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What If the National Debt Were Eliminated? Some Economic Consequences

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Summary

The public finance choices of the federal government over the past decade suggest that a major change in fiscal regimes has occurred. The large federal budget deficits of the 1980s and early 1990s have been replaced by budget surpluses beginning in 1998. These surpluses have made it possible to reduce the national debt absolutely for the first time in over 30 years. The publicly held debt has fallen from a peak of $3.773 trillion in FY1997 to $3.410 trillion in FY2000. Projections made by both CBO (Congressional Budget Office) and OMB (Office of Management and Budget) are for continued surpluses over the next decade of such a magnitude that the publicly held national debt could be extinguished by 2006.

Surpluses on such a scale, if used to reduce the federal debt, would entail a number of consequences. First, the surpluses would increase the national saving rate. This should lower real interest rates, increase the capital stock, and over time lead to a higher potential standard of living. Second, the surpluses would lower future federal interest payments, freeing up future government revenues. Third, the surpluses could improve the current account of the international balance of payments, which would bolster the Treasury's strong dollar policy. Fourth, the surpluses would represent an intergenerational shift in real income from present generations to future generations.

If the publicly held debt were eliminated entirely, it could have ramifications for the US financial system because of the role that federal government securities play as a benchmark asset for our financial system. First, federal bonds play an important role in determining the interest rates of other assets and in forecasting and determining financial conditions. Thus, financial markets may work less efficiently if the national debt were eliminated. Second, since many investors have personal or institutional reasons for choosing to hold US government securities, if the debt were eliminated some investors could be forced to hold less desirable assets. Third, at present the Federal Reserve conducts monetary policy by buying and selling government securities. The conduct of monetary policy could be vastly altered if the national debt were eliminated, although the Federal Reserve believes that this should not be a serious problem.

How important these consequences are depends in part on the feasibility of developing an effective alternative benchmark asset. This paper will be updated as events warrant.

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Introduction

At the end of 2000, the national debt held by the public stood at $3.4 trillion, or about 35% of gross domestic product (GDP).[1] The publicly held debt decreased as a percentage of GDP from the end of World War II through most of the 1970s. As a percentage of GDP, it remained in the 20% range for much of the 1970s, when it began rising in the face of large and sustained budget deficits in the 1980s and early 1990s. In 1993, the debt peaked at 49.5% of GDP. In FY1998, the federal government began to run budget surpluses. Figure 1 shows budget deficits and the national debt as a percentage of GDP over the years 1960-1999 while Table 1 shows projected surpluses and national debt as a percentage of GDP extending out to FY2010. These projections are from the Congressional Budget Office (CBO).[2] CBO has made several sets of budget projections based on different assumptions about future spending patterns. The projections presented in Table 1 are based on the assumption that all discretionary spending will increase only at the rate of inflation and the benefit structure of entitlements will remain unchanged.

The initial improvement in fiscal balance in the early 1990s is mostly attributable to the fact that while overall tax revenues increased, government spending was cut as a percentage of GDP.[3] The movement in the budget from deficit to surplus in the late 1990s occurred without a further change in fiscal stance primarily because economic growth was consistently stronger than expected, which automatically increased tax revenues (since there is more taxable income) and decreased some government expenditures (e.g., unemployment benefits) without any change in government policy. In addition, tax realizations were greater than expected, even after accounting for the automatic stabilizer effect. Tax revenues consistently grew more rapidly than the economy.

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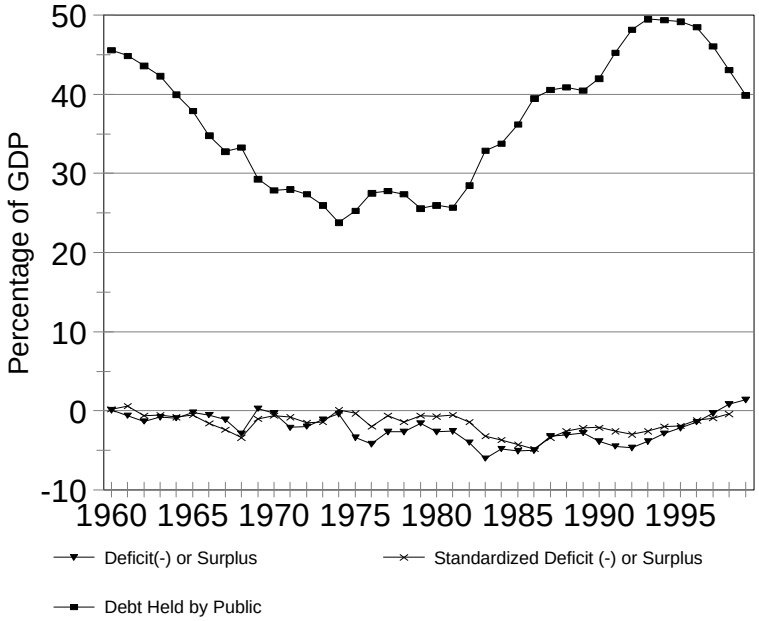
[1]When this paper refers to "national debt," it is meant in the popular sense of "federal debt." Technically, "national debt" also includes the debt of states and municipalities. The federal national debt stands at approximately $5.6 trillion. Of this sum over $2 trillion is held within federal accounts, mainly the Social Security trust fund. The discussion in this paper unless otherwise specified concerns only that portion of the debt that is held by the public.

[2]Unless otherwise noted, all of the information from the CBO referred to in this report can be found in the publication *The Budget and Economic Outlook: Fiscal Years 2001-2010*, (Washington: January 2001).

[3]Notably in the Budget Enforcement Act of 1990, the Omnibus Budget Reconciliation Act of 1993, and spending caps enacted throughout the 1990s. Real government spending increased in absolute terms, however, throughout the 1990s.

Figure 1. Historical Budget Deficits and Debt (as a percentage of GDP)



Source: CBO, *Budget and Economic Outlook*

Table 1. Projected Budget Surpluses and Debt
(By Fiscal Year, in Billions of Dollars)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
On-Budget Surplus	125	142	171	196	212	267	316	359	417	484	558
Off-Budget Surplus	156	171	188	201	221	238	257	276	294	312	331
Total Surplus	281	313	359	397	433	505	573	635	710	796	889
As a % of GDP	2.7	2.9	3.1	3.3	3.4	3.8	4.1	4.3	4.6	4.9	5.3
Publicly Held Debt	3148	2848	2509	2131	1714	1251	1128	1039	939	878	818
As a % of GDP	30.5	26.2	21.9	17.7	13.5	9.4	8.1	7.1	6.1	5.5	4.8
Net Indebtedness	3148	2848	2509	2131	1714	1223	662	36	-669	-1460	-2346

Source: CBO, *Budget and Economic Outlook*, (Washington: June 2000)
Note: Net Indebtedness is the difference between outstanding publicly-held debt and "uncommitted funds." The latter represent the projected government accumulation of private assets caused by the fact that surpluses are expected to be larger than the publicly held debt available for redemption.

Budget Surpluses and Debt Retirement

The retirement of the federal debt depends on the federal government continuing to run a budget surplus. The actual measurement of the federal surplus is a little complicated, and it is useful to review it in order to understand how debt retirement would occur.

As shown on Table 1, the projected surplus comes from both the on-budget and off-budget accounts. When people refer to the "surplus," typically they refer to the sum of the two. The off-budget accounts are associated with the Social Security trust

fund and the Postal Service trust fund.[4] The reduction in the publicly held debt that took place in FY1998 was made possible by an off-budget surplus that was in excess of the on-budget deficit.[5] Beginning in FY1999, this was no longer the case. Both the on-budget and off-budget accounts yielded surpluses – and are forecast to continue yielding surpluses through at least 2010 – available to reduce the publicly held debt.[6] In its January 2001 estimates, the CBO estimates that the on-budget surplus for FY2001 will be $125 billion while the off-budget surplus will be $156 billion under current policy. Since the Social Security Amendments of 1983 (P.L. 98-21)**,** the off-budget accounts have continually run surpluses. Before 1999, these surpluses were borrowed from the trust funds to finance current unrelated spending. In return, the Treasury issued the trust funds non-marketable federal debt. In essence, a debt obligation owed from one part of the government to another is an accounting maneuver that has no real effect on the economy. Now that the on-budget accounts are in surplus, the procedure will not change: the Treasury will continue to borrow the off-budget surplus and issue federal debt to the trust funds in its place. However, instead of using the off-budget surplus for current spending, it will use both the off-budget and on-budget surplus that remain after this year's congressional decisions to retire the publicly held debt. As will be shown below, when considering the impact of debt on the economy, publicly held debt is the relevant measure.[7]

CBO projects that the federal government will continue to run budget surpluses in the near future. In the baseline scenario, the entire publicly held federal debt could be effectively retired by 2006.[8] Although Table 1 projects that there will still be a positive amount of debt held by the public after 2006, in practice, the debt will be considered completely retired because some investors will be unwilling to sell the outstanding debt that they hold back to the Treasury. From 2006 onwards, CBO simply assumes that any surpluses that are "uncommitted funds" (because they cannot

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[4]The size of the Postal Service surplus or deficit is dwarfed by Social Security when forecasting the off budget surpluses. There are other trust funds such as the Medicare trust fund that function in exactly the same way as the Social Security and Postal Service trust fund, but are on budget instead of off budget.

[5]More precisely, the cash income surplus of the trust funds was greater than the on-budget deficit. The total income of the trust funds comes from two sources: the cash income yielded by revenue from sources such as taxes and the accrued income from the interest on the portfolio of federal debt securities held by the trust funds as assets. The accrued interest on these securities is not, however, paid to the trust fund in cash by the Treasury. Rather, the Treasury pays the accrued interest by issuing the trust funds additional US Treasury bonds. Thus, only the cash portion of the off-budget surplus is available to reduce the publicly held debt.

[6]For a discussion of how publicly held debt is retired, see U.S. Library of Congress, Congressional Research Service, *Paying down the federal debt: a discussion of methods*, by James M. Bickley, CRS report RS20302 (Washington: July 11, 2000).

[7]For a more comprehensive discussion of the composition of the federal debt, see U.S. Library of Congress, Congressional Research Service, *Surpluses and Federal Debt*, by Philip D. Winters, CRS Report RS 20065.

[8]Very similar projections are made for the executive by the Office of Management and Budget (OMB). Its budget projections reach conclusions similar to CBO. For example see OMB publication *Mid-Session Review* (Washington: January 2001).

be used to retire the national debt) will be invested in private assets that have a rate of return equivalent to the yield on U.S. Treasuries.

The baseline that produces these estimates is not meant to be a best guess of future policy outcomes. It does not account for any of the spending increases or tax cuts that have been proposed by the President or Congress which would reduce the surplus. Rather, it follows fairly mechanical rules about extending existing policy into the future and generates results using assumptions about future economic conditions and their interaction with existing policies. An important assumption it makes is that discretionary spending increases only at the rate of inflation, implying it will decrease on a per-capita basis or as a percentage of real income. Changing some of these assumptions in reasonable ways can greatly alter the size of the projected surpluses. For example, CBO projects that if growth were about 0.5 percentage points in the long run, the on-budget portion of the budget would move back into deficit by 2004.[9]

Although the publicly held debt under these projections could be effectively eliminated in 2006, there will be new budgetary pressures in the future that could result in new debt being accrued. It is estimated that benefits paid will exceed the revenues of both the Social Security and Medicare programs beginning in 2016.[10] These deficits are attributable to the retirement of the "baby boomers" and are forecast to continue for several decades. There will be no publicly held national debt after 2016 only if the national government has sufficient tax revenue to cover the Treasuries that Medicare and Social Security redeem from the trust funds without generating new borrowing.[11] CBO estimates that even if all surpluses are saved before 2030, around that date the budget will move back into deficit. After selling the private assets that the government acquired using its previous surpluses, the government will need to issue public debt again. By 2060, the public debt will exceed 200% of GDP, a level that has proven historically to be unsustainable. If some of the projected surpluses are spent, these dates are forecast to come much sooner.[12]

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[9] See U.S. Library of Congress, Congressional Research Service, *Projecting the Surpluses: A Discussion of Issues*, CRS report RL30901.

[10]Currently, the trust funds accrue interest on their portfolios of federal debt equal to the average interest rate the government pays on the publicly held portion of the national debt. Interestingly, should there be no public debt, the government will no longer know what rate of return to provide on the bonds it issues to the trust funds. Presumably, the government will alter the law to either have the return equal the return on alternative benchmarks, or it will simply fix the return, which would not harm market equilibrium since the trust funds have no direct effect on real financial markets.

[11]U.S. Dept. of Treasury, *A Summary of the 2001 Annual Reports*, Social Security and Medicare Board of Trustees (Washington: March 2001).

[12]CBO, *Long Term Budget Outlook*, October, 2000.

Some Consequences of Debt Reduction

Debt Reduction May Increase the Rate of Capital Formation and the Productivity Growth Rate of the Economy

Why might it be in the public interest to reduce the national debt? After all, government resources are scarce, and to use budget surpluses to pay off the national debt means that those resources cannot be used for either higher spending or lower taxes. In the current context of full employment, reducing the national debt has the beneficial effect of increasing the productive capacity of the country, which would lead to a higher economic standard of living in the long run.[13] It is easiest to understand this by envisioning the "loan" market[14] as determined by supply and demand like the market for any other good.[15]

American borrowers (the demand side of the market) have two sources of funds to acquire loans: the current saving of American households and businesses and the saving of foreigners who are willing to invest in American "loans" (the supply side of the market). When the government runs surpluses and uses them to reduce the publicly held debt, it adds a third source to the pool of saving, thus pushing up the supply of funds available for "loans" and lowering real interest rates (which are loosely analogous to the price of "loans").[16] Thus, budget surpluses are expected to lower the real interest rate. As real interest rates fall, private investments that would have been unprofitable at a higher rate of interest now become profitable, and more private investments are made. Economists refer to this process as budget surpluses "crowding in" private investment.[17] Since private investment adds to our nation's productive potential, potential GDP rises (assuming that the private investment has

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[13]However, in a recession many economists would favor a budget deficit because it may stimulate demand and shorten the recession.

[14]In this context loans are referred to in the broadest sense of the term, meaning any investment a company might make whether it be issuing stocks, floating bonds, borrowing from a bank, or otherwise raising funds for capital.

[15]While the Federal Reserve controls nominal, short-term interest rates through monetary policy, economic theory holds that real, long-term interest rates are determined through supply and demand in the capital market. Thus, if the Federal Reserve chooses a nominal interest rate inconsistent with market equilibrium, markets will adjust (possibly painfully) in the long run through the price level to return to the real equilibrium level.

[16]Some economists believe that, on the contrary, a change in the government deficit will be offset by a corresponding change in private saving, leading to no effect on aggregate saving. If this were true, reducing the debt would not have the beneficial effects on the economy in following discussion. This theory is called Ricardian Equivalence.

[17]If the government used the surpluses to buy private assets directly, it would be easier to see how surpluses increase national saving and investment. Instead, it uses the surpluses to pay down the national debt, which has the same result for national saving and investment. With a balanced budget, some of the national debt comes due and gets rolled over every day. When the government runs a surplus, it rolls over less national debt. Thus, private savers who would have bought the rolled-over government debt in the absence of the surplus instead redirect their saving towards private investment, increasing overall investment.

a higher rate of return than the government's use of the resources). Thus, reducing the government debt does not just affect businesses by making their loans less costly. It should yield broader benefits of economic growth and a rising standard of living.

Debt Reduction May Reduce the Current Account Deficit

Reducing the national debt could also positively affect the current account deficit in the US international balance of payments. While the current account deficit measures the difference between the value of imports and exports, it also measures the difference between foreign capital inflows and domestic capital outflows. For 2000, the current account deficit exceeded 4% of GDP, a historical high.[18]

If capital were completely mobile internationally, theory suggests that debt reduction would increase national saving, but would not increase national investment because it would not affect interest rates. That is because interest rates would be determined by worldwide saving and investment, rather than national saving and investment. Any difference between national saving and investment would be made up for by net foreign investment (i.e., by running a current account deficit) such that national interest rates remain in equilibrium with world interest rates. If U.S. capital markets operated like this in reality, would increasing the budget surplus still increase the nation's long run economic welfare? It would. Although the nation's capital stock, and thus the long-run size of the economy, would be unaffected by budget surpluses that increase national saving, the ownership of the nation's capital stock would be American instead of foreign. Thus, the returns on that capital would accrue Americans, augmenting American income rather than foreign income.

In reality, capital markets are somewhere in between the example of the last section (no international capital mobility) and this section (perfect capital mobility.) Thus, the additional national saving generated by the budget surplus would be expected to both increase U.S. capital investment and replace the foreign ownership of some U.S. capital with U.S. ownership. A reduction in the federal debt would free up savings and cause interest rates to fall, making US assets less attractive to foreign investors and foreign assets more attractive to US investors, all else held constant.[19]

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[18]Alternatively, some people believe that the current account deficit reflects the fact that U.S. exporters cannot compete with foreigners, perhaps because of unfair practices. But this explanation is inconsistent with the fact that the dollar has appreciated for much of the 1990s, whereas an explanation based on foreign investment is consistent with an appreciating dollar. For a more detailed explanation of the current account, see U.S. Library of Congress, Congressional Research Service, *America's growing current account deficit: its cause and what it means for the economy*, by Gail E. Makinen, CRS Report RL30534.

[19] Currently $1,037 billion, or about one-third of the publicly held national debt, is held by foreigners. Retiring the national debt held by foreigners would count as a capital outflow in the balance of payments. This sum can be divided into the $598 billion held by private foreign investors and the $439 billion held by foreign institutions such as central banks. Source: Table IFS-2, U.S. Treasury Dept., *U.S. Treasury Bulletin* (Washington: December 2000).

In other words, a smaller inflow of foreign capital is equivalent to a reduction in the current account deficit.[20]

Since the current account deficit is at a record high, some economists argue that a smaller current account deficit would pose less of a threat to the continuation of the current economic expansion. Treasury policy has been in favor of a strong dollar for several years. Many economists believe that the large current account deficit is the greatest threat to a strong dollar because it is reliant upon continued foreign investment.[21] Thus, reducing the national debt could incidentally support the strong dollar policy.

Debt Reduction Ameliorates Future Tax Requirements

From the federal government's perspective, reducing the federal debt is desirable because it frees up future tax revenues that would have otherwise been devoted to interest payments to bond holders. The savings from reduced interest payments are not insignificant – in 2000, the federal government spent $362 billion on interest payments, 12.5% of total outlays. By contrast, the government spent $617 billion on all discretionary spending. Interest payments are reduced for two reasons. First, reducing the debt mean that there are fewer bond payments to make. Second, if reducing the debt makes interest rates fall, interest payments on the remaining debt would eventually become lower. For example, the Treasury Department estimates that a permanent fall in the interest rate of just one one-hundredth of a percent would save the federal government $300 million annually in interest payments.[22] This saved tax revenue is assumed by CBO to be used towards further debt retirement, but could also be used for such purposes as new or increased spending[23] or tax reductions.

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[20]Atypically, in the current economic expansion, the current account deficit and the budget deficit have been moving in opposite directions. For a more detailed discussion, see U.S. Library of Congress, Congressional Research Service, *Why the Budget Deficit and the Trade Deficit Haven't Been Moving Together,* by Gail Makinen, CRS report 97-985E.

[21]A large current account deficit implies that at current relative prices, we demand more foreign products than foreigners demand American products. This implies that in the future the relative price of foreign goods could rise through a decrease in the value of the dollar.

[22] Yochi Dreazen and Gregory Zuckerman, "Treasury Announces Its Plans to Buy Back Debt of as much as $30 Billion, Above Expectations," *Wall Street Journal*, January 14, 2000, p.C19.

[23]Since interest payments are counted as a transfer, and transfers do not involve the use of current resources by government, if lower interest payments lead to higher government spending then the size of government as a percentage of GDP will grow without any change in the current fiscal stance. If one's goal is to keep the fraction of GDP consumed by the government stable, a case could be made that the appropriate response is to use the resources saved from lower interest payments to cut taxes. See U.S. Library of Congress, Congressional Research Service, *The Retirement of the National Debt: Will It Increase the Economic Size of the Federal Government?* by Marc Labonte and Gail Makinen, CRS report RS20656.

Debt Reduction May Alter the Generational Distribution of Fiscal Policy

Economists have become interested in recent years in the subject of generational accounting,[24] which compares the implicit burden of fiscal policy on different age groups. The concept behind generational accounting is to compare what each generation can expect to pay in taxes compared to what they can expect to receive in benefits. Primarily because of the long-term exhaustion of Social Security projected by the trust fund, projected growth in Medicare spending, and the national debt, the implicit future tax burden of the young is much greater than the old.

Because the "baby boom" has skewed the nation's population distribution, net benefits vary greatly from generation to generation. While the "baby boomers" have worked, from the late 1960s through the next couple of decades, the government has greatly expanded the benefits that it offers to the elderly. These benefits have been affordable because there have been so many more workers than retirees. But once the "baby boomers" begin to retire, the ratio of workers to retirees will plummet from 3.4 today to 1.9 in 2037.[25] If these government programs are to continue at their current level at that time – and many of the programs have mandatory spending levels – a greater lifetime tax burden is implied for today's young. One estimate is that to neutralize the imbalance of current policy, either discretionary spending would have to be cut by 19.6% or taxes would have to be increased 11.4% annually.[26] This is more of an equity issue than an economic issue,[27] and is thus a matter of ethical judgement whether or not this burden on the young is unfair.

But reducing the national debt alleviates this burden, although it is not large enough to eliminate the burden.[28] By accumulating a national debt, in effect today's taxpayers enjoy a higher standard of living – either through lower taxes or higher

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[24]A good non-technical introduction to the subject is Laurence Kotlikoff, *Generational Accounting*, Free Press, 1992.

[25]*A Summary of the 2000 Annual Reports, Op. Cit.*

[26] Jagadeesh Gokhale, *et al.*, "Generational Accounts for the United States: An Update," *The American Economic Review*, May 2000, p.293. The projections assume that the growth of government spending rises at the rate of population and productivity growth.

[27]Generational accounting is an economic issue in so far as to generate the necessary revenue to meet currently implied obligations, there must be a large increase in taxes, either now or in the future. If the tax increase were to begin now, then it would be a smaller tax spread over a longer period, and there would be less of a loss in economic welfare associated with it than if the tax increase were not levied until the Social Security and Medicare programs are theoretically exhausted. If the tax increase was postponed until the programs' exhaustion, then the loss of economic welfare would be much larger. On the other hand, if the imbalance were corrected by cutting benefits, there would be no aggregate economic effect (regardless of whether the benefit cut is postponed) because it would simply alter the composition of transfers.

[28]For a more detailed discussion, see U.S. Library of Congress, Congressional Research Service, *The National Debt: Who Bears Its Burden*, Gail Makinen, CRS report RL30520 (Washington: April 2000).

government services – than would have been available were there no budget deficits. The result of this higher standard of living today is a lower (potential) standard of living in the future, because the "crowding out" effect means that the future capital stock, and with it the future productive capacity of the economy, is smaller than it would have been had we never accumulated a national debt. In effect, we have transferred the consumption of future generations to the present generation. By reducing the national debt, we are redirecting that transfer from the present generation back to the future. Instead of using the surplus to consume now, we are paying off the debt, which will lead to a greater capital stock and productive capacity in the future and with it a higher standard of living.[29]

Other Interpretations

Obviously, some would argue that non-economic goals take precedence over the economic benefits of debt reduction. Economic theory cannot make judgements of this nature. But some economists disagree with the desirability of debt reduction as a means to promote economic growth. There are two (mutually exclusive) viewpoints about measures that could be pursued instead of debt reduction. Each of these approaches is said to lead to a higher productive capacity for the economy than the "crowding in" effect that debt reduction would accomplish according to its proponents.

The first alternative holds that the government should be viewed as a company: if the government can make "profitable" investments in areas such as education or infrastructure, then it is justified in borrowing money, just as would a company. By borrowing money, the cost of the investment is accrued over time, just as the benefit is accrued over time. These profitable investments would presumably increase the economy's productive capacity enough to offset the "crowding in" effect on private investment that would be lost if the debt were not reduced, leaving the economy better off on balance.[30]

The second view holds that low economic growth results not from a dearth of public investment, but rather from the burden of excessive government intervention. In this view, current tax rates place an enormous burden on businesses and create disincentives to work and save. If the surplus were used for tax reduction, they argue

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[29]The interest payments that will need to be made on the national debt held by US citizens are not considered to be a burden to future generations in the aggregate – they transfer wealth from tax payers to bond holders. On the other hand, the interest payments on the national debt held by foreigners, which is about one third of the total publicly held debt, is a burden to future generations because it will be a transfer of resources from the United States to abroad.

[30]This theory is consistent with the explanation described above if the return on government investment is higher than the return on private investment. Most economists reject the proposal to maintain the national debt because they reject this statement.

Some economists have theorized that there is a complementary effect of government investment. For example, the value of investment in infrastructure should not be judged by the return on the infrastructure itself, but also by the higher return that the private sector achieves because it enjoys the benefits of the improved infrastructure.

it would generate a large supply-side surge in economic growth because businesses would have more resources free for investment and workers would have incentives to produce more. These gains in efficiency from lowering taxes would presumably exceed the gains forgone from the "crowding in" that debt reduction would make possible, and the result would be a net rise in the standard of living.[31]

Some Consequences of Debt Elimination

While most economists view debt reduction favorably, an interesting problem is raised if the national debt were to be eliminated entirely. That problem is related to the unique and essential role that government bonds play in the functioning of the financial system. This section will explore the effects on the financial system if the debt were eliminated entirely and could no longer play this unique role. These issues are not relevant when considering reducing the debt from its current state. However, since the publicly held national debt could be effectively eliminated as early as 2006, these issues could become relevant in a few years.

The Role of US Treasuries as a Benchmark Asset

Economic theory suggests that the return on any asset can be divided into two components. Part of the return is equal to the rate that could be earned on a riskless investment, what economists refer to as a "safe asset." This rate will be positive because people will not forgo consumption today unless they are offered in return a greater amount of consumption tomorrow, which is what a positive rate of interest accomplishes. The other component of the rate of return is the risk premium. Some assets are riskier than others; in other words their market value is subject to greater fluctuations than the safe asset.[32] The more risky an asset is in relation to the safe asset, the greater the risk premium that must be paid to induce individuals to bear that risk. In the US financial system, Treasuries are viewed as safe assets, and therefore are referred to as benchmark assets. The reason that other assets, such as stock in Microsoft or a General Motors bond, have higher rates of return than a US government bond is because their returns are less certain.

The fact that Treasuries serve as benchmarks means that not only would individuals and institutions that held government bonds be adversely affected, all financial markets might become less efficient if the national debt were eliminated. Because government securities play the role of a benchmark asset, they send an important signal to financial markets of both the riskless rate of return and the risk premium of any individual asset. If the riskless asset no longer existed, investors could have a harder time properly pricing all financial assets, leading to greater

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[31]When the surpluses are used for debt reduction, they are entirely dedicated to increasing national saving. When they are used for tax cuts, a portion will be saved and a portion will be spent. Thus, it cannot be claimed that using the surpluses for tax cuts will result in higher saving than using them for debt reduction. Thus, using surpluses will only increase long-run growth if the labor supply effects exceed the dissaving effects.

[32]The riskiness is not solely default risk, but includes other risks such as volatility and liquidity, the latter of which is defined below.

uncertainty in financial markets. The interest rates on federal debt securities are also important in the forecasting of economic phenomena such as inflation, growth rates, and the effect of monetary policy. For example, the "yield curve" on Treasuries of different maturities has historically been a good predictor of recession.[33] These forecasts help both investors and institutions such as the Treasury and the Federal Reserve make decisions. Thus, financial markets could operate less efficiently overall if a riskless benchmark asset no longer existed, unless an effective alternative benchmark emerged (see the appendix.)

The 1998 financial crisis sparked by the Russian debt default illustrates the role that US Treasuries play in our financial markets. The reaction of many investors to the Russian default was a "flight to quality" where they sold riskier assets and bought US Treasuries (and other safer assets). Since risky assets were now viewed relatively less desirable than Treasuries, at the height of the "flight to quality" the risk premium increased from 0.74 percentage points to 1.28 percentage points.[34]

Effect on Household and Institutional Investors

The complete elimination of the federal debt could significantly change the investment decisions of many investors. For example, the US Savings Bond Program is a popular way for risk-averse savers of modest means to receive a safe and reliable return. The retirement of the national debt would imply the elimination of this program. With US Saving Bonds no longer available, households could be forced to place their limited savings in either riskier assets, or safe assets with lower returns. Before retiring the national debt, the government might wish to consider whether it wants to end the role it currently plays in encouraging and facilitating saving through the Savings Bond Program for families whose other investment options are limited. There are alternative saving vehicles available to individuals that are entirely safe, however, such as bank certificates of deposit or money market accounts.

Not only do many conservative investors prefer to hold federal debt, but it is also preferred by banks, pension funds, insurance companies, state and local governments, and any other institution that wishes to balance its portfolio with lower risk assets. For example, because banks have very small capital accounts, the risk of insolvency looms if the value of the assets that they hold suddenly shrinks. Government bonds reduce this risk and this is why they are an important part of a bank's portfolio of assets. If the customers of some of these institutions viewed them as less stable and dependable because of the elimination of the national debt, it could reduce their ability to function as efficient intermediaries between savers and investors. The foreign reserves of foreign central banks also include large holdings of U.S. Treasuries. These are used to intervene in foreign exchange markets and to increase the institutions' stability and credibility. Finally, a special issue of non-marketable Treasuries, popularly known as "slugs," are used by state and local governments to

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[33]See U.S. Library of Congress, Congressional Research Service, *The Pattern of Interest Rates in 2000: Does It Signal an Impending Downturn?*, by Gail Makinen, RS20705.

[34]The risk premium is between Treasuries and investment grade corporate securities. Data from Michael Fleming, "The Benchmark US Treasury Market...," *FRBNY Economic Policy Review*, p.132, April 2000

help manage their financing needs. The federal government requires state and local governments to temporarily hold funds they have received but not yet begun to spend in SLUGs to prevent arbitrage.

Since government bonds are so important in setting the rate of return of all assets, they are also often involved in derivative securities that allow companies to reduce their exposure to risks specific to their business operations and investment portfolios. For example, companies can offset exposure to changes in interest rates or in exchange rates by "swapping" income from assets that are risky under certain conditions for other assets that would be safe in those same conditions.[35] This process is often referred to as hedging, and if government bonds did not exist, hedging might become more difficult, implying that companies would face more risks.

The Federal Reserve's Execution of Monetary Policy

The Federal Reserve (Fed), in the pursuit of goals such as price stability and low unemployment, attempts to control the overall flow of money and credit to the economy. It does not attempt to allocate credit among industries and various sectors and regions of the economy. The major tool used by the Federal Reserve in the control of money and credit is open market operations. This involves the purchase and sale of US government securities.[36]

To minimize changes in the structure of relative market interest rates which could affect the allocation of credit, open market operations are almost exclusively confined to federal debt securities that have a short time until maturity. This sector of the market is broad, deep, and resilient, meaning that Fed purchases and sales will have their primary effect on the volume of credit, and have very little direct effect on *relative* interest rates that determine the allocation of credit.

The elimination of the national debt would eliminate this ideal market for the conduct of open market operations, and there is good reason to question whether any other asset could adequately take its place.[37] Since the markets for other financial assets are so much smaller in comparison, the sheer size of Federal Reserve activity could inadvertently distort the relative interest rates of some assets compared to others, affecting individual companies or sectors of the economy. As a result, open market operations could inadvertently allocate credit in the pursuit of a goal such as price stability.[38] Nonetheless, since other central banks have demonstrated that other

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[35]For a more detailed example, see Michael Fleming, *Op. Cit.*, p.130.

[36]The Federal Reserve has no control over the creation and redemption of federal bonds. When it purchases them, it does so on the market like any other investor. The Treasury Department controls the creation and redemption of federal bonds.

[37] See the appendix on alternative benchmarks.

[38]For its day to day open market operations, the Fed relies primarily on repurchase agreements, and does not buy and sell Treasuries directly. These repurchase agreements are collateralized by other assets, primarily Treasuries at present. Repurchase agreements could be collateralized with private assets after the retirement of the national debt. In that case, the

(continued...)

assets can be successfully used to conduct monetary policy, while this change could fundamentally alter the Fed's role politically, it may not be of great economic importance.[39] For example, a basket of commercial paper might minimize distortions in credit markets. But such a change could also lead to the Fed's portfolio being more volatile (and therefore more risky), and it could lead to the Fed's portfolio yielding a higher rate of return. Since the Fed's goal is not profit maximization, it may not find this trade-off to be desirable. For its part, the Fed does not believe this problem to be serious, as Federal Reserve Governor Laurence Meyer outlined in a recent speech:

> "The key point is that declining Treasury debt does not pose any insurmountable long-term problem for the Federal Reserve. There would, of course, be transitional issues as monetary policy operations adapted. But we [can ?] surely maintain the effectiveness of our monetary policy operations. So a decision about whether or not to hold on to the surpluses and ultimately retire the government debt should not be affected by any concern that this option might undermine the effectiveness of monetary policy."[40]

Since the behavior of the Treasury benchmark also plays an informational role for the Fed in conducting monetary policy, it would be hampered in its effectiveness by the absence of national debt. For example, by comparing returns on the series of inflation-indexed Treasury bonds to the returns on non-indexed Treasury bonds, analysts can gain valuable evidence of inflationary expectations.[41]

Role of Liquidity in the Treasuries Market

One unique characteristic of the federal bond market that makes it less risky than other markets is its high degree of liquidity, a term that refers to an asset being so prevalent that it can always be bought and sold easily and inexpensively. Thus, not only are Treasuries safer than other assets because the possibility of default is slighter, they are safer because investors know if they ever have to buy or sell quickly, they will not suffer a large loss in the transaction. Another characteristic of a highly liquid asset is very low transaction costs, which reinforces the ability to buy and sell quickly without a loss. This cannot be said with as much confidence of any other domestic asset. So while the issues posed above have been framed as problems that will

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[38](...continued)
effects on asset allocation, while still present, would be much less significant and direct using repurchase agreements than when private assets are bought and sold directly.

[39]The Federal Reserve Act already permits a broad range of short-term assets to be used in open market operations, but in practice the Federal Reserve has not used them for the reasons discussed above. See Section 14 of the Federal Reserve Act for a list of permissible assets.

[40]Remarks by Federal Reserve Governor Laurence H. Meyer Before the 16th Annual Policy Conference, National Association for Business Economics, February 23, 2000.

[41]For more detailed information, see Brian Sack, "Deriving Inflation Expectations from Nominal and Inflation-Indexed Treasury Yields," *Finance and Economics Discussion Series*, Federal Reserve Board of Governors, June 2000.

emerge if the publicly held debt is eliminated entirely, in reality these problems would emerge whenever the federal bond market became sufficiently thin that a high degree of liquidity could no longer be maintained.

Of course, there is no sharp distinction between liquid and illiquid, but a continuum of degrees of liquidity. It is difficult to estimate when the Treasuries market would become too thin to be useful as a benchmark asset.[42] Many Treasuries with long-term maturities have already suffered from illiquidity as their supply dwindles.[43] To promote liquidity in the remaining Treasuries, the Treasury has instituted a policy whereby it is now issuing bonds with a much narrower range of maturities. By eliminating Treasuries with odd maturities as quickly as possible, it hopes to maintain liquidity in the Treasuries with the most popular maturities for as long as possible.

Conclusion

As the debt has been reduced, the government has done a good job of maintaining liquidity in the Treasuries market so far. But before the national debt shrinks to the point where liquidity is lost, research is needed into the issue of how important national debt is as a benchmark asset to the efficient functioning of our financial system. If it is determined that the costs of losing the benchmark asset exceed the benefits of the full elimination of the national debt, then the federal government might wish to consider either maintaining the Treasuries Market at some adequate level or to ensure that an alternative smoothly takes it place, either through direct action or through indirect and regulatory encouragement.

Arguments in favor of further debt reduction include the beneficial "crowding in" effect on private capital, a decrease in future interest payments that the government must pay, a possible reduction in the current account deficit, and a more equitable generational balance in government fiscal policy. All of these effects mean that the elimination of the debt should place us in a better economic situation to deal with Social Security and Medicare demands when the "baby boom" generation retires. But maintaining the surpluses to realize these benefits does not imply that the debt must be eliminated. Alternatives that invest the surpluses in private assets, either through the government or through individual accounts, would increase national saving without reducing the debt. These alternatives may require different tradeoffs, however.

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[42] A look at Treasuries markets today will reveal how valuable liquidity is to investors. For example, there are two federal bonds issued at different times that have the same maturity date (Nov 2001). All other things being equal, the yield to maturity on these two bonds should be the same. Yet one issue was 13 times smaller than the other, and as a result the smaller issue is less liquid and the yield to maturity is 0.03% higher and the transaction fee is 26/32 of a dollar greater than on the larger issue. The bonds in question are priced on June 13, 2000 as reported by *The Wall Street Journal*, p.C19 and the US Treasury, *Public Debt Operations Report,* (Washington: June 2000).

[43] Gregory Zuckerman, "Pared Treasury Supply Poses Risks," *Wall Street Journal*, 1/27/00, p.C1.

There are also potential problems that the economy might face if the publicly held debt were eliminated entirely. These issues do not pose a near term problem, when we are reducing the debt from a relatively high base. The issues include the useful role that government debt serves as a benchmark asset for the financial system, the valuable role that government debt serves for individuals and institutions with conservative investing needs, and the role that government debt plays in the Federal Reserve's conduct of monetary policy. These issues suggest that the absence of a riskless asset would not merely mean an isolated inconvenience to certain investors, it would imply a decrease in financial market efficiency that could raise the volatility and costs of financial intermediation. Because of the crucial role that economists believe financial markets play in ensuring the overall well-being of the economy, a decrease in the efficiency of financial markets would harm overall economic welfare.

While there are private sector candidates for benchmark alternatives to national debt, which are outlined in the appendix, they all have drawbacks and may not serve this role as efficiently as national debt. The more efficiently that an alternative asset can function in the benchmark role, the less persuasive the benchmark argument against eliminating the government debt becomes.

Economic forecasting is said to be one part art and two parts science, and although the debt is projected to be paid off by 2006 under some current forecasts, a major turn of events in the economy or in government fiscal policy, most notably the potential for Social Security redesign or one of the large tax cut proposals that have been suggested, could result in the debt never being eliminated. Nonetheless, planning ahead would ensure a smooth transition if the government is in a position to pay off the national debt.

Epilogue: Suppose the Surplus Continues after the National Debt Is Retired

As noted in the introduction, the critical role in reducing the national debt is played by the budget surplus. After 2006, CBO forecasts that the publicly held debt will be effectively eliminated and the surplus will continue for about the next 25 years under current policy.[44] What economic effects might this have? The "crowding in" effect would continue, as interest rates would remain low and companies would respond by purchasing more capital, net foreign capital would remain lower, and the current account would remain improved. As the capital stock and capital/labor ratio would continue to rise, productivity should also rise, leading to a higher economic standard of living in the long run. The Federal Reserve would continue to need other assets to conduct monetary policy. The generational balance would continue to shift in favor of future generations at the expense of current generations.

The major difference between debt reduction and this scenario is that since the government would have no fiscal liabilities – although it would still have unfunded obligations to the trust funds – it would need an asset in which to store the surplus.

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[44]All figures and dates referred to outside the ten year forecast come from CBO, *Long Term Outlook*, October 2000. The *Long-Term Budget Outlook* was completed before the latest 10 year budget forecast, making dates cited in this section slightly too pessimistic.

One possibility would be to invest the surpluses into private sector assets, whose return would generate government revenues.[45] From a macroeconomic perspective, this makes no difference: either way saving and capital formation is increased. Offset against the economic benefits of the policy would be the political sensitivities involved. Should the goal of the government's investment policy then be to maximize profitability, or should it use its influence to promote public policies, for example protecting the environment, supporting worker and consumer rights, promoting foreign policy interests, or some other end? Should certain industries be favored over others, for example industries with financial difficulties, infant industries, or industries in depressed regions of the nation? How would investment goals be chosen? What trade-off should be made between political goals and economic efficiency? Primarily for this reason, Chairman Greenspan argued that after the national debt is retired, tax cuts would be a better use of the surpluses than the accumulation of private assets.[46]

If political influence were deemed a problem to be avoided, Congress might consider creating a quasi-independent agency structured like the Thrift Savings Plan for federal employees. Since the assets are likely to eventually be needed to solve the demographic problem, one option would allow the private assets to be held and managed by the Social Security Administration. Another option would be to passively invest the surpluses using, say, an index. This would affect the allocation of assets in so far as some assets would be included in the index and some excluded, but it would not politicize the investment process. For example, if the government were to favor certain types of assets over others, for example bonds because they are less volatile than equities and do not carry voting rights, the structure of financial markets could be fundamentally altered.

Social Security "privatization" (partial or full) may be another way to increase the capital stock, and capture the economic benefits it would entail, without creating a political problem of government ownership of private capital. Currently, Social Security can only hold surpluses in the form of federal debt. Privatization would allow citizens to hold private assets in individual investment accounts.[47] Were such a change to take place, some of the projected off-budget surpluses would no longer be available to pay down the publicly held debt. A full "privatization" would shift the unfunded liabilities from the future to the present, and those liabilities could only be met through lower government spending or the use of the on-budget surpluses. This could alter the arithmetic on debt reduction, possibly leading to the publicly-held debt not being eliminated.

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[45]To give the Treasury the authority to do so would require a change in federal law 31 USC 3302(a) which mandates how the Treasury may hold revenues.

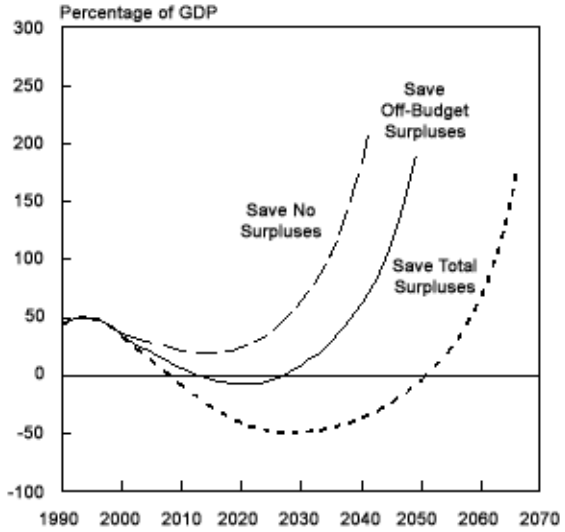
[46]Testimony before the Committee on the Budget, U.S. Senate, January 25, 2001.

[47]This proposal has been opposed on the grounds that the administration fee of individual accounts would be much higher than if the government held assets directly and the grounds that some private individuals are ignorant of the risks and rewards posed by investment markets, which could lead to unexpected loss and moral hazard. It has also been argued that the Social Security's relatively low returns cannot be compared to private returns because Social Security serves social functions, like providing for the disabled and widowed, and because Social Security bears the unfunded liability, which would not disappear under privatization.

It is estimated that benefits paid will exceed the revenues of both the Social Security and Medicare programs beginning in 2016. As the two trust funds run down their assets, the Treasury will be obliged to provide current revenues in exchange for the government securities from their trust funds. The retirement of these securities would represent a burden on top of all existing government spending.

While surpluses are forecast to persist after the debt is retired under current policy, the fiscal imbalance caused by the retirement of the baby boomers suggests that this trend would quickly be reversed. Figure 2 illustrates the explosive growth in federal debt in mid century that would result from the long-term budget imbalance that currently exists in fiscal policy. The national debt is projected to be reduced quickly in the next few years if the entire unified budget is saved. After the debt is eliminated around 2010, the government would accumulate private assets until around 2030. But after 2030, the rapid retirement of the baby boomers will cause large budget deficits to reappear. These unfunded liabilities are forecast to exhaust the government's stock of private assets in about 20 years. After that, the unfunded liabilities would cause the federal debt to rise to unsustainable levels above 200% of GDP in mid-century. Saving only the off-budget surpluses produces the same result, only sooner. Since the government's stock of private assets would be much smaller, large budget deficits would return around 2020, pushing the debt above 200% 20 years earlier than if the entire unified surplus were saved.[48]

Figure 2: Long Term Budget Outlook



Source: CBO, *Long Term Outlook*, October, 2000.

[48]For a more detailed discussion, see U.S. Library of Congress, Congressional Research Service, *Surpluses, Zero Debt, and Unfunded Liabilities: What Are the Policy Options?*, by Marc Labonte, CRS report RL30925.

Appendix : Alternative Benchmarks

Economists believe that as a general rule, if the demand for some good exists, then someone will come along and supply that good. The possibility that the federal debt may be eliminated has led to speculation that some other asset might be developed to supplant Treasuries as a benchmark risk-free asset. There have been periods in the past when federal debt did not function as a benchmark security, however financial markets were much smaller and less sophisticated than they are now. If some other asset could be developed that worked just as well as Treasuries have worked, then the previous discussion of this drawback to debt elimination becomes moot. However, there are reasons to think that no other asset could function as efficiently as Treasuries.

Foreign national debt, while risk-free in its home country, would not be risk-free for US investors because of exchange rate uncertainty. Corporate bonds or corporate paper would not serve well as benchmark assets because it is doubtful that any one corporation could issue enough bonds to create a liquid market,[49] no corporation is free of volatility, and no corporation is completely free of default risk.[50] This section adopts the perspective that some single asset will eventually serve all the roles that U.S. Treasuries currently serve. In fact, many different assets or classes of assets may serve each role separately. For instance, it is conceivable that some financial firm might market a security, say, consisting of a basket of corporate bonds, that might become accepted as a benchmark asset over time.

"Interest Rate Swap" Derivatives

An existing derivative such as interest rate swaps could possibly serve as a benchmark asset, or a derivative could be created to fill that role. Interest rate swaps allow an investor worried about the riskiness surrounding an asset with a fixed interest rate to "swap" for a variable interest rate, or vice versa.[51] Its popularity makes this asset relatively liquid and riskless, and its market is well-developed and well-established. Of all the alternative candidates, only interest rate swaps do not imply any risk of moral hazard and/or political interference. However, in reality there are problems that keep this asset from being an ideal benchmark. First, there is a risk that one side of a contract will default and renege on its obligation. Second, the size of the markets are smaller, and therefore less liquid, than the federal debt market at this point. For example, daily turnover in the swaps market is estimated at about $22 billion a day, compared to $183 billion for Treasuries.[52] But, unlike corporate or

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[49]Ford Motor Company appears to believe otherwise as it began to issue "Global Landmark Securities" in 1999 that were designed with the intention of serving as a new benchmark. Source: Fleming, *Op. Cit.*, p.140

[50]For example, a company as large and old as Chrysler was insolvent in the late 1970s.

[51]For a more detailed discussion of derivatives, see U.S. Library of Congress, Congressional Research Service, *Derivatives: risk and regulation*, by Mark Jickling, CRS report RS20077 (Washington: Feb. 17, 1999).

[52] Federal Reserve Bank of New York, *Foreign Exchange and Interest Rate Derivatives* (continued...)

agency alternatives, its growth potential is not limited by the size of an issuer, since there is no underlying issuer. Third, their informational value is reduced by the fact that a swap is usually based on an interest rate, the London Interbank Offer Rate (LIBOR), that is international and has credit risk (it is rated AA/Aa). Finally, pricing derivatives is less straightforward than it seems since derivatives are so complex and are not so closely regulated as other assets. All three of these problems become more acute in times of crisis such as the 1998 financial crisis.

GSE Securities

Government-sponsored enterprises (GSE)[53] such as Fannie Mae and Freddie Mac have been assertively marketing themselves as the natural heirs to the risk-free asset. Between 1998 and 1999 Fannie Mae, Freddie Mac, and others of these agencies began issuing securities with names such as "Benchmark Notes" in huge batches that looked similar to Treasuries.[54] In 1999, the agency debt market stood at $1.4 trillion, compared to $3.6 trillion for publicly held federal debt. However, these securities have not taken on all of the aspects of the highly liquid market for Treasuries. For example, daily turnover for GSE securities is only $17.7 billion, compared to $178.8 billion for Treasuries.[55] Yet if current trends continue, outstanding GSE securities within a few years.

One economic drawback of using GSE securities– or the securities of any other corporation– is that for the benchmark asset to function properly, it should reflect only risks inherent to the economy overall. GSE securities, on the other hand, include risks specific to their corporations. For example, Fannie Mae and Freddie Mac are exposed uniquely and specifically to housing sector risks, which are very different than risks to the overall economy and cannot be completely diversified away.

Political-economy questions have been raised as to why it might not be desirable for GSE debt to serve as a benchmark. Because GSEs are (now) private, profitable companies that were created by the federal government, investors believe there to be an implicit guarantee by the federal government that GSEs would never be allowed to go bankrupt. At first glance, this may seem to make them the ideal candidate to create a risk-free asset. But like the cause of the savings and loan crisis, this creates a problem of moral hazard: since GSEs know they do not have to worry about bankruptcy, they may be tempted to take on excessive risks in search of large profits. Historically, the federal government has tried to minimize this risk by keeping close oversight of GSEs and by limiting their activities to the narrow mandate for which

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[52](...continued)
Markets Survey, September 29, 1998, p.1.

[53]For an explanation of these organizations, see U.S. Library of Congress, Congressional Research Service, *The quasi government: hybrid organizations with both government and private sector legal characteristics.*, by Ronald C. Moe, CRS report RL30533 (Washington: Apr. 15, 2000).

[54]Michael Fleming, "Financial Market Implications of the Federal Debt Paydown," Federal Reserve Bank of NY, Working Paper, September 2000, p. 17.

[55]All figures quoted in this paragraph from Fleming, *ibid*.

they were created. In recent years, some observers have feared that the GSEs have entered markets far beyond their mandate.[56] Clearly, the creation of an asset specifically to satisfy the demand for a benchmark goes far beyond their original mandate to securitize specific loan markets, and would further muddy the waters surrounding the implicit government guarantee the markets believe that they enjoy. This might make the moral hazard problem more acute. Therefore, investors could assume that GSEs would never be allowed to fail, and that would allow GSEs to take on even more risks.

Maintenance of the Treasuries Market After the National Debt Is Retired

A final option would be for the federal government to create debt solely to serve as a risk-free benchmark asset and invest the proceeds at a profit in private securities. This way the default risk would be avoided, problems highlighted above would be avoided, and liquidity could be assured.[57] It would also reduce the logistical costs of day to day Treasury financing of government outlays and the costs of re-establishing the national bond market as it is forecasted to do around 2050. If not carefully designed, however, such a system could face political vulnerabilities such as a desire to allocate credit for political purposes at the cost of profit maximization. Given the necessary market size to create a liquid risk-free asset, the government could take sizable ownership positions in large portions of the private economy, making these political pressures very hard to avoid. This policy would not alter the aggregate national savings rate, but it could alter the complexion of financial markets if: 1)the makeup of the government portfolio altered the relative price of individual assets or classes of assets (for example, stocks vs. bonds), or 2)the presence of a benchmark lowered the costs and risks of investment (compared to financial markets in the absence of a benchmark), thus altering individual investors' behavior.

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[56]For example see "Homesick Blues", *The Economist,* April 15, 2000, p.79.

[57]The yields on the investments would also be a considerable source of additional government revenue.