zero or lower rates; these preferences can markedly lower the amount of revenue raised. For example, exempting rent, new home purchases, food consumed at home, and private health expenditures from the VAT in the United States would reduce revenue by 38 percent, cutting the yield ratio to 0.28.

TABLE 10-1.

Revenue Effects in 2012 of a 5 percent VAT

	Broad Base			Narrow Base		
	Billions of Dollars	Percent of GDP	Yield Ratio	Billions of Dollars	Percent of GDP	Yield Ratio
Gross revenues	355.5	2.26	0.45	221.4	1.40	0.28
Cost of demogrants	97.7	0.62	—			
Revenue net of demogrants	257.8	1.64	0.33			
Adjustment of other taxes	96.6	0.62	—	60.5	0.38	—
Revenue net of other taxes	160.9	1.02	0.20	160.9	1.02	0.20

Source: Toder and Rosenberg (2010).

Cash payments are an important tool for offsetting regressivity, but also will lower the revenue yield. For example, according to Toder and Rosenberg (2010), under a broad base, a cash payment of $437 per adult and $218 per child would cost $97.7 billion. Note that, under this option, the official revenue collected by the VAT would remain at $355.5 billion and the measure of the yield ratio—given by VAT revenues and the standard rate of 5 percent—would remain at 0.45. But what might be called the effective revenue—that is, the revenue gain from the VAT, net of the costs of making the compensatory cash payments—would fall to $257.8 billion, or 1.64 percent of GDP, giving an effective yield ratio of 0.33.

Imposing the VAT would reduce net business income, which would in turn reduce other revenues. Toder and Rosenberg (2010) estimate that declines in other tax receipts would offset about 27 percent of gross VAT revenues. This would reduce effective revenues—after netting out the costs of cash payments and the loss in other revenues—to 1.02 percent of GDP for either base, resulting in an effective yield ratio of 0.20.

These figures imply, after allowing for offsetting adjustments in other taxes and the costs of either cash payments or narrowing the base as described above, that a 5 percent VAT would raise just over 1 percent of GDP in revenues.

EFFICIENCY

A common concern with raising taxes is that taxes will distort behavior, favoring certain goods or activities at the expense of others. A broad-based VAT that is levied uniformly on all goods and services would not distort relative prices among consumption goods. Similarly, a VAT with a constant tax rate over time would not distort household saving choices, nor would it distort choices businesses make regarding new investments, financing instruments, or organizational form.[4]

Like the income or payroll tax, however, the VAT would distort household choices between work and leisure.

A substantial literature, based on economic theory and simulation models, documents the potential efficiency gains from *substituting* a broad-based consumption tax for an income tax (Altig et al. 2001; Auerbach 1996; Fullerton and Rogers 1996). These gains arise from a combination of broadening the tax base, eliminating distortions in saving behavior, and imposing a one-time tax on existing wealth.

The tax on existing wealth merits additional discussion. As a tax on consumption, the VAT can be regarded as a tax on the wealth and income that households use to finance current and future consumption: wealth that exists at the time of the transition to the VAT, future wages, and extra-normal returns to capital (Hubbard and Gentry 1997).[5] The tax on existing wealth is a lump-sum tax, since the wealth has already been accumulated. Lump-sum taxes are preferable to other forms of taxation on efficiency grounds, since they do not distort economic choices. The lump-sum tax on existing wealth is a major component of the efficiency gains due to the creation of a consumption tax.[6]

The efficiency and growth effects due to an *add-on* VAT includes both losses from the increased distortion of work-or-leisure choices and substantial gains from the one-time tax on existing wealth, noted above, and substantial gains from deficit reduction.

DISTRIBUTIONAL EFFECTS AND OFFSETTING POLICIES

The distributional burden of the VAT depends on how household resources are measured. Typical distributional analyses are made with respect to current income. The VAT is regressive if households are classified by, and the tax burden is measured as a share of, current income (i.e., income earned in any given year). Because the VAT is a proportional tax on

consumption, and because lower-income households tend to spend a larger proportion of their income than higher-income households, the VAT imposes higher burdens—as a share of current income—on lower-income households.

However, several other perspectives are possible. The VAT is a proportional tax if households are classified by current consumption since all households are taxed at the same rate on the amount they consume. Likewise, to the extent that current consumption mirrors average lifetime income, the VAT is also proportional with respect to lifetime income. Empirical research broadly confirms these notions (Caspersen and Metcalf 1994; Metcalf 1994; Toder and Rosenberg 2010). However, empirical analysis is complicated by the fact that alternative methods of distributing the burden of a consumption tax, such as distributing the burden to consumption versus wages and capital less investment, can produce drastically different estimates of progressivity, even though they are equivalent in theory (Burman, Gravelle, and Rohaly 2005).

As mentioned earlier, the VAT imposes a one-time tax on existing wealth, a feature that is desirable on efficiency grounds but is more controversial with regard to fairness. We believe a one-time tax on wealth would be fair, and that it would be quite progressive. There is concern that imposing a VAT would hurt the elderly, a group that has high consumption relative to its income. However, Social Security and Medicare are the principal sources of income for a substantial proportion of low-income elderly households. Since those benefits are effectively indexed for inflation, low-income elderly households would be insulated from any VAT-induced increases in the price of consumer goods or health-care services.[7] High-income elderly households, who receive much lower shares of their income in the form of indexed government benefits, would need to pay more in taxes but could afford to do so.

Concerns about the regressivity of the VAT are valid, but they should not obstruct the creation of a VAT for two reasons. First, while we accept the validity of distributional considerations, what matters is the progressivity of the overall tax and transfer system, not the distribution of any individual component of that system. Clearly, the VAT can be one component of a progressive system.

Second, it is straightforward to introduce policies that can offset the impact of the VAT on low-income households. The most efficient way to do this is simply to provide households either refundable income tax credits, adjustments to cash-transfer benefits, or outright payments.[8] For example, for a 5 percent VAT, a $1,310 cash payment or "demogrant" would equal VAT paid on the first $26,200 of a household's consumption. Households that spend exactly $26,200 on consumption would pay no net tax. Those that spend less on consumption would receive a net subsidy. Those that spend more on consumption would pay, on net, a 5 percent VAT only on their purchases above $26,200. Toder and Rosenberg (2010) estimate that a VAT coupled with a fixed payment to families is generally progressive, even with respect to current income.

In contrast, many OECD governments and U.S. state governments offer preferential or zero rates on certain items like health care or food to increase progressivity. This approach is largely ineffective because the products in question are consumed in greater quantities by middle-income and wealthy taxpayers than they are by low-income households.[9] Furthermore, this approach creates complexity and invites tax avoidance as consumers try to substitute between tax-preferred and fully taxable goods and policymakers struggle to characterize goods. For example, if clothing were exempt from the VAT, Halloween costumes classified as clothing would be exempt, while costumes classified as toys would not.

ADMINISTRATIVE ISSUES

A broad-based VAT would cost less to administer than the current income tax. For example, in the United Kingdom administrative costs of the VAT were less than half of those of the income tax, measured as a share of revenue. Similarly, the New Zealand revenue department was required to intervene in just 3 percent of VAT returns, compared to 25 percent of income tax returns (Government Accountability Office [GAO] 2011).

Theory and evidence suggest that the compliance burden would likely fall more heavily—as a percentage of sales—on smaller businesses. Most countries address these concerns by exempting small businesses from collecting the VAT. In 2012, twenty-four out of the thirty-three OECD countries with a VAT exempted businesses with gross receipts beneath specified thresholds, varying from $1,616 to $95,833 (OECD 2012).

Finally, it is worth noting that, to the extent that administrative costs are fixed with respect to the VAT standard rate, the presence of such costs suggests that the VAT should be set at a relatively higher rather than lower rate.

EFFECT ON GOVERNMENT SPENDING

Some observers argue that the VAT is such an efficient and invisible tax that it would be used to fuel government spending increases through a gradually increasing VAT rate. Bartlett (2010a, 2010b) addresses this claim by noting that increased VAT rates in OECD countries were common among early adopters, who operated a VAT in the high-inflation environments in the 1970s, but far less common among countries that adopted a VAT after 1975. Among the seventeen countries that instituted a VAT during the post-1975 period of

relative price stability, four have not changed their VAT rate and four have decreased the rate; the average rate increase across all late-adopters of the VAT is less than one percentage point. The average VAT in OECD countries has been roughly constant since 1984 at or just below 18 percent.

Moreover, in the current U.S. budget context, a VAT would only be created as part of an overall budget deal that also dealt explicitly with spending targets.

MAKING THE VAT TRANSPARENT

A variant of the concern about spending growth is the notion that the VAT is hidden in overall prices. As a result, the argument goes, taxpayers will not notice the VAT the way they do income, sales, or payroll taxes, enabling Congress to increase the VAT rate without much taxpayer resistance.

This issue is easily addressed. The VAT does not have to be invisible: for example, Canada simply requires that businesses print the amount of VAT paid on a receipt with every consumer purchase. This is essentially identical to the standard U.S. practice of printing sales taxes paid on each receipt.[10] Another way to make the VAT transparent is to link VAT rates and revenues with spending on particular goods. Aaron (1991) and Burman (2009) propose a VAT related to health spending. Under such a system, the additional health insurance coverage would help offset the regressivity of a VAT and make the costs of both the VAT and government spending more transparent.

THE STATES

Some analysts express concern that a national VAT would impinge on states' ability to administer their own sales taxes. In our view, a national VAT could help states significantly. State retail sales taxes are poorly designed: they exempt many goods and most services and collect more than 40 percent of their revenue from taxing business purchases, which should be exempt.[11]

Converting sales taxes to VATs and piggybacking on a broad-based federal VAT would offer states several advantages. First, the states could raise substantial amounts of revenue in a less distortionary manner than current sales taxes. Second, administrative costs, which currently exceed 3 percent of state sales tax revenue (PriceWaterhouseCoopers 2006), would decline. Many states currently link their income tax base to the federal income tax base, with obvious administrative and compliance advantages. Similar savings would accrue from linking federal and state VAT bases. Third, a national VAT would allow states and the federal government to tax previously difficult-to-tax transactions, such as interstate mail order and internet sales. If the U.S. experience follows that of Canada, the federal government could collect revenue on behalf of states and absolve states of the cost of administering consumption taxes altogether (Duncan and Sedon 2010).

While the states could relatively easily coordinate with a federal VAT, it may seem less likely that the thousands of localities that impose sales tax would coordinate with the VAT. That does not create any special problems, however—it just means that whereas merchants currently collect state and local sales taxes, they would instead collect a combined federal and state VAT and a local sales tax.

CASE STUDY: THE CANADIAN VAT

Although not without its problems, the VAT has proven to be an effective solution in many countries.[14] The Canadian experience with a VAT may be a particularly relevant example for the United States. In 1991, Canada implemented a 7 percent VAT at the national level to replace a tax on sales by manufacturers. Many of the concerns associated with the VAT in the United States can be assuaged by observing the Canadian experience.[15]

Canada addressed distributional concerns by applying a zero rate to certain necessities and adding a refundable tax credit in the income tax. As noted above, we prefer the latter method. The Canadian VAT is completely transparent: it is listed separately on receipts just like sales taxes in the United States. Perhaps because of the transparency, the VAT has not led to significant growth of government spending. Federal spending in Canada has in fact gradually declined from 22.6 percent of GDP in 1991—when the VAT was implemented—to 14.9 percent in 2009. The standard VAT rate has declined over time to 6 percent in 2006 and 5 percent in 2008. Federal tax revenue in Canada has fallen from 17.6 percent of GDP in 1991 to 16.3 percent of GDP in 2007 (and fell further to 14.6 percent during the 2009 recession). In terms of both revenues and expenditures, the size of the Canadian federal government has shrunk significantly since the introduction of the VAT. Since 1991, Canadian inflation and economic growth rates have been similar to those in the United States.

Coordinating provincial sales taxes with the VAT has proven to be challenging, but manageable. After the VAT was introduced, provinces over time began to coordinate their sales taxes with the federal VAT. Two decades after the VAT's implementation, five of the ten provinces adopted harmonized VATs, making their provincial tax bases essentially identical to the federal base. In these cases, the federal government administers the provincial tax on behalf of the province, and the provincial governments set their own VAT rates. Quebec administers its own VAT; three provinces administer their own retail sales taxes. One province and the three territories have no consumption tax. The United States could accommodate a variety of state choices regarding consumption taxes in similar fashion.

In 2009, state and local sales tax revenue equaled 2.0 percent of GDP.[12] If the federal VAT had the broad base and demogrants described in table 10-1, and the states and localities piggybacked on that structure, an average subnational VAT of about 6 percent would raise the same revenue as existing state and local sales taxes.[13] Alternatively, states could maintain their sales taxes or create their own VAT bases. Following the implementation of a federal VAT in Canada, most provinces maintained their existing tax codes for several years. Some provinces have yet to fully harmonize with the federal VAT, while Quebec administers its own VAT (Duncan and Sedon 2010).

INFLATION

The creation of an add-on VAT will create pressure on prices. If, instead, the VAT were replacing a sales tax, there would be no pressure or need to adjust the price level. In our view, the Federal Reserve should accommodate the one-time price rise inherent in the creation of an add-on VAT. Failing to do so would create significant and unnecessary adjustment costs in terms of lost jobs and wages.

There is no theoretical or empirical reason, however, to expect that the VAT would cause continuing inflation. Research has found only a weak relationship between the VAT and continually increasing prices. In a survey of thirty-five countries that introduced the VAT, Tait (1991) finds that 63 percent exhibited no increase in the consumer price index (perhaps because they were replacing existing sales taxes) and that 20 percent had a one-time price rise. In the remaining 17 percent of cases, the introduction of the VAT coincided with ongoing acceleration in consumer prices, but in Tait's view, it is not likely that the VAT caused the acceleration.

Conclusion: An American VAT

The structure of an American VAT should include

- A very broad base;
- Rebates or income tax credits (rather than product exemptions) to achieve progressivity;
- Efforts to raise transparency (for example, having VAT listed separately on receipts); and
- Explicit links to spending discipline.

While we are not wedded to a particular rate, we do note that a 5 percent VAT with a broad base could raise about 1 percent of GDP in revenues, even after netting out the offsetting adjustments in other taxes and the costs of compensating households for VAT payments on a reasonable level of consumption.

Other than the resources used to provide the rebate, VAT revenues should be used largely, if not completely, for deficit reduction. While tax and spending reform require continued attention from policymakers, closing the fiscal gap is a top priority. To the extent that VAT revenues are used for other purposes, there will be fewer options left for balancing the federal budget.

We believe the states would benefit from dropping their sales taxes and rapidly harmonizing with a federal VAT, but that is an issue they can decide for themselves. If all states did harmonize, it would send a strong signal to consumers that public policymakers are aiming to reduce consumption and raise saving.

Given current economic challenges, the timing of a VAT is important. Instituting a significant tax on consumption during a weak recovery would be counterproductive. The optimal time to implement a VAT is after the economy has returned to full employment.

The VAT is not the only tax or spending policy that can constructively help solve the fiscal problem, nor will it solve the problem by itself. Nevertheless, to oppose the VAT is to argue (a) there is no fiscal gap, (b) ignoring the fiscal gap is better than imposing a VAT, or (c) there are better ways than the VAT to make policy sustainable. No one disputes the existence of a fiscal gap, though, and the economic costs of fiscal unsustainability are enormous. As to the notion that there are better ways to put fiscal policy on a sustainable path, we would be excited to learn about them. In the meantime, policymakers should not let the hypothetical—and to date undiscovered—ideal policy get in the way of the time-tested, more-than-adequate VAT.

Proposal 11: The Many Benefits of a Carbon Tax

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Deficit Reduction (10-year): $199 billion

Broader Benefits: Reduces the buildup of greenhouse gas emissions; replaces command-and-control regulations and expensive subsidies with transparent and powerful market-based incentives; promotes economic activity through reduced regulatory burden and lower marginal tax rates.

Introduction

This paper proposes introducing a modest carbon tax to finance reforms to the U.S. tax system to promote economic growth, reduce budget deficits, reduce redundant and inefficient regulation, reduce unnecessary subsidies, and reduce the costs associated with climate change. The revenues from the new levy could fund permanent reductions in more distortionary taxes on capital income while also contributing to deficit reduction. And by providing simple, transparent, but powerful market-based incentives to reduce damaging greenhouse gas (GHG) emissions, this levy could supersede the array of costly regulatory command-and-control approaches and expensive subsidies aimed at reducing dependence on fossil fuels and promoting clean energy. In addition to these benefits, of course, is a contribution to stemming the global buildup of GHGs and improving the United States' standing to foster the broader international action necessary to stabilize GHG concentrations and avoid catastrophic climate disruption. As this proposal shows, with a carbon tax these gains are possible with less-adverse, potentially even positive, consequences for economic activity, unlike other revenue raisers. Indeed, within twenty years a modest carbon tax can reduce annual emissions by 12 percent from baseline levels, generate enough revenue to lower the corporate income tax rate by 7 percentage points, and decrease the deficit by $815 billion, all while protecting the poorest households from undue burden.

The Challenge

The United States confronts serious policy challenges from an unsustainable budget deficit, a tax and regulatory system that most experts agree is inefficient, and the long-term threat from climate disruption. A carbon tax offers a policy that can help address all three challenges by combating climate change, curbing the rising debt level, and helping achieve efficient reforms to current policies.

Climate change poses serious risks to both the environment and the economy. Scientists project that, depending on future GHG emissions, by 2100 average global temperatures will be 2°F to 11.5°F higher than now (National Academy of Sciences 2012). These higher temperatures will raise sea levels and produce more-frequent, extreme, and damaging weather events, such as wildfires, heat waves, storms, and droughts. These changes will disrupt ecosystems and crop production, increase heat-related deaths, require costly adaptation, and produce many other monetary and nonmonetary consequences. While much remains to be learned about the potential impacts of climate change, the evidence overwhelmingly suggests that lower GHG concentrations will produce lower climatic disruptions; for that reason, it is prudent to take steps today to curb emissions.

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The federal budget deficit is growing at an unsustainable rate. Rising costs of Medicare, Social Security, and defense spending are at the forefront of the budget deficit problem, and politically feasible solutions remain elusive. A carbon tax is one policy mechanism that has the potential not only to make a meaningful dent in the budget deficit, but also to raise sufficient revenue to justify lowering other taxes. For instance, the United States currently has the highest statutory corporate income tax rate in the developed world. Using the revenue from a carbon tax, the United States could significantly lower the corporate tax rate while still reducing the budget deficit.

Some climate-related regulations are in place, and more are pending under the Environmental Protection Agency's (EPA's) Clean Air Act (CAA) authority. But the current approach to addressing climate change is inefficient and costly. Emissions standards, energy-efficiency standards, renewable electricity subsidies, and biofuel mandates are only a few examples of costly or ineffective policies. Indeed, current approaches can induce costs of each ton of abated carbon that are substantially higher than the U.S. government's estimate of the benefits, leading to negative net social benefits. A carbon tax could replace many such inefficient environmental and energy policies.

The Proposal

This paper proposes a tax starting at $16 per ton of CO_2-equivalent and rising 4 percent over inflation per year to 2050. The tax would be a simple excise tax on the carbon content of fossil fuels combusted in the United States and on select other GHG sources. This amount, $16 per ton of CO_2, translates to about $0.16 per gallon of gasoline and $30 per short ton of coal. This proposal also would repeal or modify inefficient and redundant environmental and energy regulations and eliminate approximately $6 billion of energy-related subsidies each year.

In each year, the proposal would reserve 15 percent of the carbon tax revenue to benefit the poorest households, for example by bolstering social safety net spending, to help offset some of the regressivity of the tax. Over the first decade, nearly all of the remaining revenue would be used to fund a permanent reduction in the top corporate income tax rate from 35 to 28 percent and reduce the deficit by about $199 billion. Over the subsequent decade, the proposal would generate enough revenue and budget savings to reduce the deficit by an additional $616 billion, for an undiscounted total of $815 billion in deficit reduction over twenty years.[1] The individual components of this package are described in detail below. Table 11-1 summarizes the budget and emissions reduction estimates for the proposal. Lacking available out-year projections, estimates in table 11-1 assume that the net revenue lost from reducing corporate income tax rates and the potential budget savings from reduced subsidies are the same in the second decade as in the first.

SET THE OPTIMAL TAX RATE AND BASE

This proposal recommends an initial tax rate per ton of CO_2-equivalent of $16 (2012 dollars) beginning in 2014 and an annual statutory increase in the tax of 4 percent over inflation. From an economic perspective, policymakers should set the price of carbon—that is, the tax—equal to the present value of the environmental and social damages produced by each additional ton of CO_2 emissions (or the equivalent in other GHGs). This

TABLE 11-1.

Summary of Budgetary and Emissions Impact

PROPOSAL: Implement a tax of $16 per ton of CO_2 ; increase it by 4 percent plus inflation each year		
Total Budget Effects (Undiscounted)	**Over 10 Years**	**Over 20 Years**
Revenue	$1.1 trillion	$2.7 trillion
Set-aside for low-income individuals	*($161 billion)*	*($405 billion)*
Revenue loss from lowering the corporate tax rate from 35 percent to 28 percent	*($800 billion)*	*($1.6 trillion)*
Savings from reduction in clean energy spending	$60 billion	$120 billion
Net deficit reduction	**$199 billion**	**$815 billion**
Monetized Benefit of CO_2 reductions, valued at $16 per ton	**$52 billion**	**$148 billion**

Note: Table 11-1 reports estimates for the tax on carbon in fossil fuels used in the energy sector, per McKibbin and colleagues (2012). These sources comprise about 79 percent of U.S. GHG emissions. The proposal's actual tax revenue and emissions reductions could be a few percentage points higher than the values in table 11-1. Additional GHG sources, such as cement-related CO_2 and methane emissions from landfills and coal mines, are in the proposal's tax base, and the proposal includes border tariffs on select goods from countries without analogous carbon prices. However, federal government spending on its own energy consumption is likely to be higher, too.

is called the social cost of carbon (SCC). Of course, measuring the SCC is difficult because of the scientific and analytical challenges of predicting climate change impacts, monetizing them, discounting effects in the distant future, and assessing the costs of low-probability but catastrophic outcomes.

However, useful benchmarks exist, and $16 falls within their range, as shown in table 11-2. The U.S. government uses a range of SCC estimates to calculate the benefits of rules that reduce GHG emissions.[2] Sixteen dollars is within the bounds of the range, but is lower than the government's central estimate of $23. Other countries and subnational governments have carbon pricing policies to which we can look for precedents for a U.S. federal carbon tax, and $16 also falls within their range. For example, $16 is $6 higher than the recent auction value of California's cap-and-trade allowances for 2015, but about $13 lower than the current carbon tax in British Columbia, Canada.

In this proposal, the tax rate rises each year by 4 percent over inflation. Another option would be to adjust the tax rate periodically to target a specific level of U.S. emissions. The price signal predictability in this proposal will reduce the risks of long-term investments and prevent inadvertent stringency or laxity that could undermine the program's political feasibility or effectiveness. A long-run tax trajectory set in law also avoids protracted debates over the appropriate emissions target and the process for adjusting the rate to achieve it, and it simplifies revenue forecasts. In lieu of a specific emissions target, Congress should request regular expert agency reviews of the environmental and economic performance of the tax and revisit tax rates when appropriate.

Many economists recommend that the real rate of increase in the tax match the returns on relatively low-risk capital assets, or about 4 or 5 percentage points above inflation in typical economic conditions.[3] This modest rate of increase avoids creating the incentive for fossil-carbon resource owners to hasten extracting their resources in anticipation of lower after-tax profits later.

To optimize the tradeoff across taxing as much GHG emissions as possible and minimizing the administrative burden, it makes sense to levy this tax on carbon and other GHGs at the upstream choke point in their distribution. The price signal will pass through to retail prices just as if the tax were collected from consumers. The Congressional Research Service (CRS; 2012b) estimates that 80 percent of U.S. GHG emissions could be taxed via payments from only 2,300 upstream entities. In this approach, the tax would fall on petroleum at refineries, on natural gas at the wellheads or processing plants, and on coal at the mine mouth. The tax base should also include CO_2 emissions from nonenergy industrial processes such as cement

TABLE 11-2.

Benchmark CO_2 Prices

Carbon Price Benchmark[a]	Price per ton of CO_2-equivalent (2012 US$)
This proposal's starting tax rate	16.00
U.S. 2015 SCC, 5% discount rate	6.36
U.S. 2015 SCC, 3% discount rate	26.55
December 2012 trading price of allowances in the EU ETS	8.77
Carbon tax in British Columbia, Canada[b]	29.70
Carbon tax in Australia	24.21
Carbon tax in Sweden	156.00
EPA projection for CO_2 allowance trading price under H.R. 2454 in 2015, Scenario 3[c]	14.95
Settlement price of California's GHG cap-and-trade allowances, advance auction of 2015 vintage[d]	10.00
Regional GHG Initiative, Auction 18 Clearing Price for CO_2 Allowances, December 5, 2012[e]	1.93

Notes: EU ETS = European Union's Emissions Trading System.

a. A number of the policies in this table do not price all fossil energy carbon. For example, the Australian carbon tax excludes oil.

b. British Columbia Ministry of Finance (n.d.). $30 Canadian, currency converted February 11, 2013.

c. This figure comes from EPA's modeling of the House-passed cap-and-trade bill of 2009, also known as the Waxman-Markey Bill. We report results for Scenario 3 with the Adage Model, converted to 2012 dollars using the consumer price index. Scenario 3 excludes the effect of the energy efficiency programs in H.R. 2454. EPA estimates that the addition of those programs would have produced a slightly lower allowance price than the price in Scenario 3. (See EPA 2009 and its data annex.)

d. California Environmental Protection Agency (n.d.).

e. Regional Greenhouse Gas Initiative (2012).

manufacturing, as well as identifiable point sources of non-CO_2 GHG emissions, such as methane emissions from landfills and coal mines. The tax also would fall on the carbon content of imported fossil fuels at the border. Carbon in fossil fuels that is not emitted—for example because it is securely sequestered underground or used in feedstocks for plastics—should receive a tax credit or rebate.[4] Likewise, biofuels and other renewable energy would not be taxed, but their costs of production could rise with the price of any taxed fossil fuels inputs.[5]

To avoid significantly disadvantaging American energy-intensive trade-exposed industries—industries like metals, chemicals, glass, pulp and paper, and cement—relative to their counterparts in economies with less-ambitious climate policy, the tax should also include narrowly tailored and temporary "border carbon adjustments" that impose tariffs on imports of the most intensely energy-intensive trade-exposed goods (such as aluminum) in proportion to differences in climate policy across countries.[6]

Finally, this proposal would eschew granting tax credits for emissions-reducing activities outside the taxed sources. Such offsets would introduce a host of complexities that invite gaming, raise administrative costs, and reduce revenue. Although clearly many details would remain for implementing regulations, this proposal's principal design goal is the simplest, broadest price signal feasible.

REPEAL REDUNDANT REGULATIONS AND EXPENDITURES

A price on carbon will lower GHG emissions and spur innovation in low-GHG technology, and, therefore, a carbon tax will make many other, less-efficient energy and environmental regulations unnecessary. Indeed, an important component of the cap-and-trade bill passed by the U.S. House of Representatives in 2009 was the preemption of EPA CAA authority for some GHG emissions.

A similar amendment to the CAA upon adoption of a carbon tax may not be workable. First, environmental groups may strongly oppose CAA preemption, arguing justifiably that CAA authority might be important if the tax does not produce meaningful climate benefits. Furthermore, amending the CAA involves more congressional committees in fiscal reform that is already complex. One approach would be for EPA to issue a rule, coordinated to the passage of the carbon tax, that would suspend new CAA regulation of GHGs for a period of eight years while the tax takes effect. Given the probable delays from litigation and state implementation, it is unlikely EPA could have its regulations for existing stationary sources of GHGs in effect much before then anyway.

Federal agencies have promulgated a host of regulations that could be eliminated or scaled back with passage of a carbon tax. For example, as long as electricity prices reflect the environmental damages associated with electricity production and consumers have good information about the energy use of the products they buy, then arguably consumers (rather than federal agencies) should decide what products best serve their needs.[7] Examples of policies that the Department of Energy could convert to information-provision approaches include energy standards for dryers, air conditioners, light bulbs, refrigerators, and industrial coolers and freezers. With a carbon tax administered by the Internal Revenue Service, EPA also could reduce its mandatory GHG emissions reporting. In addition, because the tax promotes the market for energy-efficient vehicles and induces less driving, Congress should repeal the unworkable 2005 Renewable Fuel Standard (RFS).[8] In theory, the administration also could scale back fuel economy standards for passenger cars and light duty trucks, but that is likely infeasible since the federal standards arise in part from automakers' interest in avoiding multiple state-level standards.

Even with a price on carbon, the private sector is likely to undersupply basic research and development on energy-efficient and low-carbon technologies. This proposal would preserve all research spending. Near-commercial development and technology deployment are different. The carbon tax, both through current and expected effects on prices, induces firms and consumers to develop and deploy cost-effective GHG-abating technologies.[9] Thus, subsidies for existing and near-commercial clean-energy technologies either would compensate investors for what they do anyway (with no net environmental benefits) or induce them to invest in inefficiently high-cost abatement. For example, the Congressional Budget Office (CBO; 2012b) estimates that tax subsidies for electric vehicles will cost about $7.5 billion through 2019 and produce little to no environmental benefit. This is in part because under fuel-economy rules, electric-vehicle makers can sell compliance credits to other automakers, allowing them to sell more high-emissions vehicles than they otherwise could (CBO 2012b). Even ignoring the role of corporate average fuel economy standards, CBO estimates that the cost to taxpayers of using the tax credits to abate carbon emissions ranges from $300 to $1,200 per ton of CO_2.

Given the exigency of deficit reduction and the evidence that this kind of spending is cost-ineffective, this proposal recommends a nearly wholesale revocation of all nonresearch spending on renewable electricity, energy efficiency, and biofuels. Furthermore, in contrast with the proposition by some that carbon tax revenue should be reserved for increasing clean energy subsidies, this proposal would preclude earmarks of the carbon tax revenue for new spending, other than to

protect the poor. There is no particular connection between the amount of revenue a carbon tax raises and the appropriate level of spending on research and development, adaptation, or anything else. That spending should go through ordinary budget processes. If policymakers are unsatisfied with the pace of clean energy adoption or emissions reductions, it is generally far more efficient for them to raise the carbon tax than to subsidize alternatives.

Clean energy subsidies are complex, fall across numerous agency budgets, and are subject to a myriad of sunset provisions and caps. This prohibits a simple calculation of potential long-run budget savings. Nonetheless, this proposal estimates that about $6 billion in annual tax and direct spending could be responsibly eliminated with the passage of a carbon tax, for a total of $120 billion in savings over twenty years. Table 11-3 reports the specific proposals. The majority of savings are from reduced tax expenditures for renewable electricity production, renewable transportation fuels, and electric cars. This proposal also would scrap a program in which federal agencies, notably the Department of Defense, purchase high-cost advanced biofuels and invest in biofuel production facilities. Although some of the programs listed in table 11-3 expire within ten years, it is reasonable to expect that, without a price on carbon, Congress would be likely to renew or replace them with similarly targeted subsidies—thus the assertion here that annual savings appearing in table 11-3 accrue over two decades.

REVENUE TRAJECTORY, TAX REFORM, AND ENVIRONMENTAL BENEFITS

The proposed carbon tax would raise about $88 billion in the first year and rise to almost $200 billion two decades later (figure 11-1), for an undiscounted total of $1.1 trillion in the first decade and $2.7 trillion in revenue over twenty years, according to McKibbin and colleagues (2012).[10] Adding in the proposed subsidy reduction of $6 billion per year, this proposal would provide almost $200 billion in deficit reduction in the first ten years and $815 billion in deficit reduction over the first twenty years. In the very long run, emissions will decline enough to reduce annual revenue, so eventually other sources

TABLE 11-3.

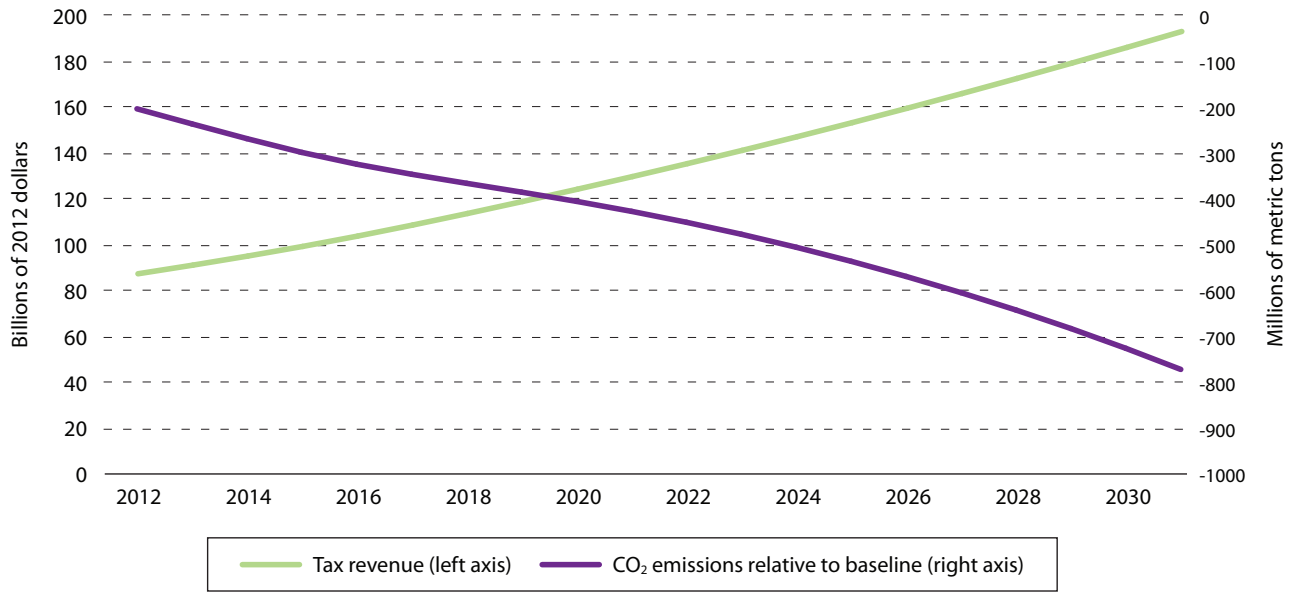
Budget Saving Proposals

Tax Expenditure Reductions	Annual Potential Savings (billions of US$)
Renewable electricity production credit[a]	1.2
Tax credits for investment in advanced energy property, such as property used in producing energy from wind, the sun, or geothermal sources[b]	0.7
Tax preferences for nuclear energy[c]	0.9
Excise tax credits and outlay payments for alternative fuel and excise tax credits for alternative fuel mixtures[d]	0.3
Income tax credits for biodiesel fuel, biodiesel used to produce a qualified mixture, and small agribiodiesel producers[e]	1.8
Credit for energy-efficient appliances[f]	0.07
Tax credit for plug-in vehicles and certain alternative vehicles[g]	0.4
Renewable energy credit (Section 48)[h]	0.5
Direct Spending Reductions	
Biofuel subsidies via the Department of Defense and other agencies[i]	0.17
Total	**6.04**

Notes:
a. Average annual tax expenditure, 2013–2022 (Joint Committee on Taxation [JCT] 2013, 6).
b. Tax expenditure in 2011. CBO (2012b) notes that this credit is capped at $2.4 billion.
c. Tax expenditure in 2011 (CBO 2012b, 3).
d. Estimated 2013 tax expenditure (JCT 2013, 7).
e. Estimated 2013 tax expenditure (JCT 2013, 6).
f. Average annual tax expenditure, 2013–2022 (JCT 2013, 6).
g. Average annual tax expenditure, 2011–2015 (JCT 2012, 34).
h. Average annual tax expenditure, 2011-15, (JCT 2012, 33).
i. Estimate of 2012 appropriation for Defense Production Act expenditures on biofuels and related industry investments (CRS 2012b, 10).

FIGURE 11-1.

Carbon Tax Revenue and Emissions Effects by Year of Policy



Source: McKibbin et al. 2012.

of revenue or spending reductions would be necessary to replace revenue from the carbon tax.

Initial effects on households are likely to be modest. Mathur and Morris (2012) analyze an analogous tax and find that if the tax is passed fully to households, then retail prices of electricity, gasoline, and home heating oil would rise in the short run by 5 to 6 percent. Natural gas prices to households would rise somewhat more, by about 19 percent, at the outset of the policy. Mathur and Morris (2012) estimate that 11 percent of the revenue would be necessary to hold the bottom 20 percent of households by income harmless, and 18 percent would be enough to protect the bottom three deciles. This proposal recommends that policymakers reserve about 15 percent of the revenue (about $161 billion in the first decade and $405 billion over twenty years) to protect households with income below about 150 percent of the poverty level.[11] These reserved funds could bolster programs that serve the poor (e.g., Medicaid, the Earned Income Tax Credit, and food stamps), or could go to qualifying households through electronic debit cards. In no case should the revenue be used to directly offset higher energy prices to consumers because that would blunt the incentive to conserve energy and would undermine the environmental performance of the tax. Indeed, the carbon tax law should instruct utilities to pass through to consumers any increased input costs arising from the tax.

TAX REFORM

After holding harmless low-income households, about 85 percent of the revenue and all of the savings from subsidy reductions could be used for efficiency-enhancing tax reform and deficit reduction. Marron and Toder (2013) estimate that cutting the corporate tax rate from 35 percent to 28 percent would reduce corporate income tax revenues by about $800 billion, or roughly 18 percent, over the next ten years. For comparison, the CBO's projection of total corporate income tax revenue in 2014 is about $430 billion (Statistica 2013). Some of that loss could be made up by expanding the corporate income tax base, for example by reducing tax preferences. Nonetheless, corporate tax reform will clearly require increased revenue elsewhere in the budget. A carbon tax is a natural fit.

In the early years of the carbon tax, particularly during this protracted sluggish economic recovery, policymakers should target the carbon tax revenue predominantly toward pro-growth reform of the corporate income tax (Marron and Toder, 2013). This maximizes the near term efficiency gains of the tax reform by focusing the revenue on lowering one of the most distortionary tax instruments while preserving its role in long-term deficit reduction. Several scholars have analyzed the cost-lowering potential of reducing other distortionary taxes with carbon tax revenue. For example, Dinan and Lim Rogers (2002) found that using carbon revenues to reduce corporate income taxes could reduce the economic cost of limiting carbon emissions by 60 percent. In a general equilibrium modeling analysis, McKibbin and colleagues (2012) find that using the carbon tax revenue to reduce taxes on capital income could slightly boost GDP, employment, and wages through the first few decades of the tax, in part as a

result of the tax swap's salutary effect on U.S. investment. In another modeling study, Rausch and Reilly (2012) also find that introducing a carbon tax and using the revenue to reduce corporate income tax rates would produce a net welfare gain for American households.[12]

ENVIRONMENTAL GAINS

In addition to the positive budgetary impacts of a carbon tax, there are significant environmental benefits as well. Results predict the policy would reduce taxed emissions relative to baseline by about 12 percent after twenty years and by a third by mid-century, producing a cumulative reduction of 9.2 billion metric tons of CO_2 in its first two decades. As shown in table 11-2, if the present value of those emissions reductions is, say, at least $16 per ton, the first twenty years of the tax would produce at least $148 billion in climate benefits. Further benefits could arise from increased GHG abatement by other countries in response to U.S. climate action and diplomacy.

The United States should use its new carbon price policy to become an international leader for pricing GHG emissions globally. It should encourage carbon pricing by other major emitters. In particular, the United States should launch a vigorous carbon pricing dialogue within the Major Economies Forum, the United Nations Framework Convention on Climate Change, or the G-20, or more than one of these.[13] The dialogue could focus on administrative and technical aspects of carbon pricing and help build GHG tax administration capacity in developing countries. These diplomatic efforts would help address climate risks, protect energy-intensive American industry, limit the need for border carbon adjustments, and signal to the international community that the world's largest economic power is taking positive and transparent steps to curb its emissions.

Conclusion

At a time when the country is facing serious long-term budget difficulties, this proposal is arguably the most efficient way to reduce the deficit over the next few decades. It offers three powerful ways to improve the well-being of future generations. First, it allows the United States to adopt more-efficient tax and regulatory policies. Revenue from the carbon tax funds a permanent reduction in the United States' statutory corporate income tax rate, currently the highest in the developed world, to a more internationally competitive level. Evidence suggests this tax swap will expand investment and improve welfare in the United States. A price on carbon also can supplant more-costly and less-effective measures to reduce emissions, promote clean energy and energy efficiency, and drive innovation, saving both budget and regulatory costs.

Second, a carbon tax spurs serious cost-effective efforts by the United States to address the global threat of climatic disruption. Economists widely agree that a price on carbon in the United States is necessary to reduce GHG emissions efficiently across a wide range of activities; with effective diplomacy, the United States can leverage its efforts into broader and more ambitious efforts abroad. This proposal would produce about $150 billion or more in climate benefits in the first two decades.

Third, this proposal creates a new source of revenue that will reduce the federal budget deficit by almost $200 billion in the next decade and about $815 billion over the next two decades, even while protecting the welfare of the poorest households.

Proposal 12: Overhauling the Temporary Work Visa System

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Deficit Reduction (10-year): **$7 billion – $12 billion**

Broader Benefits: **Maximizes the economic benefits of work-oriented visas by allocating visas to firms (and immigrants) based on market needs; raises revenue from auctions.**

Introduction

Immigration creates economic value and potential fiscal revenues when workers move from countries where their productivity and wages are low to countries, such as the United States, where their productivity and wages are relatively high. Highly educated immigrants contribute substantially to technological and scientific innovation, entrepreneurship, and productivity growth. Less-educated immigrants supply useful skills by providing much-needed labor to fill jobs in agriculture, construction, and personal services—sectors where local demand from employers is increasingly not matched by a supply of American workers. The country's employment-based immigration policies should encourage the inflow of workers who make the greatest contributions to the U.S. economy.

Unfortunately, the complex and outdated U.S. immigration system, even in its employment-based component, imposes significant inefficiencies and costly restrictions on the inflow of foreign-born workers. Current immigration policies ultimately lead to inferior economic outcomes. Instead of being allocated to the workers who make the greatest economic contributions, employment-based visas are typically allocated to those who happen to be first in line, or are distributed randomly via a lottery. The difficulty of obtaining employment-based visas discourages highly educated potential immigrants who would contribute significant value to U.S. employers and generate tax revenues. At the same time, less-educated potential immigrants have extremely limited options for legal entry despite being in high demand from U.S. employers, who often end up turning to unauthorized workers.

The goal of this proposal is to introduce simple but significant changes to the U.S. employment-based temporary immigration system that would make that system more efficient. The proposed changes also would increase the economic benefits of employment-based immigration for the U.S. economy and contribute additional revenue to the federal budget. The proposed system uses market-based auctions to allocate temporary permits that allow employers to hire foreign workers. An employer who purchases a permit effectively purchases the right to hire a foreign worker for a specified period. The foreign worker selected for that job, in turn, receives a temporary worker visa after passing a background check, and will be fully mobile across employers who own permits. The employer can resell the permit in a secondary market if the foreign worker leaves that job. These auctions would first be implemented to replace the current H-1B, H-2A, and H-2B visa programs, and would ultimately replace most of the current temporary employment-based immigration

system. To succeed, the auctions need to be accompanied by increased workplace enforcement, such as mandating that all employers use E-Verify.

Auctioning permits to hire foreign workers would offer a number of economic benefits. It would lead to a more efficient allocation of foreign workers across employers while protecting workers through visa portability and employer competition. Permits would be allocated to employers who value these workers' contributions the highest and who hence would bid the most for permits.

The auctions would generate revenue for the federal government. Baseline estimates suggest that auctioning of employer permits would generate from $700 million to $1.2 billion in revenues annually, with the higher end of the range possible if more visas are available for high-skilled workers. In the long run, a more efficient immigration system would have an even bigger budget impact by increasing productivity and gross domestic product (GDP).

This proposal focuses on temporary employment-based immigration, which plays an important role in the employment-based immigration system. Most immigrants, however, are admitted permanently on the basis of family ties. Among permanent immigrants, employment-based immigration accounts for only 14 percent of permanent resident visas awarded each year, with about half of those going to accompanying dependents. The economic and fiscal gains would be far greater than those discussed here if the immigration system put a greater emphasis on employment and skills. Similarly, there could be important implications of providing currently undocumented immigrants with a path to legal permanent residence. These are complex and controversial issues; this proposal focuses on more circumscribed reforms to employment-based temporary visas.

The Challenge

The economic consensus is that, taken as a whole, immigrants raise living standards for U.S. natives by boosting demand and increasing productivity, contributing to innovation, and lowering prices of the goods and services they produce. The greatest economic gains come from those immigrants who join the U.S. labor force and provide skills that are in relatively short supply among U.S. workers. At the same time, however, immigrants impose costs on local public services, such as schools and hospitals.

The main goal of the employment-based immigration system should be to select and allocate immigrants in the most economically efficient way while at the same time protecting immigrant and native workers alike. A second crucial goal is to generate government revenue that compensates for the costs imposed by immigration.

There are two ways that the United States currently admits immigrants on the basis of employers' demand for their skills: employment-based permanent visas ("green cards") and temporary foreign worker visas. For skilled workers, temporary foreign worker programs have become a critical stepping-stone to permanent visas; estimates suggest that more than half of H-1B visa holders adjust status through the employment-based green card program (Jasso 2008; Mukhopadhyay and Oxborrow 2012), and more than 90 percent of employment-based green card recipients adjust status from a temporary visa in a typical year.

Three of the most important temporary foreign worker programs are the H-1B program for workers in specialty occupations, and the H-2A and H-2B programs for agricultural and nonagricultural seasonal workers, respectively. H-1B visas are issued for an initial period of three years, whereas H-2A and H-2B visas are valid for only one year. Figure 12-1 shows the number of visas issued in these categories during FY 1992–2011.

The H-1B and H-2B programs are numerically limited. The cap on H-1B visas has been binding every year since 2004, and the cap on H-2B visas was binding in five of the past ten years. These numerical limits are arbitrarily fixed and infrequently changed. They do not respond to changes in labor demand due to long-run economic growth or to the business cycle. More broadly, labor market conditions have no effect on the number of temporary or permanent employment-based visas available, nor on their price (fees); when times are good and the needs of U.S. businesses greatest, caps are not raised (nor are visa fees adjusted). Employers who need visas later in the year are unable to obtain them. At the high-skilled end of the labor market, this deprives the country of the tremendous contributions of highly educated immigrants. At the low-skilled end, this has often encouraged employers to turn to unauthorized workers or, when cost pressures have been high, to move production offshore to lower-wage countries.

These and other temporary worker programs also impose costly, cumbersome restrictions and regulations on employers and foreign workers. The H-2A program for seasonal agricultural workers, for example, requires that employers try to find U.S. workers before petitioning for foreign workers. Even after H-2A workers are hired, employers must continue to recruit U.S. workers and hire any qualified and eligible U.S. worker who applies for a job until half of the period of the H-2A work contract has elapsed. Employers must also provide housing and transportation to H-2A workers. These requirements increase employers' cost of hiring H-2A

workers by 15–25 percent. In addition, such regulations create considerable compliance and monitoring costs for the federal government. Simplifying and streamlining such regulations is an important part of immigration reform, but there are other inefficiencies that should be rectified as well.

As explained by Orrenius and Zavodny (2010) and Peri (2012), one of the major failures of the current system is that it does a poor job of identifying and admitting workers whose skills bring the greatest value to the American economy. The basic reason for this failure is that visas are not allocated based on market forces or on any other method that reveals the value of prospective foreign workers and prioritizes admissions based on that value. For instance, H-1B and H-2B visas are allocated on a first-come, first-served basis or, in years of very high demand, via a lottery. In the latter case, employers who apply to admit several workers but whose applications are not all approved are not able to prioritize their most important hires: they can only hire the workers the government decided to process first.

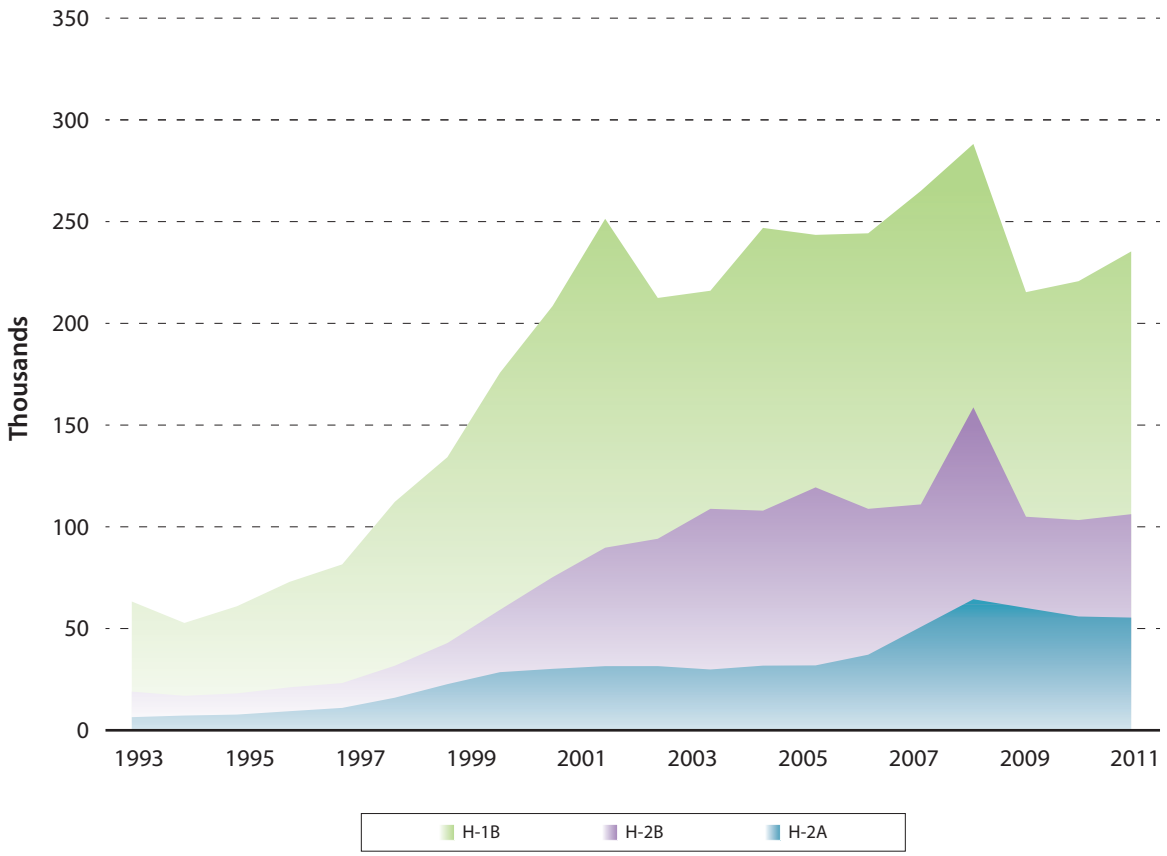
Overall, this bureaucratic and cumbersome system discourages employers from hiring foreign workers, reduces economic growth, thereby slowing job creation for U.S. workers, and squanders potential government revenue. Firms are willing to pay the government in order to obtain more temporary visas, but this willingness is currently hard to quantify.[1] Our proposal will reveal employers' valuation of foreign workers, encourage their efficient allocation and selection, and produce additional government revenue.

The Proposal

The United States should replace its current system for allocating temporary worker visas with permit auctions for employers. It should begin with the H-1B and H-2 programs. The auction system could then be progressively extended over time to cover all employment-based temporary worker programs (L, O, P, and TN).[2] This gradual implementation of

FIGURE 12-1.

Nonimmigrant Visas Issued by Visa Class and Fiscal Year



Source: U.S. Department of State (n.d.).

a market-based system provides an opportunity to work out any logistical challenges and to build public support before expanding the system more broadly.

The auctions would work as follows. Permits for the H-1B category would be sold in one auction, and permits for the H-2 categories would be merged and sold in another auction. Like the current visas, H-1B permits would be valid for three years, and H-2 permits for one year. The annual total number of permits available at quarterly, electronic auctions would initially equal the average annual number of temporary visas in those categories over the previous ten years.[3] Employers would submit sealed bids for permits, which would be allocated from highest to lowest bid until the number of permits available is exhausted. To avoid the so-called winner's curse, all bidders would pay the lowest accepted bid, which would signal the market-clearing price for that type of permit.

An employer who holds a permit would be allowed to hire a foreign worker. If the worker is abroad, she would receive a temporary visa that matches the type and duration of the permit. If the worker is already in this country, she would move from the current employer to the new employer. Employers would be able to resell permits in a secondary electronic market. Permit resale prices would reflect changes in labor demand. An increase in price would signal higher demand for foreign workers. Changes in prices should be used in determining the number of permits available at future auctions because they indicate changes in demand for temporary workers.

For the duration of their temporary visa, workers would be free to move across employers who hold a valid permit for that type of worker (H-1B or H-2). This portability, plus the easy availability of permits to firms in the secondary market, would ensure that foreign workers have the mobility across employers needed to secure fair treatment. At the same time, the cost of the permit, instead of cumbersome wage requirements, would create an incentive for employers to hire U.S.-born workers by serving as a tax on foreign labor.

This system would maintain the central role of employers in selecting foreign workers but add an important role for market forces in allocating visas. Employers with the greatest need for foreign workers, as indicated by their willingness to pay for permits, would be able to obtain permits to hire foreign workers. In addition, providing a simpler, more-transparent system for employers of less-skilled workers should reduce their need to hire unauthorized workers, ultimately reducing the incentive for undocumented immigration. Border enforcement and workplace enforcement tools, such as the E-Verify program and random workplace checks, would be needed in order for the auction system to work. We recommend that employers who participate in the auctions be required to participate in E-Verify; this is currently required of H-2A petitioners but not of H-1B or H-2B petitioners.

BUDGET CONSEQUENCES

The United States would initially auction 125,000 H-1B permits and the same number of H-2 permits each year. A lower-bound estimate of the auction price of H-1B permits is $5,000, and a more likely figure is close to $10,000. H-2 permits might sell for between $1,000 and $2,000.[4] We suggest that all employers, both for-profit and nonprofit, be subject to the same rules, prices, and overall numerical limits. The federal government could then rebate a fraction of the permit price (possibly 50 percent) to nonprofit organizations that purchase H-1B permits, which currently account for about 30,000 H-1B issuances annually.[5]

This would generate the following revenues:

- H-1B permit auctions would raise $550 million if all 125,000 permits sell for a price of $5,000 each, with 30,000 permits going to nonprofit organizations that are rebated one-half of the price. At a price of $10,000 each, H-1B permit auctions would raise $1.1 billion after rebates. Each $1,000 increase in the permit price at auction would generate another $110 million.

- H-2 permit auctions would raise $125 million if all 125,000 permits sell for a price of $1,000 each, or $250 million if sold at $2,000 each. Each $500 increase in the permit price at auction would generate another $62.5 million.

The revenue from the auctions would replace the fees currently charged for temporary foreign worker visas. The Department of Homeland Security (DHS) currently charges a base filing fee of $325, plus a $750 ($1,500) fee to small (large) for-profit employers, a $500 fraud prevention fee, and an optional $1,225 premium processing fee for H-1B petitions. There is also an additional $2,000 fee if H-1B or L-1 visa holders comprise more than 50 percent of a petitioner's U.S. workforce. DHS charges $325 for H-2A and H-2B petitions, plus a $150 fraud prevention fee for H-2B petitions. H-1B employers also bear other costs, including fees for legal advice and the risk that if the foreign worker moves to another employer the initial employer will not recover any of its expenses. For H-2 programs, employers incur the costs of trying to recruit U.S. workers and hiring consultants and lawyers to help them navigate visa requirements and regulations. The fact that the employer can resell the permit at any time will help ensure employers' willingness to participate in the auctions.

The federal government can increase employers' willingness to participate in the auctions and hence generate more revenue

by simplifying and streamlining the procedures that currently govern the programs. Creating a more efficient way than the current green card program for employers to sponsor skilled temporary foreign workers for permanent residence also would increase employers' willingness to participate in the H-1B auctions.[6] Reducing other requirements, such as those regarding recruiting U.S. workers and providing housing and transportation to foreign workers, would increase employers' willingness to participate in the H-2 auction. As more employers participate, and permit prices rise, the government would need stricter worksite enforcement to ensure that potential H-2 employers do not turn to unauthorized workers. Stricter enforcement would increase program costs, whereas simplifying and streamlining the program rules would reduce costs.

ECONOMIC EFFECTS

Beyond generating additional revenue, the auctions would have several economic benefits that have an indirect positive budget impact. A permit auction, by ensuring that the most highly valued workers gain entry, would likely cause a shift toward temporary foreign workers who are relatively highly compensated, particularly in the H-1B visa category. An increase in average salaries paid to temporary foreign workers would increase federal income and payroll tax revenue. A more efficient, more transparent, and more flexible immigration system would help firms expand, contribute to more job creation in the United States, and slow the movement of operations abroad.[7] Enabling companies to hire foreign workers when they are unable to find U.S. workers would help firms expand, creating and preserving other jobs in the United States. This would boost employment and tax revenues in the long run.

Auctions also would create more flexibility and the ability to respond to temporary shocks or long-run trends. When demand for temporary foreign workers is low, as measured by falling permit prices, the federal government could easily choose to auction fewer permits. This would cushion any adverse impact of immigration on U.S. workers. During times of rising demand, the government could increase the number of permits and keep their prices stable. This way, the federal government would earn more revenue from auctions when demand for permits rises. Keeping the permit price stable in periods of expansion would reduce employers' incentive to turn to unauthorized workers. The federal government can even choose a simple rule to increase (decrease) the number of permits based on the past increase (decrease) in permit prices.

In addition to using permit auction revenues for budget relief, the government could redirect some of the income to communities with large shares of immigrants and to preparing U.S. natives for technology-intensive jobs. State and local governments bear most of the fiscal cost of immigration. Although temporary foreign workers impose little of these costs, redirecting auction revenues to immigrant-intensive areas would help build support for broader immigration reform. Subsidizing the education and training of U.S. natives in technology-intensive fields would help build the skilled workforce necessary for America's economic future.

Finally, auctioning off permits to hire foreign workers would likely have a positive impact on U.S. workers relative to the current system. Auctions would lead to a better allocation of foreign workers, which would ultimately make firms more efficient and help create more jobs for U.S. workers. In addition, the auction price of the permit would constitute a protection for U.S. workers because it would ensure that employers would prefer to hire a U.S. worker over a foreign worker, given the same availability and productivity. Visa portability and the permit resale market, rather than cumbersome regulation, also would ensure that employers are not able to exploit foreign workers by paying them less than the market wage. This would benefit both immigrant and native workers.

EXTENSIONS

The auctions of H-1B and H-2 visas could be a stepping-stone toward a broader reform of immigration policy. Auctioning these visas would reveal the value of foreign workers to U.S. employers. Quantifying the revenue from permit auctions would also increase public acceptance of foreign workers and set the stage for the federal government and the public to see the benefits of moving to a system that increases the number of temporary and permanent employment-based visas. Extending the auction system to all employment-based temporary visas would raise considerably more revenue than the auctions of H-1B and H-2 visas described above.

A final area for reform concerns the population of unauthorized immigrants. More than 11 million unauthorized immigrants currently live in the United States (Passel and Cohn 2012). A large-scale program that requires applicants to pay back taxes and a fee greater than administrative costs in order to access a path to legal residence would be a significant one-time source of revenue to the Treasury. Moreover, bringing these immigrants out from the shadows would improve their own circumstances and those of their U.S.-born children, encouraging them to invest in human capital and improving their future earning ability. Doing so would have the ancillary benefit of increasing tax revenues and decreasing transfer payments in the long run.

Conclusion

The current U.S. immigration system is outdated, inflexible, and inefficient. Immigration policy imposes rigid and arbitrary quotas, fees, and other rules on temporary and permanent admissions. The result is a complex system that is costly to employers and potential immigrants alike, and that ultimately reduces efficiency and slows economic growth. A complete overhaul of the immigration system is needed and should include an important role for market forces. Market forces are the best way to identify the foreign workers who are most valued by employers and to introduce the flexibility needed to respond to changes in the demand for foreign workers.

In this proposal, we identify a crucial reform of temporary worker visas that could set the train of immigration reform in motion, increase immigration's economic contributions, and boost government revenue. We propose replacing the current H-1B, H-2A, and H-2B programs with permit auctions. This would introduce market forces into the hidebound immigration system. Doing so not only would increase federal government revenue, but also would help ensure that employers are able to hire the foreign workers who make the greatest economic contributions. These auctions would set the stage for a broader reform of the immigration system that would include auctions of an increased number of temporary employment-based visas. Immigration reform has the potential to raise revenue, increase economic efficiency, and ultimately boost U.S. GDP and raise standards of living.

Proposal 13: Increasing the Role of the Private Sector in Housing Finance

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Deficit Reduction (10-year): $134 billion

Broader Benefits: Improves incentives for risk taking and investment in the mortgage market and market for homes; reduces taxpayer exposure to risk; fosters competition and innovation in housing finance.

Introduction

This paper proposes reforms of the U.S. housing finance system to increase the role of private capital in funding housing, reduce taxpayer exposure to housing risk, sell off the government stakes in the mortgage finance firms of Fannie Mae and Freddie Mac, and charge appropriate premiums for secondary insurance provided by the U.S. government on housing securities. These measures would generate revenues for the federal government, improve the allocation of capital within the U.S. economy, and focus governmental assistance for affordable housing on those most in need. With reform, private firms would securitize qualifying mortgages into mortgage-backed securities (MBS) and pay for a secondary government guarantee, while considerable private capital would take losses ahead of the government. The U.S. government would support homeownership and access to housing financing, but with transparent subsidies rather than implicit guarantees, better protection for taxpayers, and a clear delineation of the roles of the public and private sectors.

At the center of housing finance reform is an agenda to unwind the conservatorship of Fannie and Freddie that has stabilized these two government-sponsored enterprises (GSEs) since September 2008. Taxpayer support has ensured that mortgages have been available throughout the financial crisis even while other credit markets have been strained, but at a cost to taxpayers of roughly $132 billion so far, including $187.5 billion put into the two firms less $55.2 billion in dividends received (FHFA 2012e).

Moving forward with reform will return some or perhaps a good deal of the money put into Fannie and Freddie to the government, but not necessarily the full amount. Indeed, a key point of this proposal is that actions that maximize the financial return to taxpayers do not align with desirable housing policy. The U.S. Treasury now receives all of the profits of the two GSE firms and might well maximize revenue through an indefinite conservatorship in which private capital is effectively shut out of securitization for government-guaranteed MBS. A reform that brings in private sector competition would not necessarily maximize the value of the government stake in Fannie and Freddie, but it would mean better possibilities for the innovation and beneficial risk taking that go along with private sector incentives. The crisis gave financial innovation a deservedly bad name, but innovation is still valuable in the financial system. This can be seen today: borrowers with imperfect credit histories have trouble obtaining loans, even though low interest rates and the tight rental market mean that monthly mortgage payments for many might be no greater than rent. Housing finance reform that leads to a system with diverse sources of mortgage funding including both guaranteed and nonguaranteed mortgages would provide channels by which private investors can extend mortgage credit to borrowers who are now unable to obtain loans.

ACKNOWLEDGMENTS: I thank Adam LaVier for insightful comments on an earlier draft.

Similarly, Fannie and Freddie would be most valuable in a privatization sale if they are allowed to dominate the business of mortgage securitization as in the past rather than face new competition. It would be better policy, however, for reform to foster a system in which new firms can compete in the business of securitization of guaranteed MBS. The (inevitable) underpricing of government insurance gives rise to an implicit subsidy. Competition would help ensure that any such implicit subsidy flows through into lower mortgage rates for homeowners rather than being kept by shareholders and management as in the past when Fannie and Freddie had considerable market power as duopolists. The federal government will not assure any homeowner any particular interest rate. But entry by new firms into securitization and origination will place competitive pressure on banks and securitizing firms that reduces excessive interest rate spreads between yields on MBS and mortgage interest rates paid by homeowners. The importance of competition is illustrated by the present situation in mortgage origination, in which the absence of competition means that low yields on MBS do not fully flow through to reduced mortgage rates for borrowers.

Such a proposal could have a budgetary impact of roughly $134 billion. Any gap between the budgetary recovery and the amount of the bailout will represent the cost of the former housing finance system under which the government provided an implicit guarantee on Fannie and Freddie and thus took on housing risk without proper compensation, while allowing the private shareholders and management to capture part of the benefits of government support for homeownership.

The Challenge

The U.S. government now guarantees more than 90 percent of new mortgages and refinances, effectively crowding out private capital from housing. A challenge for moving forward with housing finance reform is that an abrupt end of the government backing for Fannie and Freddie could make it difficult for many Americans to obtain desirable mortgage products such as long-term fixed-rate loans. Further delay, however, risks having the two firms become permanent parts of the government, leaving taxpayers at greater risk in the event of another housing downturn and meaning that the U.S. economy misses out on the benefits of having private investors guide lending decisions and take on the risks and rewards of allocating capital to housing.

The proposal here involves a transition in which private sector capital comes in over time to stand at risk ahead of a secondary government backstop. This transition will start from the current situation in which the federal government guarantees Fannie and Freddie as entities, and the two firms in turn provide guarantees for the performance of qualifying MBS without private capital being at risk, other than homeowner down payments and any private mortgage insurance. In principle, the transition could end up with a fully private system in which private capital takes all housing risk. Reaching this point requires a transitional process through a hybrid model with both the public sector and private capital involved, in which the share of housing risk borne by the government guarantee declines over the transition. Reform can thus begin by gradually increasing the amount of private capital at a first-loss position without making a decision about the nature and extent of government involvement in the end-state.

The initial steps of reform will involve creating the government capability to sell secondary insurance on MBS, setting up the common securitization platform to allow new firms to compete with Fannie and Freddie, and gradually increasing the private capital required for MBS to qualify for the guarantee.

Mortgage interest rates (that is, interest rate spreads over Treasury securities) will rise as the transition proceeds, reflecting the compensation demanded by private investors. Indeed, under the old housing finance system, proponents of reform were sometimes labeled as anti-housing on the grounds that proposals to safeguard taxpayers against risk would reduce the availability of mortgage financing. The extent to which the government backstop can recede depends on the societal and political response to higher mortgage rates. It could be that at some point the increased taxpayer protection results in an unacceptable change in the availability and cost of credit, and the transition will then stop. Zandi and deRitis (2011) estimate that mortgage interest rates could increase by fifty to one hundred basis points in a hybrid system such as is proposed here, with the precise amount depending on assumptions such as the amount of private capital involved and the required return on private capital.

Any progress toward reform will be an improvement over the current situation in which government decisions rather than private incentives determine which potential homeowners can obtain mortgages. Indeed, an important consequence of reform will be to foster a larger market for nonguaranteed MBS—so-called private-label securitization—in parallel with guaranteed MBS, to ensure that there are diverse sources of financing for housing. Mortgages that qualify for inclusion in MBS with a secondary government guarantee will be relatively safe, while the development of a private mortgage market will provide opportunities for some borrowers to obtain loans funded by private investors willing to take on housing risk without a government guarantee. A private MBS market will return at some point as higher premiums are charged for

the secondary government guarantee and increased private capital is required to stand ahead of the secondary government guarantee (though there are other impediments to the restart of private-label securitization, including continuing legal uncertainties for originators such as the threat of future lawsuits regarding loans that go bad).

A second challenge is that after taking in hundreds of billions of taxpayer money, the GSEs are now profitable and generating income for their owner—the U.S. government. The two firms paid dividends in 2012 of nearly $19 billion to the U.S. Treasury and are on pace for a similar amount again in 2013. Such funds have already been spent on purposes unrelated to housing, with revenues from requiring the GSEs to charge higher guarantee fees used to fund a temporary extension of the payroll tax cut. The longer that the GSEs stay in conservatorship, the more likely it is that their future profits will be used to fund such additional government activities. This is especially poor policy because higher guarantee fees are properly viewed as compensation for taxpayers taking on risk. The revenues should be used to build up a capital buffer to pay for future losses and should not be treated as new fiscal resources.

Finally, a key initial step in the transition to housing finance reform will be to change the current federal government guarantee on Fannie and Freddie as entities in conservatorship to a secondary backstop on individual MBS. A challenge is that this appears to enshrine the guarantee, which now exists as contracts between the two firms and the Department of the Treasury rather than as legislation. Formalizing a new government guarantee is understandably seen as undesirable in the wake of the unpopular bailouts undertaken during the financial crisis. In this instance, however, the federal guarantee is to be formalized as a secondary backstop so the extent of the guarantee and thus the risk borne by taxpayers can shrink by bringing in private capital. Even so, this first step remains a key challenge for moving forward with reform.

The Proposal

The proposal is for the U.S. government to sell secondary insurance on qualifying MBS (MBS made up of qualifying loans) to private securitization firms that bundle individual mortgages into guaranteed MBS. For an MBS to qualify for the secondary government insurance, the private securitization firm would both pay insurance premiums to the government and arrange for considerable private capital to be at risk ahead of the government exposure. This private capital would come from a variety of sources, including a combination of homeowner down payments, private mortgage insurance on individual loans, subordinated tranches of MBS that are explicitly not guaranteed, and the equity capital of the private firms undertaking the securitization. All of these sources of capital would take losses on guaranteed MBS and be wiped out before the government pays off on its guarantee.

In the event that a covered MBS takes losses that exceed the credit protection from the mortgage-level layers of capital of the homeowner down payment and private mortgage insurance, investors in the subordinated (nonguaranteed) tranches would next take losses, and then the securitizing firm would make good on the guarantees using the entirety of its own resources before the federal guarantee kicks in. In this event, the securitizing firm would fail. The private shareholders of the securitization firm would be wiped out, while the federal government would make good on payments for owners of insured MBS.

Allowing for entry by new firms undertaking securitization is vital for allowing this outcome, since the ability of new firms to compete in securitization means that a securitizing firm can fail without taking out the entire housing finance system. This would address a salient problem of the old system, in which the federal government felt obligated to prop up Fannie and Freddie in September 2008 to ensure that mortgage financing would continue to be available to American families.

Note that the government guarantee attaches to individual MBS, even though the entire capital of the securitizing firm takes losses ahead of the government backstop. In other words, the private capital of the securitizing firm itself is fully ahead of the government. If a bank were to undertake securitization of guaranteed MBS, the entire shareholder capital of the bank would be at risk, even though the government guarantee covers only the insured MBS and does not cover other liabilities on the bank's balance sheet. This asymmetry is appropriate: it should be extraordinary for a private sector activity to receive a government guarantee. It would not be surprising if entry into securitization takes the form of separately capitalized firms.

The housing finance regulator plays a crucial role in ensuring that underwriting standards remain high for guaranteed loans and that there is adequate high-quality capital ahead of the government. The regulator is further responsible for setting up a pricing mechanism for the government guarantee, and for setting up the insurance fund out of which to cover losses on guaranteed MBS. The regulator would have to ensure that financial institutions of all sizes, including community banks, have access to the housing finance system. Given the specialized expertise involved, it makes sense for the Federal Housing Finance Agency (FHFA) to carry out these duties, collaborating and consulting as appropriate with other agencies, including bank regulators, the Consumer

Financial Protection Bureau, and the Securities and Exchange Commission.

Allowing new firms to compete on equal terms with the newly privatized Fannie and Freddie is socially beneficial in at least two ways. First, competition helps to ensure that any implicit subsidy from underpriced federal insurance is passed through to lower interest rates for homebuyers. That is, this proposal takes as an inevitability that the federal government underprices insurance. The benefit of allowing for competition is to have the implicit subsidy created by the underpriced insurance reach the desired group of potential homebuyers rather than having securitizing firms capture the implicit subsidy. Second, with multiple firms undertaking securitization, one of them can be allowed to fail without disrupting the availability of housing mortgages. Housing finance reform would thus move away from the situation where firms are too important to fail.

As reform proceeds, the government would sell its stakes in Fannie and Freddie back into private hands. James Millstein and Phillip Swagel in their *Washington Post* Op-Ed ("It's Time to End the Bailout of Fannie and Freddie. Here's How," October 12, 2012) and Swagel (2012) discuss ways to carry this out.[1] The existing investment portfolios of the two firms would run off, and the newly private Fannie and Freddie would be allowed to maintain liquidity portfolios only for limited purposes such as assembling MBS and working out bad loans. The sale of the government shares in the GSEs would provide a key source of revenue for taxpayers. As noted above, the amount recovered depends on the structure of the housing finance market after the privatization.

Premiums for the government's secondary insurance provide the second source of revenue from housing finance reform. Pricing the guarantee is a key issue for reform. In principle, it would be desirable to set premiums that (at least) compensate the government for the risk it is taking on. As discussed by the Congressional Budget Office (CBO; 2012), the government accounting standard under the Federal Credit Reform Act discounts the stream of premiums received using the interest rate on Treasury securities, which is too low because it neglects the market risk that is absorbed by the government but is not priced with the risk-free Treasury rate. The provision of insurance by government agencies can thus appear to have a positive net impact on revenues (a negative subsidy rate in budgetary parlance). In accounting for the GSEs since 2008, the CBO has used a fair value accounting methodology that adjusts for market risk and avoids the potential problem with the Federal Credit Reform Act approach. It will be important to maintain the budgetary treatment used by the CBO to avoid a situation in which the government sets insurance premiums too low to cover the housing credit risk it takes on through the provision of secondary insurance and yet still is able to show a positive budget score which could then be used to offset other activities.

One possibility is that the government could intentionally charge insurance premiums that exceed the fair value level as calculated by the CBO in order to limit the share of mortgages that take up the guarantee. In this case, the secondary government insurance would tend not to be used in normal times when market participants do not want to pay the premiums, but the share of guaranteed mortgages and government support for housing would expand in times of credit market strains (assuming that the government did not increase premiums). The appropriate pricing for the secondary government insurance depends on the amount of first-loss private capital. Guarantee fees on single-family mortgages already have risen considerably over the past five years, from an average of twenty-one basis points in 2007 to twenty-six basis points in 2011 (both figures from FHFA 2012b) and then to forty-six basis points at the end of 2012. This latter figure includes two separate ten basis point increases imposed in 2012, first in April 2012 as directed by Congress in the Temporary Payroll Tax Cut Continuation Act of 2011, and then again in November 2012 at the instruction of the regulator (FHFA 2012c). Guarantee fees are slated to rise farther under the strategic plan put out by the FHFA (2012d). As private capital comes in ahead of the guarantee, the government exposure to housing risk will diminish and the fair value insurance premium would be expected to decrease as well. The price of the insurance together with the amount of required first-loss private capital (the attachment point for the government insurance) determines the extent of government exposure to housing credit risk.

An eventual goal of reform is to use a market mechanism to price the government insurance. A market mechanism for pricing could be put in place by reducing the quantity of insurance capacity so that the government does not offer a backstop for all qualifying mortgages. An auction could then be used to set the premium. This pricing system would ensure that not all mortgages are guaranteed in normal times, though a safety valve mechanism could be put in place to cap the insurance premiums in the event of a crisis.

To summarize, the proposal involves the following key actions:

1. Establish a secondary federal insurance program for qualifying MBS. This program would include requirements for the amount of private capital ahead of the guarantee to increase over time as the housing finance system transitions away from the current GSE conservatorship toward a system with a prominent role for private capital.

2. Sell this secondary insurance to securitization firms that meet the standards established by the housing finance regulator and thereby foster competition in securitization.

3. Use the proceeds of the insurance premiums to capitalize a federal insurance fund with which to cover losses on guaranteed MBS.

4. Wind down the legacy Fannie and Freddie investment portfolios. The Federal Reserve would henceforth act as the buyer of last resort for guaranteed MBS if monetary policymakers judge that elevated mortgage interest rates warrant policy action for the purposes of macroeconomic stability.

5. Sell Fannie and Freddie's securitization and guaranty operations to private investors who will compete with other entrants.

6. Empower the housing finance regulator to carry out its broad array of responsibilities, including ensuring that mortgage quality remains high for guaranteed loans, that adequate private capital is ahead of the guarantee (notably at the level of the firms carrying out securitization), and that premiums for the secondary government insurance are adequate to cover expected future losses on guaranteed MBS.

Housing finance reform involves a host of other steps, the details of which are vital but beyond the scope of this paper. These include development of a common securitization platform so that guaranteed MBS from different firms can trade in a unified pool (FHFA has started on this; see FHFA 2012a); development of needed regulatory measures from the SEC; and development of policies with explicit expenditures aimed at ensuring access to affordable housing.

Over time, higher guarantee fees and increased requirements for private capital ahead of the guarantee will increase the attractiveness of mortgage securitization without a government guarantee. As reform progresses, such private-label securitization will eventually restart; if reform proceeds far enough (guarantee fees and required private capital go high enough), then nonguaranteed MBS could eventually be an important source of funding for housing.

The current proposal can be seen in the context of the three options presented in the U.S. Department of the Treasury and the U.S. Department of Housing and Urban Development (Treasury–HUD) white paper on reforming housing finance markets (2011). Leaving aside the role of the FHA (Federal Housing Administration), the first Treasury–HUD option would involve a fully private housing finance system with no government guarantee. The second option would have a mostly private market in which only a modest share of mortgages in normal times are bundled into MBS with a secondary government guarantee behind private capital. In this second option, the share of guaranteed mortgages would increase in the event of credit market strains. The third Treasury–HUD option would have essentially all qualifying mortgages bundled into MBS with a secondary guarantee behind private capital.

The initial reform steps that raise the guarantee fee and bring in private capital ahead of the government guarantee would first move the housing finance system from the current conservatorship to a model much like that of option three in the Treasury–HUD paper.[2] There would be private capital ahead of the government guarantee, but nevertheless essentially all mortgages would have a guarantee. Continued increases in guarantee fees and in the required first-loss private capital would eventually lead to a decreased market share for guaranteed mortgages and an increased share for nonguaranteed mortgages. This thus moves in the direction of the second option in the Treasury–HUD paper, in which the government guarantees a modest share of mortgages—perhaps 10 percent—in normal times and a larger share in times of crisis. Whether reform moves far enough to reduce the share of guaranteed mortgages all the way to 10 percent (let alone to zero as in the fully private model of the first option in the Treasury–HUD paper) depends on the societal and political response to the higher mortgage interest rates that come about as reform proceeds. The first Treasury–HUD option would be reached if the amount of private capital increases so far that there is no government exposure to housing credit risk.

FINANCIAL RECOVERY

The financial recovery from selling the public stakes in Fannie Mae and Freddie Mac depends crucially on the structure of the securitization market after reform, the pricing scheme adopted by the government for providing secondary insurance on qualified MBS, and the extent of private capital required in a first-loss position ahead of the guarantee. There are tradeoffs between revenue maximization and policy goals in each of these dimensions. Allowing for entry and competition in securitization will reduce government revenue but benefit the housing market through private sector incentives and innovation. Charging a higher price for the government guarantee and requiring more private capital will shrink the share of mortgages that are packaged into guaranteed mortgages, but provide increased protection for taxpayers. Housing finance reform should be undertaken with these broad goals in mind and not with a singular focus on maximizing the return to taxpayers.

While the ultimate revenue impact of housing finance reform is complicated, it is useful to sketch an approximate value of the combined annual profits for Fannie and Freddie as if

they were a single company. This provides an upper bound for potential revenues from reform. The firms' main revenue source is the guarantee fee they charge on insured MBS, assuming as above that they in turn pay the government a premium for secondary coverage. The total book of MBS insured is about $4 trillion in a steady state. Zandi and deRitis (2011) calculate that the government would charge fifteen basis points to pay for its secondary insurance in a scenario in which the regulator requires enough private capital ahead of the government to cover losses in a 25 percent decline in home prices. This would be carved out of the total guarantee fee of seventy-six basis points in 2014, according to analysis from J. P. Morgan. After taking into account the cost of the firms' annual expenses of about six basis points as was the norm before the financial crisis (and might be even too much in light of more careful underwriting in the wake of the crisis), this leaves earnings from securitization of fifty-five basis points. On a $4 trillion book of guaranteed MBS, this gives annual earnings of $22 billion from single-family securitization.

The GSEs have other sources of revenues, notably a profit rate of roughly fifty to sixty basis points on about $400 billion in guarantees on multifamily residential properties; this adds another $2 billion in earnings. In the past, the GSEs sold debt with an implicit guarantee and invested the proceeds in MBS with a higher yield—essentially running a hedge fund with government backing. These investment portfolios will dissipate as part of reform and for that reason are not included here.

Combined annual profits of around $24 billion result in aftertax earnings of $16.8 billion assuming a 30 percent average corporate tax rate. With a conservative price-to-earnings ratio of only ten to one, this results in a market capitalization of $168 billion. By comparison, the banking sector had a ratio of market capitalization to net income of fourteen in January 2012, according to the dataset collected by Aswath Damodaran (Damodaran 2013). The smaller multiple is appropriate for the GSEs since their activities are less diversified than banks' activities.

If the GSEs are potentially worth up to $168 billion in the event that they are sold off in a setting in which they do not face competition, the next question is how much the government would receive through reform. The contracts between the Department of the Treasury and the two firms involve the Treasury purchasing senior preferred stock as needed to ensure that the firms stay in business (that is, that they have positive net worth); these preferred shares represent the $187.5 billion in taxpayer capital injections to date. In return for this support, the Treasury received warrants for 79.9 percent of the common stock of the firms, and 10 percent dividends on the preferred shares. (This is the source of the $55.2 billion in dividends received from the two GSEs.) One issue is whether taxpayers should be satisfied in a privatization to receive back $187 billion or instead only the net of $132 billion. This will affect the government's share of privatization revenue. A second issue is the pace and mechanism by which the firms are privatized. If the firms are sold off slowly, this would translate into a smaller revenue impact, since the CBO will (appropriately) discount the proceeds—and do so using a fair-value interest rate. If the government retains 90 percent of the proceeds of the privatization, roughly in line with $150 billion out of the $168 billion market capitalization, and sells its stake over three years starting in the year after reform commences, then there would be a positive budget impact of nearly $134 billion, assuming that a discount rate of 6 percent is used by the CBO along the lines of past CBO practice for the GSEs.

A reform that allows for entry by other firms into securitization would reduce the market value of Fannie and Freddie and thus the government proceeds from their privatization. With other firms competing in securitization, the government would receive a different stream of revenue from selling off the secondary insurance. Fannie and Freddie would not be worth $168 billion; some of the reduced value would accrue to the private sector firms that compete with Fannie and Freddie, and some would go to the government; the division would depend on the amount of required private capital and the pricing of the government guarantee, which would in turn influence the number of competitors in securitization.

Another alternative would be for the government to simply nationalize the firms and build their profits directly into the budget. Indeed, the U.S. government in August 2012 announced that it would henceforth take all profits of the two firms in lieu of the 10 percent dividends on its senior preferred shares. Fannie Mae and Freddie Mac thus remain private firms in principle, but their earnings accrue to the government indefinitely. Not moving forward with reform is effectively a choice to nationalize the housing finance system by leaving the two firms under government control.

As noted above, GSE reform that brings in private capital will tend to raise mortgage interest rates. Though beyond the scope of this paper, it would be appropriate for housing finance reform to include explicit measures to support access to housing finance and to affordable housing more generally, including rental housing. Indeed, one could imagine adding a funding source for affordable housing on top of the guarantee fee paid to the government for the secondary insurance.

Conclusion

Government officials involved in the rescue of Fannie Mae and Freddie Mac in September 2008 did not anticipate that the two firms would remain in taxpayer hands more than four years later. This delay highlights the political challenges of moving forward with housing finance reform. With the government guarantee on Fannie and Freddie, mortgages are available to qualified buyers. It is a natural inclination for the political system not to make changes to policy areas that seem to be working. With reform, however, the housing finance system could better serve the needs of Americans while protecting the interests of taxpayers.

Moving forward with reform requires formalizing the government role in housing, which is undesirable to many policymakers, even if this is but the first step in shrinking the government exposure. In the meantime, however, the government is taking on housing risk without private capital ahead of it, and potential homeowners with imperfect credit histories find it difficult to qualify for mortgages. With the GSEs now profitable and potentially turning into a source of substantial revenue to the government, further delays in reform could lead to Fannie and Freddie becoming permanent wards of the state.

It would be better to avoid this outcome by selling the GSEs back into the private sector. In addition to the positive budget consequences, moving forward with housing finance reform can improve the allocation of capital in the overall economy by ensuring that private incentives drive decisions regarding the financing of housing, reduce taxpayer exposure to risk, and foster competition and innovation in housing finance with the potential to benefit potential homeowners, especially for those who now have limited access to credit and thus to homeownership. Indeed, the value for society of this competition is such that the government should understand that it will receive a lesser value for its holdings of Fannie and Freddie when other firms are allowed to carry out securitization for MBS with a secondary government guarantee.

Housing finance reform will have considerable implications for families at all income levels and for the housing market as a whole. For families most in need of affordable housing, reform would provide an opportunity for the government to revitalize programs aimed at boosting the availability and affordability of decent living accommodations, including rental housing. As noted above, the proposal here provides a natural funding source for such activities.

For potential homeowners, the effects of higher insurance premiums (the increased guarantee fees) and private capital in a first-loss position ahead of the secondary government guarantee would tend to put upward pressure on mortgage interest rates. Offsetting these factors to some degree, however, would be the beneficial impacts of increased competition that would reduce profit margins for housing finance firms and thus be associated with downward pressure on mortgage interest rates. On balance, mortgage interest rates likely would increase with housing finance reform, but this would reflect the increased protection for taxpayers, who would bear a greatly reduced share of the housing risk in the U.S. economy—and would be compensated for doing so.

One positive sign is that the initial steps toward reform are part of the FHFA's strategic plan, including a program already under way to increase the fees charged for MBS to receive the government guarantee, and a program still under development to bring in private capital in the form of nonguaranteed tranches of MBS. The FHFA is also developing a common securitization platform that would standardize guaranteed MBS and thus facilitate new firms' entry into securitization. The ultimate disposition of Fannie Mae and Freddie Mac, however, and thus the full eventual return of the taxpayer support, will await congressional action.

Mortgage interest rates are near record lows and the housing market is finally rebounding after an epic collapse. Reform will likely lead to higher mortgage interest rates, but if the reforms are gradual, their impact is not likely to undo the housing recovery. And reform will have important benefits in improving the fiscal position of the United States, the overall allocation of capital to housing and other uses, and possibly the availability of mortgages to potential homeowners currently unable to obtain financing. Now is the time to move forward with housing finance reform.

Proposal 14: National Defense in a Time of Change

THIS CHAPTER IS A SUMMARY OF A HAMILTON PROJECT DISCUSSION PAPER BY:

Adm. Gary Roughead, U.S. Navy (Ret.)
Hoover Institution

Kori Schake
Hoover Institution

Deficit Reduction (10-year): $500 billion

Broader Benefits: Improves the military's ability to respond to modern challenges, particularly in Asia and the Middle East; makes military procurement of assets more efficient and competitive; designs benefit packages more in line with troops' preferences.

Introduction

U.S. defense spending has doubled since 2001 and America continues to spend considerably more on defense than any other nation in the world. Federal policymakers currently face competing concerns about sufficiently funding our military efforts to maintain our national security and tackling the long-term federal budget deficit, which also threatens to constrain our defense capabilities. In addition to external pressures, problems within the defense budget are making defense acquisition and our defense personnel system unsustainable. To address both types of challenges, policymakers must cut defense spending systematically and prudently in ways that align future military expenditures with military needs.

In a new discussion paper for The Hamilton Project, Adm. Gary Roughead, U.S. Navy (Ret.), and Kori Schake, of the Hoover Institution, offer proposals to reduce U.S. defense spending while maintaining a military force capable of supporting American interests. The authors assert that the United States has a strategic window of opportunity, given the changing military landscape, to restructure the military and better prepare the nation for a new international order. Furthermore, they offer acquisition and compensation reforms that could help the United States build and maintain a more efficient and cost-effective Department of Defense (DoD).

The Challenge

As noted by Roughead and Schake, the U.S. military is far superior to those of the militaries of our allies and adversaries. In fact, the United States leads the world in defense spending, with expenditures that compose about 46 percent of the entire world's defense spending. Surveying the global security environment, the authors argue that the security challenges we face are less daunting than those we have faced at other points in history. The threat of nuclear annihilation is lower than at almost any time in the nuclear age. No nation's military forces pose a threat of conquest to our country. Terrorism is a grave danger, but our ability to monitor and attack those terrorists and neutralize weapons of mass destruction has increased substantially. In short, the authors' analysis shows that although we do face serious threats, they are disorderly and disruptive, but *not* existential threats.

The global security climate, then, provides a relatively favorable opportunity for U.S. policymakers to put the defense budget in order. The long-term federal budget outlook makes

seizing this opportunity essential. Defense spending has come under scrutiny during budget negotiations; most recently, the Budget Control Act of 2011 (BCA) called for reductions of $500 billion in defense spending over the next ten years. Although Roughead and Schake agree that defense can and should contribute to spending reductions, they argue that the BCA's across-the-board cuts at the program, project, and activity levels would significantly impair the U.S. military's ability to execute its duties. Instead, they suggest that responsible reductions in defense spending could be spread more practically across a ten-year period. In addition, cuts should be designed to focus strategically on the threats we are likely to face and to address internal pressures in the defense budget as well.

While the international order presents a chance to streamline and modernize our forces at lower cost, internal cost pressures in the DoD present further challenges in reducing spending. The structure of the acquisition process—which includes a highly bureaucratic process for issuing systems requirements and decentralized accountability—has created a system that is expensive and often too slow. In pay and benefits, personnel costs have increased by 90 percent since 2001 while the size of the workforce has only increased by 3 percent. The authors note that unless these areas of cost growth are addressed, they will crowd out spending in other areas and begin to reduce military capacity and capability.

A New Approach

In order to adhere to the standards laid out in the BCA and in the defense strategy outlined by Defense Secretary Leon Panetta in January 2012, the authors propose a three-pronged strategy to (1) design a defense force better aligned to face future challenges, (2) improve the efficiency and efficacy of the acquisition system, and (3) control rising personnel costs. The proposal addresses systemic problems in each area—problems that would lead to an ever-shrinking and imbalanced force structure if unaddressed. Together, the authors argue, these reforms set the stage for a sustainable defense budget—one that preserves our capability to face challenges in the near future and to rebuild as new challenges arise.

FORCE REDESIGN

There are two fundamental questions regarding force design: what capabilities and infrastructure does our military need, and how is our military positioned in the world? The emerging threats that Roughead and Schake identify are not systemic or overwhelming, but rather disorderly and disruptive. These threats pose difficulties for the intelligence community and political leaders who must identify priorities. The crucial capacity is the ability to quickly focus attention and resources on real threats as they materialize. Making the appropriate strategic investments, carefully redesigning the force, and reducing infrastructure to correspond with this challenge could **save nearly $25 billion each year**.

Based on their analysis of the global security situation, Roughead and Schake recommend rebalancing the force to deemphasize the fighting of sustained ground wars, to focus more on providing for rapid response time in executing campaigns in Asia (perhaps, even at the expense of response time in other regions), and to transfer much greater defense responsibility from our forces to our allies' forces.

Achieving a force to meet these objectives will require politically difficult and sensitive restructuring between the military branches. The authors propose to keep the Navy and Air Force at currently planned levels, with the Navy tasked with greater presence in Asia and the Middle East, and the Air Force prioritizing speed of response in the Asia and the Pacific region. The Army would be reduced by 200,000 soldiers from the 490,000 planned in the FY 2013 budget, and the reserve and National Guard units would be increased by 100,000 and would have the principal mission of arriving in a mature theater for sustained combat. The Marine Corps would also be reduced from more than 200,000 to just 172,000 soldiers, and would serve as the forced entry and initial-response capability. In the past, equal budget shares between the branches of the armed services have helped ensure continuity and harmony between branches, but the authors argue that today's constrained environment requires a more thoughtful approach to determining the size and composition of the force and that taking on the challenge of rebalancing is necessary to align it with new strategic guidance.

In conjunction with these changes, Roughead and Schake propose reevaluating the necessity of military bases in certain locations around the world and pursuing an aggressive base-closure and realignment effort. They also recommend reevaluating the assets and investments that the military requires to carry out its missions. Current replacement numbers for many major platforms are far below what is needed to sustain the force level that meets the envisioned demand for the military in the coming years, and so a period of rebuilding may be required. On the other hand, the authors caution against pursuing new capabilities at the expense of capacity, because it is not cost-effective to use sophisticated platforms and weaponry against low-tech problems.

Finally, to complement shifts in the forces, the authors also recommend a critical and thorough examination of the role of civilians, contractors, and headquarter staffs. These groups have grown as a share of the military, but in many cases there

has not been scrutiny or debate about whether they are being properly employed. The authors recommend eliminating as many headquarters staff as is feasible. Furthermore, they point out that while civilians are increasingly being used to perform military functions, they are often less-disciplined and less-well-trained than service members. And since the DoD's dependence on contractors gives a bargaining advantage to the contractors, they are likely to provide little or no cost advantage. Roughead and Schake therefore suggest reducing civilian personnel by a greater proportion than uniformed forces, and simultaneously reinstituting the National Security Personnel System, a pay structure that went out of effect in 2012, to help retain talent in the civilian defense workforce.

ACQUISITION

Roughead and Schake outline two problems in acquisition. First, defense acquisition is both costly and slow because it is subject to a highly bureaucratic process for issuing system requirements and increasingly demanding regulation by Congress. Whatever the original intentions of the restrictions, the authors claim that they not only waste money—the GAO estimated that the restrictions squandered $74 billion last year alone due to deficiencies in acquisition—but also discourage businesses from entering the industry and from working with the military to create new technologies. Second, the industry has become more and more consolidated, leading to less competition and therefore higher prices. The United States is nearing monopoly production in all major capital platforms, a state that endangers the health and structure of the industry. The authors claim that reforms are necessary to strengthen the industry and would offer budget savings—a performance improvement of even 20 percent in the acquisition process **could save $15 billion annually**.

Within the acquisition process, the fundamental problem is that responsibility for acquisition outcomes is dispersed across many offices. No one is accountable for the beginning-to-end process—including creating requirements, acquisition, and budgeting—and costs and benefits are often managed in different places. Even after an acquisition process has begun, additional requirements are easily added, and so the end products that are delivered to the services—and the bill given to them—most often do not mirror their initial request and almost always require reducing the anticipated numbers of platforms purchased. Finally, the authors argue that congressional regulation introduced to ensure fairness and cost-effectiveness has unintentionally created a difficult and litigious process that companies can be reluctant to join.

To tackle these issues, the authors propose freezing requirements—that is, making it more difficult to add additional requirements to an acquisition and making it impossible after a certain stage—and reconnecting requirements to costs. Total lifecycle operating costs and the cost of manpower must always be accounted for, and Roughead and Schake propose that the service chiefs take on responsibility for requirements and costs, centralizing accountability and overseeing costs and benefits together. The Office of the Secretary of Defense could provide oversight. In addition, the authors recommend implementing a time-based metric that would be less subject to the manipulations that plague the current cost-based system. Accountability in this method would disincentivize the addition of unnecessary requirements that currently drive up costs and delay delivery in the cost-based system. In addition to cost savings, creating a more agile acquisition system is essential for meeting the faster timelines demanded by developments in warfare (particularly cyber warfare) that innovate several generations in the average time of acquisition for defense equipment.

The above changes could begin to revive the industrial base by making it easier for firms to contract with the DoD. In addition, Roughead and Schake propose revising export controls to enhance research and manufacturing partnerships and to generate more-attractive foreign sales to help the United States capitalize on global expertise and innovation. Policymakers in Congress and the DoD should revise regulations that limit the number of firms with which the U.S. military can do business.

PERSONNEL

According to Roughead and Schake, personnel costs are the most significant internal driver of defense spending. While personnel costs were relatively low during the draft era, today's all-volunteer force must recruit and retain extraordinary young men and women. These men and women have moved into more-advanced roles as the needs of the modern military have changed, and the increasingly complex and technological nature of warfare has led to higher rewards for skills and training. Any proposal to address personnel costs must provide a compensation model that recognizes and values military personnel and sustains the all-volunteer force. The authors offer reforms to military compensation that would likely make military personnel more satisfied, could be implemented in the immediate future, and **could save the DoD $20 billion per year**.

The most important aspect of reforming compensation packages is understanding which benefits personnel in the armed services value the most. A recent survey conducted by the Center for Strategic and Budgetary Assessments showed that basic pay is most important for junior military personnel, while child care and school services are not as highly valued by the majority of respondents. Roughead and Schake suggest giving servicemen and servicewomen the ability to choose a

package of benefits that best meets his or her specific needs. By tailoring compensation packages to reduce or eliminate costly benefits that are not valued by particular recipients, the DoD could potentially improve recruiting and retention while reducing personnel costs.

Difficult, but necessary, decisions will also have to be made when it comes to health care for service personnel. In Tricare—the military health-care system offered to active-duty personnel, retirees, and their families—fees paid by enrollees have not risen nearly as quickly as health-care costs, so it currently has relatively little cost-sharing. Those who have served more than ten years would be grandfathered into the new system, but Tricare for retirees would be phased out and copays for medical and pharmaceutical costs would be increased. Other service members could choose a package of benefits tailored to their needs.

Conclusion

The reforms proposed by Roughead and Schake—including a rebalancing among services, a more streamlined acquisition process, and careful cuts to personnel costs—will not immediately resolve the structural problems with the current defense budget, but they will put the DoD on a more sustainable path. By demanding more efficiency in all areas of the defense budget, policymakers can set the stage for the U.S. military's continued success during a time of rapid global change—even when those changes include a significant reduction in DoD resources. Such changes do not break faith with our military. On the contrary, the authors argue, we break faith with our military by not bringing our spending into alignment with our available resources and not being driven by a strategy that is aligned with current threats.

Proposal 15: Making Defense Affordable

THIS CHAPTER IS A SUMMARY OF A HAMILTON PROJECT DISCUSSION PAPER BY:

Cindy Williams
Massachusetts Institute of Technology

Deficit Reduction (10-year): **$540 billion – $770 billion**

Broader Benefits: **Addresses growing internal costs in the defense budget to preserve military capabilities; reshapes military forces in a way that reduces future budgets while keeping a strong and ready military.**

Introduction

The U.S. military is the strongest in the world. It is also the most costly; currently, the U.S. defense establishment outspends any other country's military by a factor of about six to one. In the face of mounting fiscal pressures, it is necessary to reassess the defense budget. For the Department of Defense (DoD), efforts to reduce defense spending are complicated by internal costs that grow faster than inflation, including the costs of health care, of pay, and of new weapons. Unless the internal cost growth is reined in, it will erode military capacity even if budgets remain constant in real terms. Meanwhile, the shift away from the lengthy and costly wars in Iraq and Afghanistan creates a window of opportunity to restructure the armed forces strategically—by rebalancing among the military branches—to focus more on the salient threats of the future.

In a new discussion paper for The Hamilton Project, Cindy Williams of the Massachusetts Institute of Technology proposes a new approach to reducing the U.S. defense budget while maintaining a strong and well-equipped military. Williams outlines a two-part plan of action to control budget growth and create a force that is better suited to the strategy currently espoused by the DoD as well as to a more restrained strategy, one in which the United States intervenes far more sparingly in other countries and conflicts. In addition to restructuring and decreasing the size of the forces, her proposed reforms include holding down the costs of military health care, averting some of the expected cost growth in military compensation, taking control of operation and maintenance budgets, and controlling the growth of weapons costs.

The Challenge

The U.S. government faces a tough fiscal future. With federal debt increasing to concerning levels, policymakers must make difficult budget choices. In the past, efforts to reduce budget deficits have relied heavily on cutbacks to defense spending. In this vein, the Budget Control Act of 2011 (BCA) calls for significant reductions to federal spending, among them a 10 percent cut in the non-war defense budget from previously planned levels. Williams proposes that, even with reduced defense budgets, the United States can retain a very strong military that is fully ready, equipped, and capable of succeeding in an important range of missions. Achieving these budget reductions, though, will require both addressing internal cost growth and strategically reshaping military forces.

Reducing defense budgets by 10 percent from FY 2012 levels would return defense spending to its inflation-adjusted FY 2007 level. In the past decade, however, certain categories of defense costs rose significantly faster than inflation. As a result, the same level of defense spending buys less today than it did in the past. Between FY 2000 and FY 2010, non-war defense budgets rose by over 40 percent even though the size of the force increased by less than 4 percent. Although some of this budget growth came from added personnel and new equipment, other important contributors to spending increases have been rising health-care costs, military pay increases, and growing costs of operation and maintenance. These pressures, created by cost growth in these categories, have been further compounded by the mounting costs of major defense systems.

Even if growing internal costs can be restrained, reducing the defense budget will require cutting the force. Furthermore, Williams argues that U.S. military goals have become increasingly expansive since the Cold War, and that the expanded mission set is no longer appropriate either in the context of national security strategy or from a budgetary perspective. The challenge, then, is designing a more streamlined military—tailored to the future global security landscape—that can protect national security at lower cost.

The Proposal

If policymakers are willing to make tough decisions, the United States can retain a strong military that is fully ready and equipped on a budget significantly smaller than that of today. Indeed, the current fiscal crisis and the imminent end to combat operations in Afghanistan provide an opportunity for change. Williams suggests a two-pronged approach: first, tackle rising internal costs to hold DoD spending growth at the pace of inflation, and second, reduce and realign forces to achieve deeper cost savings.

I. TAKE CONTROL OF INTERNAL COSTS

A. Reining in the costs of military health care

Health care is the fastest-growing element of the defense budget. Unless policy changes are implemented, military health-care costs will increase by at least 25 percent in real terms in the next five years and may nearly double within the next twenty.

Though some of the growth can be attributed to rising health-care costs throughout the United States, an important share of the rapid rise in military health-care costs can be explained by three other factors. The first is the authorization of the Tricare for Life program in 2000; this program greatly expanded benefits for military retirees who qualify for Medicare and had added nearly $10 billion to the DoD's health-care bill by 2012. The second factor is the small share of health-care costs borne by military retirees compared to the share typically paid in the private sector. The third factor is the low copayments charged under Tricare and Tricare for Life for medical services and prescription drugs.

- To address these growing costs, Williams proposes that Congress agree to the changes in the cost-sharing structure that the DoD already requested. The proposal includes imposing a premium for Medicare-eligible retirees and family members, raising Tricare premiums, increasing deductibles, and increasing copayments. It would specifically exempt service members who retire for medical reasons and the survivors of service members who die on active duty, but could still result in savings of about **$10 billion annually** on average over the next decade.

B. Averting cost growth for military cash compensation and retirement pay

Between 1998 and 2012, military basic pay grew significantly faster than pay in the private sector and 62 percent faster than the consumer price index. The full amount of military cash compensation—including cash allowances for food and housing (and the associated tax advantage) in addition to basic pay—rose even faster. The housing allowance was once set to offset about 85 percent of service members' costs to rent on the open market; those who lived in government housing did not receive an allowance. In recent years, however, the housing allowance has covered the full price of housing, incentivizing service members to live off-base even as the government undertook a massive renovation project to revitalize and expand military housing.

The structure of the military retirement system also contributes to cost growth. Currently, the system of cliff vesting results in many members staying in service until they reach the twenty-year point, at which time they can retire with a generous defined benefit. This system incentivizes many service members to remain in service for more years than either they or their service personnel managers might prefer. Several alternatives could reduce this cost growth.

- To slow the growth in the costs of military pay, Williams proposes limiting across-the-board raises to the level of GDP inflation every year for four years, beginning in 2014. On average over the decade, this alternative would save **$5.6 billion annually**.

- To address the misaligned supply and demand for military housing while reining in costs, Williams suggests reducing housing allowances to reflect a still-generous 90 percent rather than 100 percent of the price of private-sector housing. This plan would save **$1.4 billion annually** over the upcoming decade.

- Rather than throwing the current retirement system overboard, Williams suggests cutting back by 30 percent the fraction of service members who stay until retirement. To achieve this, the DoD should implement a combination of measures such as early career counseling, adjustment and enforcement of up-or-out gates, and narrowing of promotion standards. This alternative could save as much as **$2.5 billion annually** on average over the next ten years.

C. Taking control of operation and maintenance budgets

For decades, spending per troop on operation and maintenance has grown by an average of 2.5 percent each year. One of the largest components of the operation and maintenance category is civilian pay. Like military basic pay, federal civilian pay rose much faster than inflation or than wages in the private sector between 1998 and 2009. As a result, DoD's civilian personnel today are still better off in comparison to their private-sector counterparts than they were fifteen years ago, despite the pay freezes of 2011 and 2012. Even so, Congress is likely to return to a practice of raising pay for civilian workers consistent with wage growth in the private sector, which would increase the defense budget by billions of dollars. The operation and maintenance budget also funds a variety of personnel and family benefits, including a subsidy of $1.3 billion a year for the DoD-run commissaries. To bring operation and maintenance costs under control, Williams suggests two changes:

- Limit across-the-board pay raises for DoD's civilian workforce to the rate of GDP inflation for four years beginning in 2014. On average each year, this measure would avert an average of **$4.6 billion** of the internal cost growth anticipated by the Congressional Budget Office (CBO).
- DoD today runs multiple retail systems that include its commissaries, or grocery stores, as well as three separate base exchange systems. Williams calls for combining the grocery system with the three base exchange systems and eliminating the $1.3 billion annual subsidy to the commissary system. This plan would offset service members' increased grocery costs through cash allowances for active-duty members of $400 per year on average. Overall, this alternative would lead to savings of about **$900 million annually** on average over the next decade.

D. Controlling weapons cost growth

The cost of developing and purchasing new military systems has experienced substantial growth, typically doubling or even tripling from one generation to the next. In addition to this generational cost growth, many systems experience considerable increases in cost between the first formal estimates and the actual costs to deliver them. Some of the growth in estimated costs can be attributed to production slowdowns imposed for budgetary reasons. But much of that cost growth stems from other factors, including low-balled initial estimates, immature technologies, and flawed or insufficiently detailed designs. When budgets are tight, such cost growth results in a self-reinforcing cycle in which the number of units produced must be trimmed, leading to further unit cost growth due to production slowdowns.

Though Congress and the DoD have rewritten and tightened the acquisition rules in recent years, there are still key problems that, if left unchecked, will continue to propel weapons costs upward. Because the restrictions are often not well enforced, systems continue to move into the development phase before key technologies are demonstrated in realistic environments and to continue through the acquisition process with immature designs. They also often start into production before developmental testing is complete. Such concurrency between testing and production leads to expensive redesigning and rebuilding after units are produced. Unless the regulations are enforced more stringently, these unnecessary costs will continue to spiral upwards. In her proposal, William lays out a plan to address this growth:

- In order to stem unnecessary cost increases during weapons development, the DoD needs to more strictly enforce its acquisition procedures and to cancel systems whose cost estimates grow by more than 10 percent over a period of five years. If these actions can avert even one-half of the anticipated growth in the cost of acquisitions, then savings could be as much as $**6 billion annually** on average.

II. OPTIONS TO STRATEGICALLY REDUCE FORCES

Though the alternatives described above can stem the DoD's internal cost growth, they will not push defense spending below the FY 2012 level in real terms. Reducing defense budgets below the levels requested for FY 2013 will require structural changes such as force cutbacks. Williams considers two possible future paths for the defense budget: one that reflects the spending cuts mandated by the BCA, and a second that makes deeper reductions.

Significant changes in force structure can be beneficial beyond the clear fiscal implications. In the process of reducing the force size, the DoD can adopt a more focused and selective approach to national security. This new approach would shift the emphasis from today's stabilization and counterinsurgency operations to developing the capacity to handle conflict against a rising power. Like the strategy the DoD unveiled in January 2012, the new approach would emphasize missions in the Asia and the Pacific region, which many experts believe would be fought primarily at sea and in the air.

The distribution of budget cutbacks among the services will determine the future shape and capabilities of the military. Since at least the middle of the Cold War, the share of defense spending allocated to each service has barely budged, and even leaders who plan on shifting resources have found themselves stymied by politics and custom. Williams argues, however, that shifting resources among the services would allow for larger budget savings while preserving important capacity. The paper

considers two choices, as summarized in table 15-1: Option 4-1, which reduces total defense spending in accordance with the BCA while holding the share of defense spending devoted to each military department about where it was in FY 2012; and Option 4-2, which cuts the defense budget more deeply than the BCA would, but adjusts the shares of the budget devoted to each military department to reflect an increase in the relative relevance of maritime forces in a strategic shift toward Asia and the Pacific.

Option 4-1 would reduce quickly each military department's non-war budget by 10 percent in real terms relative to the DoD's FY 2013 plan. Under this option, the BCA reductions would be distributed proportionately among the military branches. These cuts translate into 13 percent reductions from FY 2012 levels for the Army, the Department of the Navy, and Air Force non-war budgets. This option would cut the Army's combat brigades by about 14 percent relative to current plans. It would not reduce the Army's reserve component appreciably, but it would require resolving medical disability cases and creating a leaner, more efficient program for research and development. Additionally, it would require downsizing the Marine Corps and reducing the size of the Navy's fleet by 17 percent compared to the current plan for 2032. This option would require the Air Force to shed about 13 percent of the fighter and attack squadrons the service hoped to keep.

Option 4-2 achieves deeper budgetary savings, but preserves and enhances the forces that are most strategically important for future operations. This option would cut budgets by 16 percent in real terms by 2015 and refocus on future missions in Asia and the Pacific. This would entail reducing the Army and parts of the Air Force more sharply and shifting more resources to the Navy, particularly to those elements that would be most useful in a maritime war against a rising power in Asia. Under this option, the Air Force would also be reenvisioned, resulting in a force that is better suited to operations in the access-challenged environments expected in that region and capable of supporting ground operations in a major war. Overall, by shifting some of the total defense budget away from the Army and into the Department of the Navy and by reshaping forces within the services, this option will result in a military better suited to addressing potential future threats than to fighting in a long counterinsurgency war.

Both options are consistent with a foreign policy more focused and restrained than that of the past two decades. Even so, the United States will retain the strongest, best-funded, best-equipped, and best-trained armed force in the world. Though neither option provides a military able to sustain a long, sizeable occupation or counterinsurgency operation, either option would result in a force that is fully capable of winning decisively in one major theater war, while helping an ally defend against attack at the same time.

Conclusion

Taking control of an ever-growing defense budget requires concrete steps. Williams provides a course of action to curtail internal cost growth and to strategically restructure the force. By cutting the cost of health care, weapons spending, compensation, and operation and maintenance, the DoD can stabilize the budget and help stem the annual growth that has contributed to the nation's fiscal concerns. Likewise, scaling back the size of the force and strategically reallocating resources among the military branches would allow the DoD to meet the requirements for future budget cuts while sustaining a strong national security posture.

TABLE 15-1.

Comparison of Options

	2012 Force	DoD's Planned Force	Option 4-1	Option 4-2
Active Army Brigades	45	37	32	26
Active Army End Strength	562,000	490,000	430,000	370,000
Navy Ships	284	300+	250	235
Active Navy End Strength	325,700	319,500	294,000	294,000
Active Marine Corps Divisions	3	3	2+	2+
Active Marine End Strength	202,100	182,100	168,000	168,000
Air Force Tactical Squadrons	60	54	47	42
Active Air Force End Strength	332,800	328,600	290,000	267,000
Total Active End Strength	1,422,600	1,320,200	1,182,000	1,099,000

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Endnotes

Introduction

Figure 1.
All cases assume a baseline that follows the CBO current law with three exceptions: (1) We assume Medicare payment rates for physicians are maintained at current rates without offsets. (2) We remove the extrapolation of emergency funding for disaster relief. (3) We assume the number of troops deployed for overseas contingency operations is reduced to 45,000 by 2015. For the BCA and ATRA, the baseline for deficit reduction also includes extension of the 2001 and 2003 tax rates. These adjustments follow the CBPP baseline and can be found in CBO 2013, tab. 1-7.
The baseline case, including the effects of the BCA, ATRA, and sequestration, is shown in the bottom green line. The orange line then reverses the effect of sequestration as calculated in CBO 2013, tab. 1-7. The blue line then reverses the effect of the ATRA, using the score of ATRA as compared to the CBO alternative fiscal scenario in OMB 2012a. The dark blue line then removes the effect of the BCA as calculated in CBO 2011, not including the automatic cuts from sequestration.

Proposal 1

1. Definitions are based on U.S. Department of Health and Human Services (n.d.) and U.S. Social Security Administration (n.d.).

Proposal 3

1. Chandra, Gruber, and McKnight (2010) studied a population of retired public employees receiving supplemental insurance coverage from the CalPERS program. There was a staggered rise in patient copayments for office visits and prescription drugs under CalPERS, allowing for a quasi-experimental analysis of the impact of changing supplemental coverage on Medicare spending. To summarize the calculations, in that paper we find that an average copayment increase of $16.50 per month led to a reduction in Medicare spending of $5.00 per month on physicians and hospitals (the latter actually saw an increase due to offset effects), for an externality effect of 0.3. A new working paper by Cabral and Mahoney (2013) uses cross-state variation in the price of Medigap coverage as a shifter for supplemental coverage; individuals living near borders of states with higher Medigap prices than their neighbors have lower Medigap coverage. This lower Medigap coverage is in turn associated with a reduction in Medicare spending; they estimate that Medigap coverage raises Medicare spending by $640, which is about 45% of Medigap premiums.
2. The 20 percent coinsurance would be revisited based on standard "value-based" benchmarks to ensure that it is not raising total costs (e.g., by excluding the coinsurance for maintenance prescriptions for those with chronic illnesses).
3. This provision will be criticized by those who claim that retired workers have "paid for" their retiree coverage through lower wages during their working life. While the incidence of retiree benefits is unclear, even in this case the provision is not unfair because retired workers have paid for the base cost of these plans through their wages but not the fiscal externality portion, which they would pay now if they maintain coverage.

Proposal 4

1. We reach this estimate by assuming that roughly one-third of DI recipients are potentially able to be targeted for employment services and that the services enable one-third of that one-third to work rather than receive benefits. Net of the cost of the employment services, the savings would be around 0.1 percent of GDP.

Proposal 6

1. Some employers allow retirement plan participants to borrow against their balances for hardship reasons, but the rules vary across plans.
2. Dushi, Iams, and Lichtenstein (2011) find that more than 70 percent of employees in firms with one hundred or more workers had access to defined contribution retirement savings plans in 2006, compared with fewer than 40 percent of workers at firms with fewer than one hundred employees.

Proposal 7

1. Note that the baseline used for this revenue estimate assumed the expiration of the 2001–2003 tax cuts; with the fiscal cliff deal extending most of the rate cuts permanently, the revenue gains would now (relative to the new, post-deal, current-law baseline) be lower.
2. The revenue estimate is also relative to a (then-) current-law baseline that assumed the expiration of all of the Bush-era tax cuts at the end of 2012.
3. Compare distributional tables 4 and 7 in Baneman and colleagues (2012, 23, 27).

Proposal 8

1. The Joint Committee on Taxation lists only the mortgage deduction as a tax expenditure, pegging its value at $100 billion for fiscal 2014 (Joint Committee on Taxation 2012, 36).
2. Economists' support for a credit is discussed by Shawn Zeller (Zeller 2012, 2329–2330).
3. For example, in a Quinnipiac University poll conducted from November 28 to December 3, 2012, respondents rejected abolition of the mortgage deduction 67 percent to 23 percent, but supported limiting the deduction to the interest on a $500,000 mortgage 62 percent to 28 percent and supported eliminating the deduction for second homes 56 percent to 35 percent (Quinnipiac University 2012).
4. It is sometimes suggested that geographic variation in the limit would violate the requirement in Article 1, section 8, clause 1 of the U.S. Constitution that taxes be "uniform throughout the United States." The objection has little force. In its 1983 decision in United States v. Ptasynski, the U.S. Supreme Court stated that the clause permits geographic variation if it is based on neutral factors and unanimously upheld preferential treatment for oil produced in a region with higher production costs. Setting a higher deduction limit for areas with higher housing costs is clearly analogous. The tax system also includes numerous geographically targeted provisions, such as empowerment zones, that are based on areas' economic characteristics. In any event, the proposal's use of a national limit avoids any potential constitutional problem.

5. The option referred to in the text is listed as option 3 in the table. The revenue estimate allowed for some mortgage pay-down and portfolio changes.
6. Under the option's phase-in provision, there is a 19 percent maximum savings and a $600,000 cap in 2015.

Proposal 9

1. Assuming existing approaches to construction or reconstruction, limited demand management or other operational efficiencies and materials, and that dollars are invested in a cost-beneficial manner.
2. Gas taxes face the added challenge of being highly unpopular. A 2009 survey by the Tax Foundation found that gas taxes ranked as the most "unfair" state and local tax, ahead of property taxes, sales taxes, and income taxes (Tax Foundation 2009).
3. The latest Urban Mobility Report released by the Texas Transportation Institute (Schrank, Eisele, and Lomax 2012) includes a planning time index showing that for most major U.S. cities a traveler in congested traffic would need to include a time insurance buffer of more than three times the projected time to destination under uncongested traffic conditions.

Proposal 10

1. Alternatively, under the subtraction method, firms can fully deduct all of their payments to other firms. For discussion of these and other options, see Bickley (2006), Cnossen (2009), and Ebrill and colleagues (2001).
2. Gale (2005) discusses administrative complications with a retail sales tax and the changes in tax rate resulting from an erosion of the tax base due to evasion.
3. If the standard VAT rate applies to all items subject to VAT, the yield ratio provides an estimate of the share of GDP that is covered by the VAT.
4. It is worth noting that the theory of optimal commodity taxation favors multiple tax rates across consumption goods. The Ramsey Rule indicates that under certain conditions commodities should be taxed inversely proportional to their demand elasticity.
5. In a risk-free world, the normal return to capital is just the risk-free rate of return. Earning the risk-free rate of return on saving does not raise the present value of consumption a household can obtain; it simply affects the timing of the consumption. Allowing for risk changes the normal return to a risk-adjusted return, but also changes the rate at which consumption is discounted, so the result continues to hold that earning the normal return (adjusted for the risk) on capital does not affect the present value (adjusted for risk) of consumption available to the household. In contrast, returns due to rents do affect the present value of consumption available to households and therefore would be subject to a consumption tax.
6. Altig and colleagues (2001) show that in the conversion to a flat tax the taxation of old capital accounts for more than 60 percent of the induced economic growth effect in the first five years, more than half of growth in the first ten years, and about 40 percent of the induced growth even after fifty years.
7. Johnson, Burman, and Kobes (2004) show that for households in the bottom quintile and second quintile of the income distribution for the elderly, 80 percent and 68 percent, respectively, of their financial (i.e., non-Medicare) income comes from Social Security.
8. Toder, Nunns, and Rosenberg (2011) propose a two-pronged rebate. The rebate would be a credit equal to the VAT rate multiplied by a base of $12,000 for single households and $24,000 for married households (in 2012); the base could not exceed employment income. In addition, they propose an upward adjustment to Social Security payments to offset the reduction in real wages over time.
9. Congressional Budget Office (CBO; 1992, xv) finds that "excluding necessities such as food, housing, utilities, and health care would lessen the VAT's regressivity only slightly." Toder and Rosenberg (2010) find that excluding housing, food consumed at home, and private health expenditures from the consumption tax base can somewhat increase progressivity, but not as much as a per-person payment would.
10. The growing literature on tax visibility offers somewhat mixed results. Mulligan, Gil, and Sala-i-Martin (2010) find that the proportion of payroll taxes paid by employees does not have a significant effect on the size of the public pension program. Finkelstein (2009) finds that the adoption of electronic toll collection results in higher tax rates and reduced short-run elasticity of driving with respect to toll rates. Similarly, Chetty, Looney, and Kroft (2009) find that posting tax-inclusive prices reduces demand for certain goods.
11. See McLure (2002) for a description of the "nutty" world of state sales taxes. See Mazerov (2009) for an estimate that most states could increase sales tax revenue by 20 to 40 percent if "feasibly taxed" services were added to the sales tax base. See Durner and Bui (2010) for the share of sales taxes paid by businesses.
12. Authors' calculations based on U.S. Census Bureau (2010).
13. This estimate is based on the yield ratio of 0.33 listed in table 10-1. An alert reader may question why a federal VAT would require a 5 percent rate to raise 1 percent of GDP, while a state and local VAT would only require a 6 percent rate to raise 2 percent of GDP. The answer is that the federal VAT would be an add-on tax with partially offsetting reductions in other revenue sources, as described above. In contrast, the state and local VAT discussed here would substitute for existing sales taxes and therefore would not create such offsets.
14. Albi and Martinez-Vazquez (2011, 218) conclude, "The most important tax development of the last half-century has undoubtedly been the rise to prominence of the value-added tax (VAT). This tax has taken center stage almost everywhere (with the significant exception of the United States) and has become a revenue mainstay for many countries. The success of the VAT reflects a variety of factors: its high revenue potential, its relative simplicity and logic from an administrative perspective, its impact on economic efficiency, trade, and growth, the ease with which its relatively mild consequences on income distribution and equity may be mitigated, and the fact that fewer and relatively less complex political economy issues than often arise with respect to other potential revenue-producing taxes seem to afflict its introduction and development."
15. This section is based on Sullivan (2010). Bird and Gendron (2009) and Duncan and Sedon (2010) analyze the challenges of coordinating subnational consumption taxes with a national VAT.

Proposal 11

1. This proposal is very similar to the approach described in Marron and Toder (2013).
2. See Interagency Working Group on Social Cost of Carbon (2010).
3. For example, see Metcalf and Weisbach (2009, 519).
4. Congress also would have to decide whether to tax carbon in exported primary fuels. Taxing exports would increase revenue over the estimates here. However, depending on export market characteristics, it may disadvantage U.S. firms to little climate benefit.
5. This proposal does not address the important issue of mitigating net emissions from agricultural soils, forests, and other terrestrial carbon pools, nor does it contemplate taxing methane from manure or ruminant livestock or industrial GHGs. Policymakers should consider whether and how these sources could be taxed or otherwise cost-effectively controlled.
6. For more on this issue see, Fischer and Fox (2009/2011).
7. Gayer and Viscusi (2012) argue that many energy-efficiency standards do not pass a properly designed benefit cost test.
8. The RFS mandates that 35 billion gallons of ethanol-equivalent biofuels and 1 billion gallons of biomass-based diesel be consumed in the United States by 2022. The National Academies of Science concludes that this standard "is not likely to be met," and that "it may not be effective in addressing global greenhouse-gas emissions," because its performance depends on how the biofuels are produced and the land changes that occur in the process. See Committee on Economic and Environmental Impacts of Increasing Biofuels Production (2011).

9. Morris, Nivola, and Schultze (2012) critique other economically weak arguments for clean energy subsidies in the presence of a carbon tax, including energy security and job creation. This proposal does not address options to eliminate subsidies that accrue to fossil fuel companies.
10. Those estimates do not include the proposal's tax on CO_2 from nonenergy industrial processes and some non-CO_2 GHG emissions, about 3 percent of U.S. GHG emissions (see CRS 2012a, 6). With those emissions under the tax, the revenues and emissions reductions could be slightly higher. Border carbon adjustments also could raise revenue. On the other hand, the federal government will face higher energy prices.
11. Rosenbaum, Stone, and Shaw (2010) argue that policymakers should reserve 15 percent of allowance value under a cap-and-trade system (another way to price carbon) to protect low-income households.
12. Their analysis modeled a carbon tax of $20, rising annually at 4 percent over inflation. They find that even greater welfare gains could accrue if half the revenue is applied to lower corporate tax rates and half is used to fund an investment tax credit.
13. Morris and colleagues (2013) outline a proposal for such an initiative.

Proposal 12

1. See, e.g., the recent proposal by Microsoft (2012), in which the company proposes to invest $10,000 for each extra H-1B visa allowed.
2. Folding these visas into the auction would increase the number of visas available for auction and hence government revenues, but would require capping their numbers, which are currently unlimited.
3. Our proposal would not increase the total number of temporary workers entering under these programs, at least initially.
4. Peri (2012) notes that a temporary foreign worker issued an H-1B visa currently costs employers about $10,000 in processing fees and legal advice. Microsoft (2012) recently suggested that the United States increase the number of H-1B visas by 20,000 and charge employers $10,000 per visa. For H-2 visas, consultants charge around $2,500 per employer. (One company that provides such consultancy is MASLabor; see http://www.maslabor.com/pages/masLeadership.html.)
5. The economic rationale for the rebate is that nonprofit institutions hiring H-1B visa workers are mainly universities and research centers that create positive externalities for the economy by generating innovation and scientific discovery. The government also initially could set aside a fixed number of permits for small businesses to ensure they are able to participate in the auctions, because small businesses may have greater difficulty than large corporations with the transition to auctions. Any unused permits set aside for small businesses would be reallocated to the regular auction.
6. Important changes include removing the 7 percent per country cap on numerically restricted green cards and linking the number of employment-based green cards available to the number of skilled temporary worker visas issued (in earlier years) in order to ensure that backlogs do not occur. The proposal here focuses on temporary worker visas, so we do not elaborate on potential changes to the employment-based green card program. See Orrenius and Zavodny (2010) and Peri (2012) for more details about reforms to the permanent visa system.
7. When Google, for example, is unable to get employment visas for people it wants to hire, it tries to hire them to work in one of its overseas offices (see Matt Richtel's article in the *New York Times* on April 11, 2009, "Tech Recruiting Clashes with Immigration Rules"). Microsoft opened a software development center near Vancouver, Canada, for its foreign engineers who cannot get visas to work in the United States (see Bloomberg News' article in the *New York Times* on July 7, 2007, "Today in Business").

Proposal 13

1. For further discussion, see Nick Timiraos, "A Plan to Alter Fannie, Freddie," *Wall Street Journal*, October 21, 2012; and *Wall Street Journal* (2012).
2. See Swagel (2012) for details.

References

Introduction

Bureau of Labor Statistics (BLS). n.d. Current Employment Statistics Database. Accessed at http://www.bls.gov/ces/home.htm#data

Congressional Budget Office (CBO). 2011. "CBO Analysis of August 1 Budget Control Act." http://www.cbo.gov/publication/41626

———. 2012. *The 2012 Long-Term Budget Outlook*. June. http://www.cbo.gov/publication/43288

———. 2013. *The Budget and Economic Outlook: Fiscal Years 2013 to 2023*. February. http://www.cbo.gov/publication/43907

Greenstone, Michael, Max Harris, Karen Li, Adam Looney, and Jeremy Patashnik. 2012a. "A Dozen Economic Facts about K-12 Education." Policy memo. September. The Hamilton Project, Brookings Institution, Washington DC. http://www.hamiltonproject.org/papers/a_dozen_economic_facts_about_k-12_education

Greenstone, Michael, Dmitri Koustas, Karen Li, Adam Looney, and Leslie B. Samuels. 2012b. "A Dozen Economic Facts about Tax Reform." Policy memo. May. The Hamilton Project, Brookings Institution, Washington, DC. http://www.hamiltonproject.org/papers/a_dozen_economic_facts_about_tax_reform

King, Miriam, Steven Ruggles, J. Trent Alexander, Sarah Flood, Katie Genadek, Matthew B. Schroeder, Brandon Trampe, and Rebecca Vick. n.d. *Integrated Public Use Microdata Series, Current Population Survey: Version 3.0*. [Machine-readable database]. Minneapolis: University of Minnesota, 2010.

Kogan, Richard, Robert Greenstein, and Joel Friedman. 2013. "$1.5 Trillion in Deficit Savings Would Stabilize the Debt Over the Coming Decade." Center for Budget and Policy Priorities, Washington DC. http://www.cbpp.org/cms/index.cfm?fa=view&id=3900

Kogan, Richard. 2013. "To Stabilize the Debt, Policymakers Should Seek Another $1.4 Trillion in Deficit Savings." Center for Budget and Policy Priorities, Washington DC. http://www.cbpp.org/cms/index.cfm?fa=view&id=3885

Office of Management and Budget (OMB). 2012a. "American Taxpayer Relief Act Reduces Deficits by $737 Billion." http://www.whitehouse.gov/sites/default/files/omb/communications/misc/cboscore_hr8_20130101.pdf

———. 2012b."Fiscal year 2013 Historical Tables Budget of the U.S. Government." http://www.whitehouse.gov/omb/budget/Historicals

Proposal 1

Bodenheimer, T., R. A. Berenson, and P. Rudolf. 2007. "The Primary Care-Specialty Income Gap: Why it Matters." *Annals of Internal Medicine* 146 (4): 301–306.

Chernew, M. E., R. G. Frank, and S. T. Parente. 2012. "Slowing Medicare Spending Growth: Reaching for Common Ground." *American Journal of Managed Care* 18 (8):1–6.

Congressional Budget Office (CBO). 2012. "The 2012 Long-Term Budget Outlook." http://www.cbo.gov/publication/43288

———. 2013. "The Budget and Economic Outlook: Fiscal Years 2013 to 2023." http://cbo.gov/sites/default/files/cbofiles/attachments/43907_Outlook_2012-2-5_Corrected.pdf

Ginsburg, Paul B. 2012. "Fee-For-Service Will Remain a Feature Of Major Payment Reforms, Requiring More Changes In Medicare Physician Payment." *Health Affairs* 31 (9): 1977-1983.

Landon, Bruce E. 2012. "Keeping Score under a Global Payment System." *New England Journal of Medicine* 366 (5): 393–395.

Miller, R. H., and H. S. Luft. 1997. "Does Managed Care Lead to Better or Worse Quality of Care?" *Health Affairs* 16 (5): 7–25.

Reinhardt, U. E. 2012. "How Medicare Is Misrepresented." *Economix: New York Times*. December 7. http://economix.blogs.nytimes.com/2012/12/07/how-medicare-is-misrepresented/

Song, Z., D. G. Safran, B. E. Landon, Y. He, R. P. Ellis, R. E. Mechanic, M. P. Day, and M. E. Chernew. 2011. "Health Care Spending and Quality in Year 1 of the Alternative Quality Contract." *New England Journal of Medicine* 365 (10): 909–918.

U.S. Department of Health and Human Services (DHHS). n.d. "Glossary." http://www.healthcare.gov/glossary/

U.S. Social Security Administration. n.d. "Differences between Medicare Parts A, B, C and D." http://ssa-custhelp.ssa.gov/app/answers/detail/a_id/167/~/differences-between-medicare-parts-a,-b,-c-and-d

Proposal 2

Abel, Jaison R., Jason Bram, Richard Deitz, and James Orr. 2012. "How Will We Pay for Superstorm Sandy?" December 20. *Liberty Street Economics*. Federal Reserve Bank of New York.

Congressional Budget Office (CBO). 2007. "Potential Cost Savings from the Pre-Disaster Mitigation Program." September. Author, Washington, DC. http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/86xx/doc8653/09-28-disaster.pdf

———. 2011. "Reducing the Deficit: Spending and Revenue Options." March. Author, Washington, DC. https://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/120xx/doc12085/03-10-reducingthedeficit.pdf

Congressional Research Service (CRS). 2011. "Disaster Relief Funding and Emergency Supplemental Appropriations." R40708. April 12. By Bruce R. Lindsay and Justin Murray. Author, Washington, DC.

Cummins, J. David, Michael Suher, and George Zanjani. 2010. "Federal Financial Exposure to Natural Catastrophe Risk." In *Measuring and Managing Federal Financial Risk*, edited by Deborah Lucas. February. National Bureau of Economic Research. Chicago: University of Chicago Press.

———. Forthcoming. "Update to Federal Financial Exposure to Natural Catastrophe Risk."

Federal Emergency Management Agency (FEMA). 2012. *Repetitive Loss Summary as of November 2012*. Data supplied by FEMA at the author's request on January 15, 2013.

Government Accountability Office (GAO). 2012. "Crop Insurance Savings Would Result from Program Changes and Greater Use of Data Mining." March. Author, Washington, DC.

H. John Heinz III Center for Science, Economics, and the Environment, and the Federal Emergency Management Agency (FEMA). 2000. April. "Evaluation of Erosion Hazards." Author, Washington, DC.

Kolat, J., J. Kasprzyk, W. Thomas Jr., A. Miller, and D. Divorky. 2012. "Estimating the Impacts of Climate Change and Population Growth on Flood Discharges in the United States." *Journal of Water Resources Planning Management*, American Society of Civil Engineers, 138: 442–452.

Kunreuther, Howard C. and Erwann O. Michel-Kerjan. 2009. "Market and Government Failure in Insuring and Mitigating National Catastrophes: How Long-Term Contracts Can Help." In *Public Insurance and Private Markets*. Washington, DC: AEI Press.

———. 2012. "Paying for Future Catastrophes." November 24. *New York Times*.

Larson, Larry, and Doug Plasencia. 2001. "No Adverse Impact: A New Direction in Floodplain Management Policy." November. Natural Hazards Review 2 (4): 167–181.

Moss, David A. 1999. "Courting Disaster? The Transformation of Federal Disaster Policy since 1803." In *The Financing of Catastrophe Risk*, edited by K. A. Froot, 307–363. Chicago: University of Chicago Press.

———. 2002. *When All Else Fails: Government as the Ultimate Risk Manager*. Cambridge, MA: Harvard University Press.

Multihazard Mitigation Council. 2005. "Natural Hazard Mitigation Saves: An Independent Study to Assess the Future Savings from Mitigation Activities." National Institute of Building Sciences, Washington, DC.

National Climate Assessment and Development Advisory Committee (NCADAC). 2013. "National Climate Assessment (Draft for Public Comment)." January 11. Department of Commerce, Washington, DC.

National Science Technology Council (NSTC). 2005. "Grand Challenges for Disaster Reduction: Report of the Subcommittee on Disaster Reduction." June. Committee on Environment and Natural Resources, Executive Office of the President, Washington, DC.

Sumner, Daniel A., and Carl Zulof. 2012. "Economic and Environmental Effects of Agricultural Insurance Programs." July. Council on Food, Agriculture & Resource Economics, Washington, DC.

Thomas, Edward A., and Sarah Bowen. 2009. "Preventing Human Caused Disasters." November. *Natural Hazards Observer* 34 (2): 1–9.

Thomas, Edward A., Alessandra Jerolleman, Terri Turner, Darrin Punchard, and Sarah Bowen. 2011. "Planning and Building Livable, Safe & Sustainable Communities: The Patchwork Quilt Approach." June 11. Natural Hazard Mitigation Association, Metairie, LA.

U.S. Department of the Interior (DOI). 2002. "The Coastal Barrier Resources Act: Harnessing the Power of Market Forces to Conserve America's Coasts and Save Taxpayer's Money." August. Fish and Wildlife Service, Division of Federal Program Activities, Washington, DC.

Proposal 3

Board of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds. 2012. *2012 Annual Report*. Washington, DC: Author. April 23. Available at http://www.treasury.gov/resource-center/economic-policy/ss-medicare/Documents/TR_2012_Medicare.pdf

Cabral, Marika and Neale Mahoney. 2013. "Taxing Supplemental Insurance: The Case of Medigap." Unpublished paper. University of Texas, Austin.

Chandra, Amitabh, Jonathan Gruber, and Robin McKnight. 2010. "Patient Cost-Sharing, Hospitalization Offsets, and the Design of Optimal Health Insurance for the Elderly." *American Economic Review 100* (1, March): 193–213.

Congressional Budget Office (CBO). 2008 December. *Budget Options: Volume 1, Health Care*. Available at http://www.cbo.gov/publication/41747

Kaiser Family Foundation. 2011 November. *Restructuring Medicare's Benefit Design: Implications for Beneficiaries and Spending.* Available at http://www.kff.org/medicare/upload/8256.pdf

Medicare Payment Advisory Commission (MedPAC). 2012. *Medicare and the Health Care Delivery System*, Report to Congress. June. Available at http://www.medpac.gov/documents/Jun12_EntireReport.pdf

Starc, Amanda. 2012. "Insurance Pricing and Consumer Welfare: Evidence from Medigap." Unpublished paper. University of Pennsylvania. Available at https://hcmg.wharton.upenn.edu/files/?whdmsaction=public:main.file&fileID=1858

Proposal 4

Autor, David H., and Mark Dugan. 2010. "Supporting Work: A Proposal for Modernizing the U.S. Disability Insurance System." The Hamilton Project and Center for American Progress, Washington, DC.

Burkhauser, Richard V., and Mary C. Daly. 2011. *The Declining Work and Welfare of People with Disabilities*. Washington, DC: American Enterprise Institute Press.

Congressional Budget Office (CBO). 2012. "Policy Options for the Social Security Disability Insurance Program." July. http://www.cbo.gov/sites/default/files/cbofiles/attachments/43421-DisabilityInsurance_print.pdf

Liebman, Jeffrey B., and Jack Smalligan. 2013. "An Evidence-Based Path to Disability Insurance." Working paper. John F. Kennedy School of Government at Harvard University, Cambridge, MA.

Social Security Administration (SSA). 2012. "Annual Report of Continuing Disability Reviews." May. http://www.socialsecurity.gov/legislation/FY%202010%20CDR%20Report.pdf

Proposal 5

Allaire, Maura, and Stephen Brown. 2009. "Eliminating Subsidies for Fossil Fuel Production: Implications for U.S. Oil and Natural Gas Markets." Issue Brief 09-10. Resources for the Future, Washington, DC.

———. 2012, August. "U.S. Energy Subsidies: Effects on Energy Markets and Carbon Dioxide Emissions." Prepared for The Pew Charitable Trusts, Philadelphia.

International Energy Agency (IEA). 2012. "World Energy Outlook 2012." Author, Paris.

Jorgenson, Dale W. 2012. "Comprehensive Tax Reform and U.S. Energy Policy." Prepared as written testimony for the Hearing on "Tax Reform: The Impact on U.S. Energy Policy," Committee on Finance, U.S. Senate. June 12. http://www.economics.harvard.edu/faculty/jorgenson/files/SenateFinanceCommittee4%2B6-12-2012.pdf

Metcalf, Gilbert. 2009. "Taxing Energy in the United States: Which Fuels Does the Tax Code Favor?" Manhattan Institute, New York.

Morris, Adele C. 2013. "The Many Benefits of a Carbon Tax." *15 Ways to Rethink the Federal Budget*. The Hamilton Project, Brookings Institution, Washington, DC.

Morse, Edward L., Eric G. Lee, Daniel P. Ahn, Aakash Doshi, Seth M. Kleinman, and Anthony Yuen. 2012. "Energy 2020: North America, the New Middle East?" Citi Global Perspectives & Solutions (Citi GPS). March 20.

Office of Management and Budget (OMB). 2012. "FY 2013 Administration Budget." White House, Washington, DC.

Parry, Ian W. H., and Kenneth A. Small. 2005. "Does Britain or the United States Have the Right Gasoline Tax?" *American Economic Review* 95 (4): 1276–1289.

U.S. Energy Information Administration (EIA). 2011. "Direct Federal Financial Interventions and Subsidies in Energy in Fiscal Year 2010." Department of Energy, Washington, DC.

———. 2013. "Annual Energy Outlook 2013 Early Release Overview." Department of Energy, Washington, DC. http://www.eia.gov/forecasts/aeo/er/index.cfm

Proposal 6

Agarwal, Sumit, John C. Driscoll, Xavier Gabaix, and David Laibson. 2009. "The Age of Reason: Financial Decisions over the Life Cycle and Implications for Regulation." *Brookings Papers on Economic Activity* 2: 51–118.

Beshears, John, James J. Choi, David Laibson, and Brigitte C. Madrian. 2012. "Default Stickiness among Low-Income Individuals." Working paper. RAND Corporation, Santa Monica, CA. October. http://www.rand.org/pubs/working_papers/WR926.html

Bricker, Jesse, Arthur B. Kennickell, Kevin B.Moore, and John Sabelhaus. 2012. "Changes in U.S. Family Finances from 2007 to 2010: Evidence from the Survey of Consumer Finances." *Federal Reserve Bulletin* 98 (2). http://www.federalreserve.gov/pubs/bulletin/2012/pdf/scf12.pdf

Bureau of Labor Statistics (BLS). 2012. "Table 2. Retirement Benefits: Access, Participation, and Take-up Rates, Civilian Workers, National Compensation Survey, March 2012." Author, Washington, DC. http://www.bls.gov/ncs/ebs/benefits/2012/ownership/civilian/table02a.pdf

Chetty, Raj, John N. Friedman, Soren Leth-Petersen, and Torben Nielson. 2012. "Active vs. Passive Decisions and Crowd-Out in Retirement Savings Accounts: Evidence from Denmark." December. Research Computing, Harvard University, Cambridge, MA. http://obs.rc.fas.harvard.edu/chetty/crowdout.pdf

Duflo, Esther, William Gale, Jeffrey Liebman, Peter Orzsag, and Emmanuel Saez. 2006. "Savings Incentives for Low- and Middle-Income Families: Evidence from a Field Experiment with H&R Block" *Quarterly Journal of Economics* (November): 1311–1346.

———. 2007. "Savings Incentives for Low- and Moderate-Income Families in the United States: Why is the Saver's Credit Not More Effective?" *Journal of the European Economic Association* (April–May): 647–661.

Dushi, Irena, Howard M. Iams, and Jules Lichtenstein. 2011. "Assessment of Retirement Plan Coverage by Firm Size, Using W-2 Tax Records." *Social Security Bulletin* 71 (2). http://www.ssa.gov/policy/docs/ssb/v71n2/v71n2p53.pdf

Dynan, Karen, Douglas Elmendorf, and Daniel Sichel. 2012. "The Evolution of Household Income Volatility." *The B. E. Journal of Economic Analysis and Policy* 12 (December): 1935–1682.

Elmendorf, Douglas W. 1996. "The Effect of Interest-Rate Changes on Household Saving and Consumption: A Survey." Federal Reserve Board Finance and Economics Discussion Series 96-27. June. Board of Governors of the Federal Reserve System, Washington, DC. http://www.c.federalreserve.gov/PUBS/feds/1996/199627/199627pap.pdf

Gale, William G., Jonathan Gruber, and Peter Orszag. 2006. "Improving Opportunities and Incentives for Saving by Middle- and Low-Income Households." THP Discussion Paper 2006-02. The Hamilton Project, Brookings Institution, Washington, DC. http://www.hamiltonproject.org/files/downloads_and_links/Improving_Opportunities_and_Incentives_for_Saving_by_Middle-_and_Low-Income_Households.pdf

Gale, William G., David C. John, and Spencer Smith. 2012. "New Ways to Promote Retirement Saving." AARP Public Policy Institute, Washington, DC. October. http://www.aarp.org/content/dam/aarp/research/public_policy_institute/econ_sec/2012/new-ways-promote-retirement-saving-AARP-pp-econ-sec.pdf

Hurst, Erik. 2008. "The Retirement of a Consumption Puzzle." NBER Working Paper 13789. National Bureau of Economic Research, Cambridge, MA. http://www.nber.org/papers/w13789.pdf

John, David C. 2012. "Improving All Types of Saving with the UK's Expanded Retirement Savings Platform." AARP: *The Journal Print Edition 2012*. http://journal.aarpinternational.org/File%20Library/Journals/AARP_2012Journal.pdf

Joint Committee on Taxation (JCT). 2010. "Estimated Budget Effects of the Revenue Provisions Contained in the President's Fiscal Year 2011 Budget Proposal." https://www.jct.gov/publications.html?func=download&id=3665&chk=3665&no_html=1

———. 2012a. "Estimates of Federal Tax Expenditures for Fiscal Years 2011–2015." U.S. Congress. https://www.jct.gov/publications.html?func=download&id=4386&chk=4386&no_html=1

———. 2012b. "Description of the Revenue Provisions Contained in the President's Fiscal Year 2013 Budget Proposal." U.S. Congress. https://www.jct.gov/publications.html?func=download&id=4465&chk=4465&no_html=1

Lusardi, Annamaria, and Olivia Mitchell. 2007. "Baby Boomer Retirement Security: The Roles of Planning, Financial Literacy, and Housing Wealth." *Journal of Monetary Economics* 54 (1): 205–224.

New America Foundation. 2012. "The Financial Security Credit: Tax Reform that Supports Saving for Hard-Working Americans." September. Author, Washington, DC. http://assets.newamerica.net/sites/newamerica.net/files/program_pages/attachments/FSC2PagerFinal9_12.pdf

Obstfeld, Maurice, and Kenneth Rogoff. 2000. "The Six Major Puzzles in International Macroeconomics: Is There a Common Cause?" In *NBER Macroeconomics Annual 2000*, edited by Ben Bernanke and Kenneth Rogoff, 339–390. Cambridge, MA: MIT Press.

Tax Policy Center. 2009. "T09-0467: Remove Savings Tax Expenditures, Distribution of Federal Tax Change by Cash Income Level, 2012." Author, Urban Institute and Brookings Institution, Washington, DC. http://taxpolicycenter.org/numbers/displayatab.cfm?Docid=2548&DocTypeID=1

Proposal 7

Baneman, Daniel, Joseph Rosenberg, Eric Toder, and Roberton Williams. 2012. "Curbing Tax Expenditures." Tax Policy Center, Washington, DC. January. http://www.taxpolicycenter.org/publications/url.cfm?ID=412493

Congressional Budget Office (CBO). 2011. "Reducing the Deficit: Spending and Revenue Options." March. http://www.cbo.gov/publication/22043

———. 2012. "An Analysis of the President's 2013 Budget." March. http://www.cbo.gov/publication/43083

Greenstone, Michael, Adam Looney, and Leslie B. Samuels. 2012. "A Dozen Economic Facts about Tax Reform." Policy memo. The Hamilton Project, Brookings Institution, Washington, DC. May. http://www.hamiltonproject.org/papers/a_dozen_economic_facts_about_tax_reform/

Proposal 8

Bipartisan Policy Center (BPC) Debt Reduction Task Force. 2010. "Restoring America's Future: Reviving the Economy, Cutting Spending and Debt, and Creating a Simple, Pro-Growth Tax System." November. http://bipartisanpolicy.org/library/report/restoring-americas-future

Cole, Adam J., Geoffrey Gee, and Nicholas Turner. 2011. "The Distributional and Revenue Consequences of Reforming the Mortgage Interest Deduction." *National Tax Journal* 64 (4, December): 977–1000.

Diamond, John W., and George R. Zodrow. 2008. "Consumption Tax Reform: Changes in Business Equity and Housing Prices." In *Fundamental Tax Reform: Issues, Choices, and Implications*, edited by John W. Diamond and George R. Zodrow, 227–260. Cambridge, MA: MIT Press.

Gravelle, Jane G. 1996. "Effects of Flat Taxes and Other Proposals on Housing: An Overview." Congressional Research Service Report 96-552, June 17. Congressional Research Service, Washington, DC.

Joint Committee on Taxation. 2012. "Estimates of Federal Tax Expenditures for Fiscal Years 2011–2015." January. JCS-1-12. https://www.jct.gov/publications.html?func=startdown&id=4386

National Commission on Fiscal Responsibility and Reform. 2010. *The Moment of Truth*. December. http://www.fiscalcommission.gov/sites/fiscalcommission.gov/files/documents/TheMomentofTruth12_1_2010.pdf

Office of Management and Budget (OMB). 2012. "Fiscal Year 2013: Analytical Perspectives: Budget of the U.S. Government." February. http://www.whitehouse.gov/sites/default/files/omb/budget/fy2013/assets/spec.pdf

Poterba, James M., and Todd Sinai. 2011. "Revenue Costs and Incentive Effects of the Mortgage Interest Deduction for Owner-Occupied Housing." *National Tax Journal* 64 (2, pt. 2, June): 531–564.

President's Advisory Panel on Federal Tax Reform. 2005. "Simple, Fair, and Pro-Growth: Proposals to Fix America's Tax System." 2005. November. http://www.treasury.gov/resource-center/tax-policy/Documents/Simple-Fair-and-Pro-Growth-Proposals-to-Fix-Americas-Tax-System-11-2005.pdf

Quinnipiac University. 2012. "U.S. Voters Trust Obama, Dems to Avoid Fiscal Cliff, Quinnipiac University National Poll Finds; Tax The Rich, But Don't Touch Medicare, Voters Say." http://www.quinnipiac.edu/institutes-centers/polling-institute/national/release-detail/?ReleaseID=1821

United States v. Ptasynski. 1983. 462 U.S. 74.

Urban-Brookings Tax Policy Center. 2011a. "Table 11-0271." August 18, Option 3. http://www.taxpolicycenter.org/numbers/Content/PDF/T11-0271.pdf

Urban-Brookings Tax Policy Center. 2011b. "Table 11-0281." August 18. http://www.taxpolicycenter.org/numbers/Content/PDF/T11-0281.pdf

U.S. Census Bureau. 2013. "Median and Average Sales Prices of New Homes Sold in United States." http://www.census.gov/construction/nrs/pdf/uspricemon.pdf (visited January 31, 2013)

U.S. Department of the Treasury. 2012. "General Explanations of the Administration's Fiscal Year 2013 Revenue Proposals." February. http://www.treasury.gov/resource-center/tax-policy/Documents/General-Explanations-FY2013.pdf

Zeller, Shawn. 2012. "Tweaking the Sacred Mortgage Tax Break: Economists May be Gaining Ground with Their Call to Convert the Current Interest Deduction into a Credit." *Congressional Quarterly* (November 19).

Proposal 9

Calfee, John, and Clifford Winston. 1998. "The Value of Automobile Travel Time: Implications for Congestion Policy." *Journal of Public Economics* 69 (1): 83–102.

Calfee, John, Clifford Winston, and Randolph Stempski. 2001. "Econometric Issues in Estimating Consumer Preferences from Stated Preference Data: A Case Study of the Value of Automobile Travel Time." *Review of Economics and Statistics* 83 (4): 699–707.

Congressional Budget Office (CBO). 2012. "How Would Fuel Economy Standards Affect the Highway Trust Fund?" May. http://www.cbo.gov/publication/43198

Dobbs, Richard, Jaana Remes, James Manyika, Charles Roxburgh, Sven Smit, and Fabian Schaer. 2012. "Urban World: Cities and the Rise of the Consumer Class." June. McKinsey Global Institute. http://www.mckinsey.com/insights/mgi/research/urbanization/urban_world_cities_and_the_rise_of_the_consuming_class

Dobbs, Richard, Herbert Pohl, Diaan-Yi Lin, Jan Mischke, Nicklas Garemo, Jimmy Hexter, Stefan Matzinger, Robert Palter, and Rushad Nanavatty. 2013. "Infrastructure Productivity: How to Save $1 Trillion a Year." January. McKinsey Global Institute. http://www.mckinsey.com/insights/mgi/research/urbanization/infrastructure_productivity

Engel, Eduardo, Alexander Galetovic, and Ronald Fischer. 2011. "Public-Private Partnerships to Revamp U.S. Infrastructure." Discussion Paper 2011-02, February. The Hamilton Project, Brookings Institution, Washington, DC.

Levinson, David, and Matthew Kahn. 2011. "Fix It First, Expand It Second, Reward It Third: A New Strategy for America's Highways." Discussion Paper 2011-03, February. The Hamilton Project, Brookings Institution, Washington, DC.

National Surface Transportation Infrastructure Financing Commission. 2009. "Paying Our Way: A New Framework for Transportation Finance." February. http://financecommission.dot.gov/Documents/NSTIF_Commission_Final_Report_Advance%20Copy_Feb09.pdf

National Surface Transportation Policy and Revenue Study Commission. 2007. "Transportation for Tomorrow: Report of the National Surface Transportation Policy and Revenue Study Commission." December.

Parry, Ian W. H. 2008. "Pricing Urban Congestion." Discussion Paper 08-35, November. Resources for the Future, Washington, DC. http://www.rff.org/rff/Documents/RFF-DP-08-35.pdf

Schrank, David, Bill Eisele, and Tim Lomax. 2012. "Urban Mobility Report." Texas A&M Transportation Institute. December. http://d2dtl5nnlpfr0r.cloudfront.net/tti.tamu.edu/documents/mobility-report-2012.pdf

Small, Kenneth A., Clifford Winston, and Jia Yan. 2005. "Uncovering the Distribution of Motorists' Preferences for Travel Time and Reliability." *Econometrica* 73 (4): 1367–1382.

Tax Foundation. 2009. "2009 Survey of U.S. Attitudes on Taxes, Government Spending and Wealth Distribution." April. Author, Washington, DC.

Trimel, Suzanne. 1996. "Economist William Vickrey Wins 1996 Nobel Peace Prize." October. Columbia University Record, Columbia University, New York. http://www.columbia.edu/cu/record/archives/vol22/vol22_iss6/record2206.13.html

U.S. Department of Transportation. 2008a. "2008 Status of the Nation's Highways, Bridges, and Transit: Conditions & Performance." Federal Highway Administration, Washington, DC. http://www.fhwa.dot.gov/policy/2008cpr/

———. 2008b. "Examining the Speed-Flow-Delay Paradox in the Washington, DC Region: Potential Impacts of Reduced Traffic on Congestion Delay and Potential for Reductions in Discretionary Travel during Peak Periods." Federal Highway Administration, Washington, DC. December. http://ops.fhwa.dot.gov/publications/fhwahop09017/index.htm

———. 2010. "2010 Conditions and Performance Report." Federal Highway Administration, Washington, DC. http://www.fhwa.dot.gov/policy/2010cpr/

Proposal 10

Aaron, Henry J. 1991. *Serious and Unstable Condition*. Washington, DC: Brookings.

Albi, Emilio, and Jorge Martinez-Vazquez. 2011. *The Elgar Guide to Tax Systems*. Northampton, MA: Edward Elgar.

Altig, David, Alan J. Auerbach, Laurence J. Kotlikoff, Kent A. Smetters, and Jan Walliser. 2001. "Simulating Fundamental Tax Reform in the United States." *American Economic Review* (June): 574–595.

Auerbach, Alan J. 1996. "Tax Reform, Capital Allocation, Efficiency, and Growth." In *Economic Effects of Fundamental Tax Reform*, edited by Henry J. Aaron and William G. Gale, 321–354. Washington, DC: Brookings Institution Press.

Bartlett, Bruce. 2010a. "The Case Against the VAT." *Capital Gains and Games* (blog). April 23. http://www.capitalgainsandgames.com/blog/bruce-bartlett/1679/case-against-vat

———. 2010b. "The VAT and the Money-Machine Argument." Capital Gains and Games (blog). April 10. http://www.capitalgainsandgames.com/blog/bruce-bartlett/1639/vat-and-money-machine-argument

Bickley, James M. 2006. "Value-Added Tax: A New U.S. Revenue Source?" CRS Report for Congress Order Code RL33619. August 22. Congressional Research Service, Washington, DC. http://www.policyarchive.org/handle/10207/bitstreams/2962.pdf

Bird, Richard M., and Pierre-Pascal Gendron. 2009. "Sales Taxes in Canada: The GST-HST-QST-RST 'System.'" May 29. http://www.americantaxpolicyinstitute.org/pdf/VAT/Bird-Gendron.pdf

Burman, Leonard E. 2009. "A Blueprint for Tax Reform and Health Reform." *Virginia Tax Review* 28: 287–323.

Burman, Leonard E., Jane G. Gravelle, and Jeffrey Rohaly. 2005. "Towards a More Consistent Distributional Analysis." Prepared for National Tax Association 98th Annual Conference on Taxation, Miami, FL. November 17–19.

Caspersen, Erik, and Gilbert Metcalf. 1994. "Is a Value-Added Tax Regressive ? Annual versus Lifetime Incidence Measures." *National Tax Journal* 47 (4): 731–746.

Chetty, Raj, Adam Looney, and Kory Kroft. 2009. "Salience and Taxation: Theory and Evidence." *American Economic Review* 99 (4, September): 1145–1177.

Cnossen, Sijbren. 2009. "A VAT Primer for Lawyers, Economists, and Accountants." *Tax Notes* 124 (7): 687–698. August 17.

Congressional Budget Office (CBO). 1992. "Effects of Adopting a Value-Added Tax." February. Author, Washington, DC.

Duncan, Harley, and Jon Sedon. 2010. "Coordinating a Federal VAT with State and Local Sales Taxes." *Tax Notes* (May 31): 1029–1038.

Durner, Leah, and Bobby Bui. 2010. "Comparing Value Added and Retail Sales Taxes." *Tax Notes* (February 22): 983–987.

Ebrill, Liam, Michael Keen, Jean Paul Bodin, and Victoria Summers. 2001. *The Modern VAT*. Washington, DC: International Monetary Fund.

Finkelstein, Amy. 2009. "EZ-Tax: Tax Salience and Tax Rates." *Quarterly Journal of Economics* 124 (3): 969–1010.

Fullerton, Don, and Diane Lim Rogers. 1996. "Lifetime Effects of Fundamental Tax Reform." In *Economic Effects of Fundamental Tax Reform*, edited by Henry J. Aaron and William G. Gale, 321–354. Washington, DC: Brookings Institution Press.

Gale, William G. 2005. "The National Retail Sales Tax: What Would the Rate Have To Be?" *Tax Notes*, Tax Break (May 16): 889–911.

Government Accountability Office (GAO). 2011. "Value-Added Taxes: Potential Lessons for the United States from Other Countries' Experiences." GAO-11-867T. July. Government Accountability Office. Washington, DC.

Hubbard, R. Glenn, and William M. Gentry. 1997. "Distributional Implications of Introducing a Broad-Based Consumption Tax." In *Tax Policy and the Economy*, vol. 11, edited by J. M. Poterba. Cambridge, MA: MIT Press.

Johnson, Richard W., Leonard E. Burman, and Deborah J. Kobes. 2004. "Annuitized Wealth at Older Ages: Evidence from the Health and Retirement Survey." Urban Institute, Washington, DC.

Keen, Michael, and Ben Lockwood. 2007. "The Value-Added Tax: Its Causes and Consequences." IMF Working Paper WP/07/183. International Monetary Fund, Washington, DC.

Mazerov, Michael. 2009. "Expanding Sales Taxation of Services: Options and Issues." Center on Budget and Policy Priorities Publication, Washington, DC. July. http://www.cbpp.org/files/8-10-09sfp.pdf

McLure, Charles E. Jr. 2002. "The Nuttiness of State and Local Taxes and the Nuttiness of the Response Thereto." *State Tax Notes* 25 (12): 841–856.

Metcalf, Gilbert E. 1994. "Lifecycle vs. Annual Perspectives on the Incidence of a Value Added Tax." *Tax Policy and the Economy* 8: 45–64.

Mulligan, Casey B., Ricard Gil, and Xavier X. Sala-i-Martin. 2010. "Social Security and Democracy," *B.E. Journal of Economic Analysis and Policy* 10 (1, Contributions, Article 18).

OECD. 2012. "Value Added Taxes Yield, Rates and Structure." In *Consumption Tax Trends 2012: VAT/GST and Excise Rates, Trends and Administration Issues*. OECD Publishing. doi: 10.1787/ctt-2012-en

PriceWaterhouseCoopers. 2006. "Retail Sales Tax Compliance Costs: A National Estimate, vol. 1 Main Report." Prepared for Joint Cost of Collection Study. April 7. http://www.bacssuta.org/Cost%20of%20Collection%20Study%20-%20SSTP.pdf

Sullivan, Martin A. 2010. "VAT Lessons from Canada." *Tax Notes*, News and Analysis. May 3.

Tait, Alan A., ed. 1991. "Value-Added Tax: Administrative and Policy Issues." October. International Monetary Fund, Washington, DC.

Toder, Eric, Jim Nunns, and Joseph Rosenberg. 2011. "Methodology for Distributing a VAT." April. Pew Charitable Trusts, Washington, DC. http://www.pewstates.org/uploadedFiles/PCS_Assets/2011/Methodology-Distributing-VAT-April-2011.pdf

Toder, Eric, and Joseph Rosenberg. 2010. "Effects of Imposing a Value-Added Tax to Replace Payroll Taxes or Corporate Taxes." Tax Policy Center Publication. April 7. http://www.taxpolicycenter.org/publications/url.cfm?ID=412062

U.S. Census Bureau. 2010. "Tax Revenues See Some Gains; Sales and Income Down." *Quarterly Summary of State and Local Government Tax Revenue*. March 30. Author, Washington, DC.

Proposal 11

British Columbia Ministry of Finance. n.d. "How the Carbon Tax Works." http://www.fin.gov.bc.ca/tbs/tp/climate/A4.htm

California Environmental Protection Agency (n.d.). "California Air Resources Board Quarterly Auction 1." http://www.arb.ca.gov/cc/capandtrade/auction/november_2012/auction1_results_2012q4nov.pdf

Committee on Economic and Environmental Impacts of Increasing Biofuels Production, National Research Council. 2011. "Summary." Renewable Fuel Standard: Potential Economic and Environmental Effects of U.S. Biofuel Policy. The National Academies Press, Washington, DC. http://dels.nas.edu/resources/static-assets/materials-based-on-reports/reports-in-brief/Renewable-Fuel-Standard-Final.pdf

Congressional Budget Office (CBO). 2012a. "Effects of Federal Tax Credits for the Purchase of Electric Vehicles." September 20. http://www.cbo.gov/publication/43576

———. 2012b. "Federal Financial Support for the Development and Production of Fuels and Energy Technologies." Issue brief. March. http://www.cbo.gov/sites/default/files/cbofiles/attachments/03-06-FuelsandEnergy_Brief.pdf

Congressional Research Service (CRS). 2012a. "Carbon Tax: Deficit Reduction and Other Considerations." R42731. September 17. By Jonathan L. Ramseur, Jane A. Leggett, and Molly F. Sherlock.

———. 2012b. "The Navy Biofuel Initiative under the Defense Production Act." R42568. June 22. By Anthony Andrews, Kelsi Bracmort, Jared T. Brown, and Daniel H. Else. http://www.fas.org/sgp/crs/natsec/R42568.pdf.

Dinan, Terry, and Diane Lim Rogers. 2002. "Distributional Effects of Carbon Allowance Trading: How Government Decisions Determine Winners and Losers." *National Tax Journal* 55 (2): 199–221.

Fischer, Carolyn, and Alan K. Fox. 2009/2011. "Comparing Policies to Combat Emissions Leakage: Border Tax Adjustments versus Rebates." RFF Discussion Paper 09-02-REV. Originally published February 2009, revised March 2011. Resources for the Future, Washington, DC. http://www.rff.org/rff/documents/rff-dp-09-02-rev.pdf

Gayer, Ted, and W. Kip Viscusi. 2012. "Overriding Consumer Preferences with Energy Regulations." Working paper. http://mercatus.org/sites/default/files/Overriding-Consumer-Preferences-with-Energy-Regulations-Final.pdf. Also forthcoming in *Journal of Regulatory Economics*.

Interagency Working Group on Social Cost of Carbon. 2010. "Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866." February. http://www.epa.gov/oms/climate/regulations/scc-tsd.pdf

Joint Committee on Taxation (JCT). 2012. "Estimates of Federal Tax Expenditures for Fiscal Years 2011–2015." JCS-1-12. January 17.

———. 2013. "Estimated Revenue Effects of the Revenue Provisions Contained in an Amendment in the Nature of a Substitute to H.R. 8, The 'American Taxpayer Relief Act Of 2012,' As Passed by the Senate on January 1, 2013." JCX-1-13. January 3. https://www.jct.gov/publications.html?func=startdown&id=4497

Marron, Donald, and Eric Toder. 2013. "Carbon Taxes and Corporate Tax Reform." February 11. Urban–Brookings Tax Policy Center, Washington, DC. http://www.taxpolicycenter.org/UploadedPDF/412744-Carbon-Taxes-and-Corporate-Tax-Reform.pdf

Mathur, Aparna, and Adele C. Morris. 2012. "Distributional Effects of a Carbon Tax in Broader U.S. Fiscal Reform." December 14. The Brookings Institution, Washington, DC. http://www.brookings.edu/research/papers/2012/12/14-carbon-tax-fiscal-reform-morris

McKibbin, W., A. Morris, and P. Wilcoxen. 2012. "The Potential Role of a Carbon Tax in U.S. Fiscal Reform." July 24. The Brookings Institution, Washington, DC. http://www.brookings.edu/research/papers/2012/07/carbon-tax-mckibbin-morris-wilcoxen

Metcalf, Gilbert, and David Weisbach. 2009. "The Design of a Carbon Tax." *Harvard Environmental Law Review* 33 (2): 499–556.

Morris, Adele C., Warwick J. McKibbin, and Peter J. Wicoxen. 2011. "A Climate Diplomacy Proposal: Carbon Pricing Consultations." February 8. The Brookings Institution, Washington, DC. http://www.brookings.edu/research/papers/2013/02/08-climate-diplomacy-carbon-pricing-morris-mckibbin-wilcoxen

Morris, Adele, Pietro Nivola, and Charles Schultze. 2012. "Clean Energy: Revisiting the Challenges of Industrial Policy." *Energy Economics* 34 (Suppl. 1, November).

National Academy of Sciences. 2012. "Advancing the Science of Climate Change." http://nas-sites.org/americasclimatechoices/sample-page/panel-reports/87-2/

Rausch, Sebastian, and John Reilly. 2012. "Carbon Tax Revenue and the Budget Deficit: A Win-Win-Win Solution?" MIT Joint Program on the Science and Policy of Global Change, Report No. 228. August. Massachusetts Institute of Technology, Cambridge, MA.

Regional Greenhouse Gas Initiative. (2012). "Auction 18 Clearing Price for CO_2 Allowances." December 5. http://www.rggi.org/market/co2_auctions/results/Auction-18

Rosenbaum, Dorothy, Chad Stone, and Hannah Shaw. 2010. "How Low-Income Consumers Would Fare in the Kerry Lieberman Climate Change Bill." May 24. Center on Budget and Policy Priorities, Washington, DC.

Statistica. 2013. "Corporate Income Tax Revenues and Forecast 2000–2022." http://www.statista.com/statistics/217509/revenues-from-corporate-income-tax-and-forecast-in-the-us/

U.S. Environmental Protection Agency (EPA). 2009. "EPA Analysis of the American Clean Energy and Security Act of 2009: H.R. 2454 in the 111th Congress." June 23. http://www.epa.gov/climatechange/Downloads/EPAactivities/HR2454_Analysis.pdf

Proposal 12

Jasso, Guillermina. 2008. "Immigration and STEM Talent in the United States: Estimating the Size of the Pre-LPR Population." Presented at Population Association of American Annual Meetings. September. http://paa2009.princeton.edu/papers/91814

Microsoft. 2012. "A National Talent Strategy." http://www.microsoft.com/en-us/news/download/presskits/citizenship/MSNTS.pdf

Mukhopadhyay, Sankar, and David Oxborrow. 2012. "The Value of an Employment-Based Green Card." *Demography* 49: 219–237.

Orrenius, Pia M., and Madeline Zavodny. 2010. *Beside the Golden Door: U.S. Immigration Reform in a New Era of Globalization*. Washington, DC: American Enterprise Institute Press.

Passel, Jeffrey, and D'Vera Cohn. 2012. "Unauthorized Immigrants: 11.1 Million in 2011." Pew Hispanic Center, Washington, DC. http://www.pewhispanic.org/2012/12/06/unauthorized-immigrants-11-1-million-in-2011/

Peri, Giovanni. 2012. "Rationalizing U.S. Immigration Policy: Reforms for Simplicity, Fairness, and Economic Growth." Discussion Paper 2012-01. The Hamilton Project, Brookings Institution, Washington, DC. http://www.brookings.edu/~/media/research/files/papers/2012/5/15%20immigration%20peri/05_immigration_peri_paper

U.S. Department of State. n.d. "Nonimmigrant Visa Statistics." http://travel.state.gov/visa/statistics/nivstats/nivstats_4582.html

Proposal 13

Congressional Budget Office (CBO). 2012. "Fair-Value Accounting for Federal Credit Programs." Issue brief. March.

Damodaran, Aswath. 2013. "PE Ratio by Sector." http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/pedata.html

Federal Housing Finance Agency (FHFA). 2012a. "Building a Building a New Infrastructure for the Secondary Mortgage Market." Paper released for industry comment. October 4. http://www.fhfa.gov/webfiles/24572/FHFASecuritizationWhitePaper100412FINAL.pdf

———. 2012b. "Fannie Mae and Freddie Mac Single-Family Guarantee Fees in 2010 and 2011." August. http://www.fhfa.gov/webfiles/24258/gfeestudy_2011_83112.pdf

———. 2012c. "FHFA Announces Increase in Guarantee Fees." Press release. August 31. http://www.fhfa.gov/webfiles/24259/Gfee083112.pdf

———. 2012d. "Preparing a Foundation for a More Efficient and Effective Housing Finance System: Strategic Plan Federal Housing Finance Agency Fiscal Years 2013–2017." October 9. http://www.fhfa.gov/webfiles/24576/FinalFHFAStrategicPlan10912F.pdf

———. 2012e. "Data as of December 18, 2012 on Treasury and Federal Reserve Purchase Programs for GSE and Mortgage-Related Securities." December 18. http://www.fhfa.gov/webfiles/24847/TSYSupport%202012-12-18.pdf

Swagel, Phillip. 2012. "The Future of Housing Finance Reform." *The B.E. Journal of Macroeconomics* 12 (3, art. 11).

U.S. Department of the Treasury and the U.S. Department of Housing and Urban Development (Treasury–HUD). 2011. "Reforming America's Housing Finance Market: A Report to Congress." February. http://www.treasury.gov/initiatives/documents/reforming%20america's%20housing%20finance%20market.pdf

Wall Street Journal. 2012. "Housing Finance Reform—Restructuring the Government's Role." Preliminary draft. October 17. http://online.wsj.com/public/resources/documents/housing_finance.pdf

Zandi, Mark, and Cris deRitis. 2011. "The Future of the Mortgage Finance System." Moody's Analytics special report. February. http://www.economy.com/mark-zandi/documents/mortgage-finance-reform-020711.pdf

THE HAMILTON PROJECT

ADVISORY COUNCIL

Section 1. An Enduring Social Safety Net

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