

The Political Economy of Balanced Budget Amendments*

BY MARINA AZZIMONTI

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balanced budget amendment is a constitutional rule requiring that the government collect enough revenue to finance its expenditures every year. The motivation for introducing such a rule is the desire to restrict deficit spending and limit increases in government debt. However, policymakers strongly disagree about the rule's coverage and provisions. In particular, they disagree on how to define the terms revenue and expenditures and under which conditions exceptions to the rule should be allowed. In this article, Marina Azzimonti provides an overview of the arguments raised by proponents and opponents to the balanced budget amendment, emphasizing its economic consequences. She then describes recent findings in the academic literature that analyze the impact of similar rules at the state level. Finally, she summarizes theoretical findings that aim to compute the impact of a balanced budget rule on economic and policy variables, together with its effects on consumers' welfare.

A persistent debate in American politics is whether to have a constitutional amendment requiring the federal government to operate under a



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balanced budget. Although the Great Depression and the rise of the New Deal saw the first attempt to introduce a balanced budget amendment in 1936, the sustained accumulation of deficits over the last three decades has heightened concerns that limits need to be placed on the gap between federal government revenues and spending. The U.S. House of Representatives

*The views expressed here are those of the author and do not necessarily represent the views of the Federal Reserve Bank of Philadelphia or the Federal Reserve System.

approved a balanced budget amendment by 300 to 132 votes in 1995, but it fell short in the Senate by one vote. Efforts to pass an amendment have continued because of the high deficits incurred during the last economic recession. The latest attempt to reform the U.S. constitution with a balanced budget amendment was in 2011, with 261 votes in favor of implementing the reform. Although support was relatively strong in the House, it was 23 votes short of the two-thirds majority needed.^{1,2}

In general, a balanced budget amendment is a constitutional rule requiring that the government collect enough revenue to finance its expenditures every year. The motivation for introducing this rule is the desire to restrict deficit spending and limit increases in government debt. However, there is strong disagreement regarding its coverage and provisions among policymakers. In particular, policymakers disagree on how to define the terms "revenue" and "expenditures" and under which conditions exceptions to the rule should be allowed. By restricting deficits, the rule reduces the government's ability to face adverse shocks such as wars and natural disasters. By restricting debt accumulation, it prevents the public sector from financing long-term projects that foster growth

¹ A constitutional amendment requires a two-thirds vote of approval in both Houses of Congress and a ratification by three-fourths of the states before it can take effect.

² See the paper by James Saturno and Megan Lynch for a full summary of congressional hearings and floor action in consideration of balanced budget amendments.

and development. The trade-off between “discipline” and “flexibility” is at the core of the debate surrounding this rule.

In this article, I will provide an overview of the arguments raised by proponents and opponents to the balanced budget amendment, emphasizing its economic consequences. I will then describe recent findings in the academic literature that analyze the impact of similar rules at the state level. Overall, there is evidence that balanced budget rules do induce discipline in policymakers at the state level: The level of spending as a percentage of revenues (or output) is lower in states that have more stringent rules. In contrast, there is no conclusive evidence suggesting that the rules impose a significant loss in flexibility to face negative shocks or that they affect public investment at the state level. This is, however, a result of the particular form taken by budget rules at the state level. There are many reasons to question whether the results from the state-level studies would extrapolate to the federal level, but the state-level studies do suggest that when designing a rule at the federal level, policymakers should consider the provisions incorporated in the state rules.

Finally, I will summarize theoretical findings that aim to compute the impact of a balanced budget rule on economic and policy variables, together with its effects on consumers’ welfare (both in the short run and over a longer horizon). When considered at the federal level, imposing a balanced budget rule that takes a form similar to the one proposed in 1995 or 2011 is found to reduce welfare. There are welfare gains in the long run, but the transition costs overwhelm such benefits. The main reason behind this result is that, at current levels of debt, the loss in flexibility is greater than the benefits associated with smaller deficits and less debt.

The conclusion suggests several changes to the balanced budget proposal for the U.S. federal government that could potentially reduce welfare costs. These are based on inspection of alternative balanced budget rules imposed by several European countries that recently amended their constitutions.

the share of government spending to output) and the level of public debt. The increase in the size of the U.S. government is illustrated in Figure 1, which shows the share of government expenditures to total output in percentage terms between 1930 and 2011. Government spending represented only 10 percent of output in 1930 but

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THE POLITICAL DEBATE

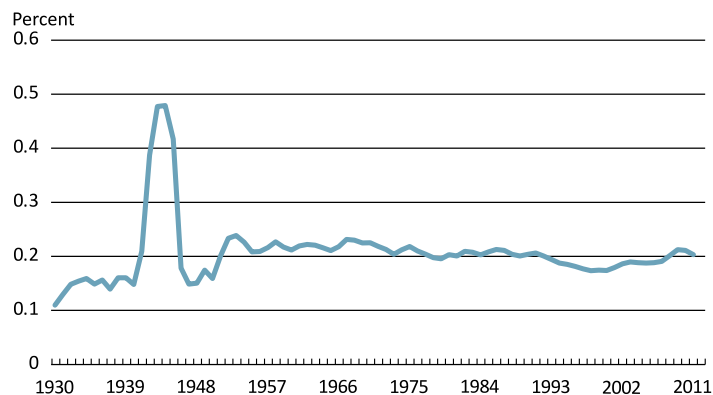
There are opposing views regarding the desirability of a balanced budget rule (BBR) that have been voiced in the political debate that took place in Congress and in the media over the last few years.

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grew substantially to about 20 percent after the 1970s. Moreover, a source of concern for supporters of this rule is the composition of these expenditures, since there has been a shift toward targeted spending and redistributive programs. While about 50 percent of expenditures were devoted to national defense in the 1960s, most spending was devoted to welfare programs in 2010. Unemployment, Social Secu-

FIGURE 1

Government Spending as a Percent of GDP



rity, health, and education were just 28.9 percent of expenditures in the 1960s, but their size had increased to 61 percent by 2010 (Figure 2). The composition of spending shifted from temporary to structural expenditures. A balanced budget rule is seen by proponents as a way to limit these expenditures. They argue that reducing debt will result in lower interest rate payments, higher savings rates, and hence more economic growth.

Opponents, on the other hand, argue that a BBR would restrict the government’s ability to use debt for beneficial purposes such as tax smoothing, fiscal stimulus (e.g., countercyclical fiscal policy), or public investment. Even if legislators tend to accumulate inefficiently high debt levels, this does not mean that they will not use debt on the margin in ways that enhance social welfare. The loss of flexibility associated with this rule dominates any benefits associated with it, according to the BBR critics. In the *Report on Public Credit*, Alexander Hamilton argued that public borrowing is to be undertaken to meet certain “exigen-

cies” or “emergencies” that inevitably arise in the life of nations — exigencies including, but not limited to, war. An example is given by the large and unexpected increase in government defense spending during World War II, as shown in Figure 1, which triggered a spike in government debt as a share of output (see also Figure 3). A balanced budget rule would also restrict the ability to trigger “automatic stabilizers” at the federal level, which, according to Congressional Budget Office Director Doug Elmendorf, risks making the economy less stable and exacerbating the swings in business cycles or financial crises.

Advocates respond that some flexibility may be preserved by allowing the BBR to be overridden in times of war or with a supermajority vote of the legislature. Sections 5 and 6 of the bill proposed in 2011 introduced “escape clauses” to that effect. For example, a bill to increase revenues may become law if two-thirds of the members (of each House) approve it. In addition, the provisions may be waived if a declaration of war is in effect or the coun-

try is under serious military threat. An alternative would be to balance the budget over the business cycle, rather than on a year-by-year basis. This is the approach followed by Switzerland’s and Germany’s reforms to their constitution. Finally, investment expenditures might be exempted from the rule by the creation of separate capital budgets such as those currently in place in many U.S. states (see the study by Marco Bassetto and Thomas Sargent).

A further argument against a balanced budget amendment is that the balanced budget rule will be circumvented by bookkeeping stratagems and hence will be ineffective. Such stratagems include the establishment of entities, such as government-sponsored enterprises, that are authorized to borrow but whose debt is not an obligation of the state.³ Another stratagem involves selling public assets and recording the proceeds as current revenue. The

³ Government-sponsored enterprises are not considered to be part of the federal government, so their transactions are considered nonbudgetary.

FIGURE 2

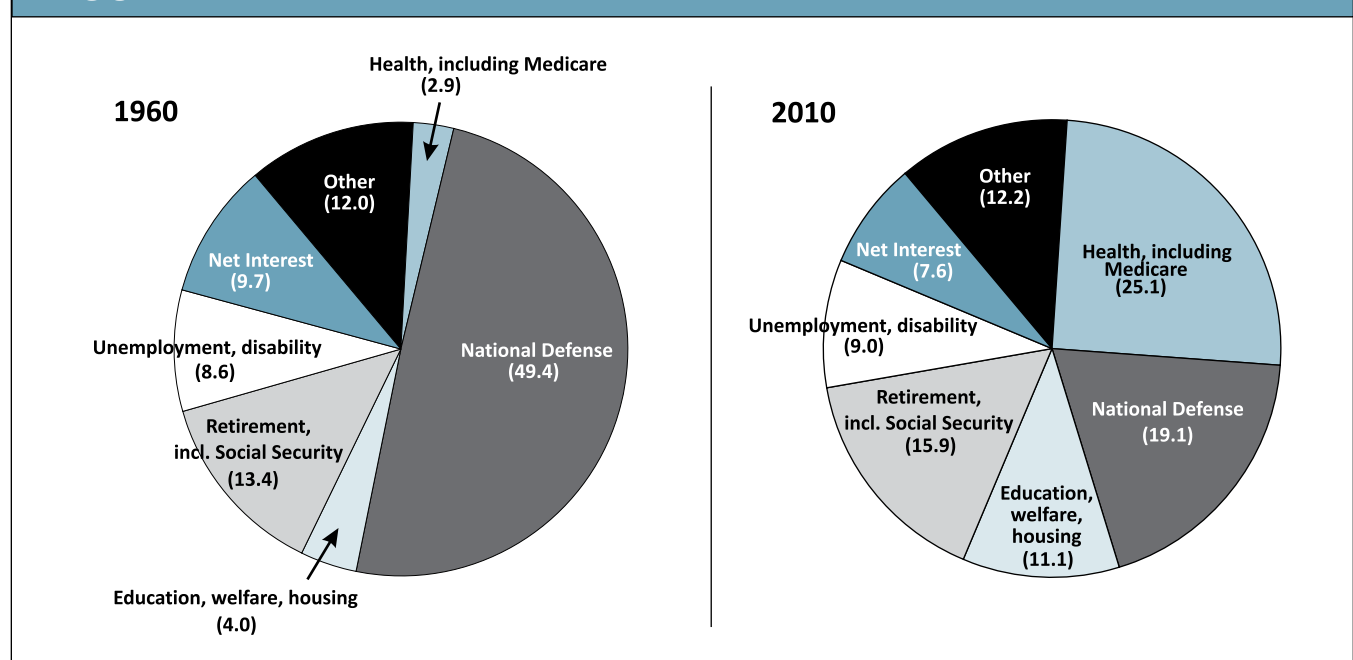
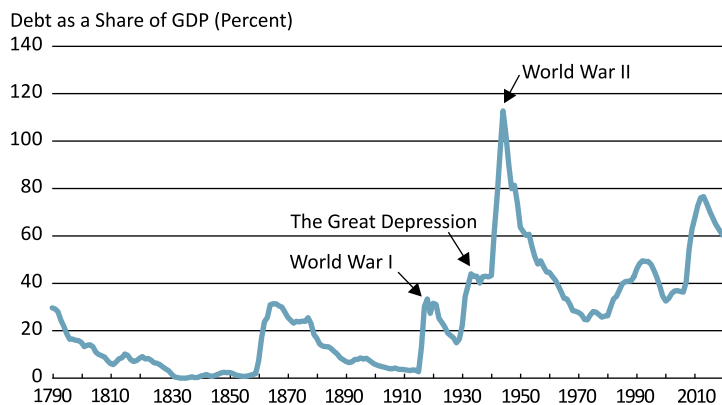


FIGURE 3**Federal Debt Held by Public**

government may also shift expenditure items off-the-budget or to local governments (which face lower borrowing restrictions). Finally, it could be possible to swap nonguaranteed for guaranteed debt when the borrowing limit becomes binding.⁴ This process of circumvention can create a lack of transparency and accountability, according to critics. Congress may rely on inefficient nonbudgetary measures by imposing mandates on state and local governments or additional regulations on the private sector. There is also some concern about the fact that enforcing the BBR may blur the line between legislative and judicial powers by delegating the final say on budgetary policy to unelected judges (see the article by Saturno and Lynch).

THE ACADEMIC DEBATE

Deficits, Debt, and Economic Outcomes. The emphasis on restricting deficits present in the political

⁴ Nonguaranteed refers to debt instruments not backed by the “full faith and credit” of the government. In other words, there is no explicit pledge to use government revenues to liquidate this debt.

debate implicitly assumes that debt accumulation is harmful for the economy. This is not necessarily the case, because governments often rely on public debt to finance infrastructure such as roads and bridges to promote growth. The contribution of public capital to private-sector productivity has been documented by David Aschauer, who estimated that a 1 percent increase in public capital raises output by 0.39 percent. This value is as large as the contribution of private capital to output.⁵ In addition, as pointed out by Giancarlo Corsetti and Nouriel Roubini, the level of real public debt that can be sustained increases over time in a growing economy due to increased economic activity. Finally, deficits during or shortly after a recession aid economic recovery. However, persistent deficits and continually mounting debt may have negative economic consequences over a longer horizon in these economies.

The beneficial effects of deficits in the short run were pointed out as early

⁵ Other studies have found estimates ranging from 0.05 to 0.4 percent.

as 1936 by John Maynard Keynes. During a recession, higher spending or lower taxes (which generate larger deficits) help economic recovery. The reason is that when workers are unemployed and capacity (equipment and buildings) is unused, higher government spending and lower tax rates usually increase the overall demand for goods and services. This implies that firms boost their output and hire workers, lessening the impact of the recession. Using a New Keynesian model, Lawrence Christiano, Martin Eichenbaum, and Sergio Rebelo show that the effectiveness of government spending (i.e., the size of the “multiplier”) depends on the magnitude of nominal interest rates. The largest impact is attained when short-term nominal interest rates are near zero. In this case, Christiano and co-authors estimate that output rises by 3.4 percent in response to a 1 percent increase in government spending. There is, however, some disagreement about the magnitude of the multiplier within the literature. There is some debate regarding how effective such policies are if they are used over longer horizons.

Neoclassical theories, in particular the “tax smoothing hypothesis” developed by Robert Barro in 1979, point to a different channel by which deficits are beneficial in the short run. During wars and recessions, revenues are low and spending needs are high. The government can smooth the negative effects of a bad shock by borrowing in bad times and paying back during better times, rather than having to increase taxes in an already depressed economy (see also the study by Robert Lucas and Nancy Stokey). This allows the government to spread the costs of a recession over time and reduce the size of the distortions associated with financing deficits with higher tax rates.

But those short-term benefits carry the potential of long-term costs. Persistent, large deficits that are not related

to economic slowdowns have a number of significant negative consequences. One of them is the crowding out of private investment by deficits. When the government runs persistent deficits, a growing portion of consumers' savings is devoted to purchasing government debt rather than to investment in private capital goods (such as factories or computers). This "crowding out" of investment leads to lower output and incomes in the future, as argued by Martin Feldstein and Otto Eckstein (see also the article by Michael Dotsey and the one by Rao Aiyagari and Ellen McGrattan).

A second argument relates to the repayment costs of growing debt. At some point, either tax rates need to increase, spending on government programs has to decrease, or a combination of both. Higher marginal tax rates discourage work effort and negatively affect private savings, which further reduces output. A study by Jerry Hausman and another by Martin Feldstein provide empirical evidence of the negative effect of larger payroll taxes on the supply of labor. The 1987 book edited by Martin Feldstein compiles a series of papers examining the negative influence of taxes on capital formation, savings, and the process of investing in plant and equipment. He also argues that anticipated future budget deficits affect long-term interest rates today, which can hamper economic activity in the short term. High long-term interest rates can also discourage investment (see the study by Olivier Blanchard).

Some economists argue that persistent deficits involve fairness considerations regarding the burden of debt. Bondholders do not bear a burden by financing today's public expenditures. Since bondholders will eventually be repaid from the proceeds of future taxes, future taxpayers pay for today's debt-financed public expenditures and bear its real burden. The real reduc-

tion of consumption is borne by the generation(s) alive at the time the loan is repaid (see the 1958 paper by James Buchanan and the paper by William Bowen, Richard Davis, and David Kopf). Fairness considerations arise when such expenditures do not benefit the generation carrying the burden.

A large stock of debt also reduces the government's ability to respond to domestic economic downturns or international crises. Aiyagari, Marcet, Sargent, and Seppälä argue that when markets are incomplete, it is welfare improving to repay debt during booms

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Finally, a growing level of federal debt increases the probability of a sudden fiscal crisis, as discussed in the 2009 book by Carmen Reinhart and Kenneth Rogoff. Such crises occur when debt levels become so large relative to the economy's output that the government has difficulty selling it. Current and potential bondholders lose confidence in the government's ability to raise enough resources in the future to pay off public debt. The government thus loses its ability to borrow at affordable rates. An abrupt rise in interest rates reflects investors' fears that the government would renege on the terms of its existing debt or that it would increase the supply of money to finance its activities or pay creditors and thereby boost inflation. Examples of this can be found during the debt crises of Argentina, Mexico, or Greece, where capital inflows in the form of bank loans dried up and inter-

est rates rose sharply. When a fiscal crisis occurs, the government is forced to increase taxes, enforce spending cuts, or both. These adjustments can be painful because when the necessary reforms are large, they must be enacted when the economy is under pressure (see the paper by Laurence Ball and Gregory Mankiw for an excellent discussion).

If tax increases or expenditure reductions are politically unfeasible, the government may be forced to restructure debt (which is equivalent to a partial default) or rely on inflationary monetary policy. Even though when inflation rises the value of outstanding debt (which is mostly fixed in dollar terms) decreases relative to output (which would increase when measured in dollar terms), higher inflation increases the size of future budget deficits (see the article by Juan Carlos Hatchondo and Leonardo Martinez for a discussion of the literature). There is, however, little evidence that deficits lead to money creation in the United States for the post-war period, as shown by Robert King and Charles Plosser. Historically, fiscal and monetary crises in other countries occurred at different levels of government debt relative to gross domestic product (GDP). The tipping point is hard to predict because it depends on the long-term budget outlook, the near-term borrowing needs, and the state of the economy (i.e., whether the economy is experiencing a boom or a recession). Nonetheless, rising levels of debt may trigger such crises (see the 2011 article by Reinhart and Rogoff).

Summarizing, the economic effects of budget deficits and accumulat-

ing government debt differ in the short run and the long run. In the short run, deficits may be beneficial because governments can lessen the effects of recessions or negative shocks such as wars and natural disasters. However, these benefits may be reversed by the long-run costs associated with persistent deficits and high levels of debt.

Fiscal Rules and Balanced Budget Amendments. Fiscal rules have been proposed by policymakers and legislators as a way to overcome the negative effects of long-run deficits. These rules are constraints often imposed at the constitutional level, by which the legislature must abide. They involve restrictions on the levels of spending, deficits, or debt. In some cases, they take the form of caps on the nominal amounts spent or borrowed, and in other cases, they are expressed as a percentage of the economy's level of output. Exceptions are made for times of war, severe economic recessions, and natural disasters. Clauses that allow the legislature to suspend the rule by a super-majority are often introduced. *Fiscal Rules* (see the box at right) summarizes countries that have recently amended their constitutions to introduce fiscal rules, as well as restrictions that are currently in place in the United States (at both the state and the federal levels).

The academic literature studying the desirability of a balanced budget rule can be divided in two groups. One strand of the literature analyzes how these rules affect policy and economic outcomes in regions where such rules are in place. The approach aims to empirically assess the effects of fiscal rules. A second strand of the literature develops theoretical economic models that serve as artificial laboratories where alternative hypothetical rules are evaluated against the case where the government can freely run deficits and accumulate debt.

Empirical studies. There is a large

Fiscal Rules

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everal European countries have adopted fiscal rules. In 2003, Switzerland's legislative body approved a constitutional amendment stating that the budget must be in balance every year, adjusted for economic conditions. The government can run a deficit in recessions but must save during booms. Germany's constitution was amended in 2009 to introduce the *Schuldenbremse* (debt brake), which restricts deficits to be smaller than 0.35 percent of output. It applies at the state and federal level. In 2011, Spain amended its constitution by restricting debt to be lower than 60 percent of GDP in any given year. European leaders signed a new fiscal pact in January 2012. As in previous agreements, the share of debt to nominal output is restricted to remain below 60 percent in each country. In addition, deficits have an upper bound of 0.5 percent of nominal GDP, unless economic conditions are adverse. In that case, deficits can reach 1 percent of output (as long as the share of debt is lower than 60 percent).

Examples of fiscal rules also abound in the United States. Every state in the country, except Vermont, has some form of balanced budget rule. The precise form in which they have been implemented varies from state to state. In some cases, the restriction applies to the total level of debt, while in others it refers to its short-run component. Some debt limits are issued in nominal terms; others are formulated relative to the size of the state's general fund or as a percentage of government revenues. Indiana cannot issue debt in general but allows an exception for "temporary and casual deficits." Oregon bans surpluses of more than 2 percent of revenue by refunding the money to taxpayers should such surpluses occur. Iowa's rule does not permit the state to run deficits. Moreover, it created a "rainy day fund" where the government deposits surpluses as a form of precautionary savings, to be used if adverse economic conditions arise. In addition, most states have separate capital accounts: Borrowing is allowed as long as it is used to finance investments in infrastructure.

Unlike the constitutions of most U.S. states, the United States Constitution does not require Congress to pass a balanced budget every year. This implies that projected income of the government through taxes, fees, and other revenues does not need to equal the amount proposed to be spent. Under federal law, however, the amount that the government can borrow is limited by a debt ceiling, which can only be increased with a vote by a super-majority in Congress. Historically, increasing the ceiling was a formality, until 2011, when reaching an agreement became almost infeasible. Since 40 percent of federal expenditures are financed by deficits, this caused a "debt-ceiling crisis," which raised concerns about the creditworthiness of the U.S. government and precipitated a ratings downgrade by S&P.

body of work devoted to the empirical question of whether the balanced budget rules (BBRs) used in practice actually have any effect. Empirical investigation is facilitated by the fact that BBRs with different degrees of strictness are common at the state level in the U.S. In addition, many of the states adopted their BBRs as part of their constitutions. Researchers have explored how the strictness of BBRs affects fiscal policy. These studies find that stringency does matter for fiscal policy. The most important aspect of stringent rules, according to Robert Inman, is the requirement that the budget must be balanced “ex-post” rather than “ex-ante.” Under ex-ante accounting, the BBR applies only at the beginning of the year and requires the governor or legislature to pass a balanced budget. Unexpected deficits at the end of the year may be carried over to the next budget cycle. Under ex-post rules, the budget must balance at the end of the year. These rules contain a “no-carryover” provision, whereby states are not allowed to carry deficits from one year to the next. The rule is most effective when enforced by politically independent agents, such as elected supreme courts, and when penalties associated with deficit violations are large. Henning Bohn and Robert Inman show that states where the constraints are stronger exhibit lower levels of expenditures as a percentage of gross state product (GSP), thus reducing the size of governments. In addition, states with a no-carryover BBR reduce deficits (or increase surpluses) by approximately 6 percent of the average state’s budget. Evi Pappa and Fabio Canova, using more recent data, find that limits on short-term debt tend to keep the debt-to-revenue and the debt-to-GSP ratios low. This evidence favors the view that fiscal rules may be beneficial, since they introduce discipline into government spending.

In two studies, James Poterba

shows that states with more stringent restraints were quicker in reducing spending and increasing taxes in response to negative revenue shocks than those without such rules. In other words, constraints limit governments’ ability to respond to business cycle fluctuations and increase the volatility of fiscal policy. This supports the views opposing the introduction of BBRs by showing that the government is limited in its ability to carry out a stabilization

the effects of negative economic or revenue shocks in the presence of state balanced budget rules. Because the federal government follows a stabilization fiscal policy when states are affected by adverse shocks, the states with strict balanced budget amendments do not suffer as much from the loss of flexibility as they would were the federal government not playing that role. Thus, introducing a balanced budget rule at the federal level will affect the

Formal models trying to account for the benefits and costs of balanced budget rules are scarce.

policy. The evidence on the effects of a BBR on the cyclicity of government spending and macroeconomic outcomes is, however, mixed. For example, Pappa and Canova find that the cyclicity of government spending is not affected by how strong these rules are. States anticipate that they will not be able to borrow in bad times, so they engage in precautionary saving in advance. They argue that creative budget accounting may explain some of their results. Antonio Fatas and Ilian Mihov provide empirical support for the hypothesis that restrictions, by reducing discretion in fiscal policy, can actually reduce macroeconomic volatility.

Extrapolating the findings on the impact of balanced budget rules at the state level to the federal government may, however, be incorrect. At the state level automatic stabilizers, such as unemployment insurance benefits, are financed via inter-governmental transfers. The federal government can redistribute resources across the states if some regions are worse off than others. It can also borrow funds abroad if the whole economy faces a downturn (as it did in 2009 during the recession). Both redistribution and borrowing allow the federal government to smooth

insurance channel implemented by inter-governmental transfers (which account for 30 percent of state revenues). Jeffrey Sachs and Xavier Sala-i-Martin (1992) show that more than one-third of a fall in state income is compensated by a net income transfer from the federal government. If the federal government was subject to a balanced budget amendment, it would suffer the full effect of lost flexibility.

Theoretical studies. Formal models trying to account for the benefits and costs of balanced budget rules are scarce. The difficulty lies in the fact that any model that aims to capture the basic trade-off associated with the rule needs to be very complex. For example, David Stockman studied the introduction of a balanced budget rule, but he assumed that policy choices were made by a “benevolent government.” This approach allows us to measure the flexibility costs associated with the rule, but not the benefits of disciplining excessive public spending. The reason is that a benevolent government chooses the best allocation of resources in the economy, and hence there is no excessive public spending. When policy choices are made under political frictions that naturally arise

in democratic environments, the size of the government may be inefficiently large (that is, public spending can be excessive). In contrast to traditional macroeconomic models that do not take into account the role of elected policymakers, political frictions are at the core of any model attempting to evaluate this reform.

In my paper with Marco Battaglini and Stephen Coate, we develop an environment that accounts for the benefits of disciplining policymakers. In the basic environment, a legislature bargains over fiscal policy. This involves a level of debt, taxes, spending on public goods (such as defense or education), and constituency-driven spending (e.g., targeted transfers to their own constituencies). In the model, we find that, due to political frictions, politicians are more short-sighted than citizens. So politicians incur excessive deficit spending and accumulate too much debt. The intuition is simple: Faced with the possibility of not being in office in the future, in which case they have no control over spending for their own constituencies, the modeled legislators have incentives to spend more than they otherwise might. This additional spending is financed in part by deficits, which are less politically costly than tax increases. In our model, existing electoral rules endow “political agents” with the authority to *spend without taxing* (see the 1997 study by Buchanan). The existence of a political friction, in this case, policymakers’ turnover, results in deficit over-spending. In the model, the introduction of a balanced budget rule, by restricting the set of financial instruments, may serve to reduce these inefficiencies. We consider a balanced budget rule along the lines of the proposed 2011 balanced budget amendment, which precludes a deficit in any fiscal year.

What are the effects of this rule? By forbidding deficits, it reduces the

incentives to over-spend. However, since the economy may be subject to adverse shocks (like recessions, wars, or natural disasters in the real world), a restriction on the amount of debt that governments can issue limits its ability to face these shocks. In particular, the additional spending on public goods (i.e., infrastructure) necessary to counteract the effects of the negative shock (i.e., an earthquake) must be financed with additional taxes. Increasing distortionary taxes puts more pressure on the economy by reducing the supply of labor and hence exacerbating the negative shock. Imposing a BBR thus involves a trade-off: a *disciplinary effect* on policymakers versus a *flexibility cost*, due to the restricted set of financing instruments.

This study has some interesting and unexpected findings associated with the introduction of a balanced budget rule. Although the rule is simply an upper bound on deficits, it induces debt to gradually *fall* over time. Moreover, it settles at a level that

ing, they decide to reduce the stock of debt in good times. This decreases expected interest payments, which will be beneficial if bad times arrive. Finally, the BBR binds future policymakers to a course of action by forbidding them to increase debt. Notice that this channel would not be operative if legislators were allowed to borrow freely under any possible realization of the shock. My co-authors and I report numerical results showing that within our model the average debt to GDP ratio is reduced significantly (even eliminated) once the rule is introduced.

An unexpected side-effect of the rule pointed out in our paper is that the amount of constituent-driven spending *increases* under the balanced budget rule. Once the economy reaches a point where debt is small, such additional spending is relatively cheap — in terms of tax distortions — during a boom. Since the economy grows during a boom and interest payments are relatively low, legislators find it optimal to increase the amount of transfers

We also find that, in our model, a BBR is beneficial in the long run; that is, consumers’ welfare is 0.3 percent higher in an economy that has a BBR compared with an economy that does not have a BBR.

would not be reached in the absence of this rule. The intuition is the following: The BBR raises the expected cost of taxation in the future. Legislators realize that if the economy faces a negative shock, they will not be able to borrow in order to spread the costs of this shock over time (ineffective tax smoothing). In addition, if the stock of debt is large, interest payments will constitute a heavy burden for consumers, who are already suffering under the adverse economic conditions. Given that legislators are forward look-

targeted to their constituency. There is discipline in terms of the level of debt, but not in terms of expenditures.

In our paper, we also analyze the possibility of an override analogous to that proposed in the 2011 balanced budget amendment. We consider the provision that total outlays may exceed total expenditures if three-fifths of the legislators vote affirmatively. We show that this “escape clause” severely undermines the positive effects of the balanced budget rule in disciplining policymakers. The reason is that

legislators agree to finance spending with deficits under adverse economic conditions. This in turn implies that the expected cost of taxation does not increase when conditions are favorable, so the incentives to engage in precautionary saving (or to reduce debt) are eliminated. This is in line with the findings of Bohn and Inman, who show that states with constitutionally grounded rules that need at least two-thirds of the legislature to approve a budget run lower deficits than those states in which a budget can be overturned by a simple majority (statutorily based rules).

We also find that, in our model, a BBR is beneficial in the long run; that is, consumers' welfare is 0.3 percent higher in an economy that has a BBR compared with an economy that does not have a BBR. However, the transition costs associated with lowering the stock of debt when a BBR is imposed on an economy without one can be prohibitively high for the current level of debt in the U.S. In our numerical example, the flexibility costs outweigh the disciplinary gains. These welfare computations have to be taken with caution, however, since our model does not consider the effects of debt on capital accumulation (both private and public). As mentioned above, the reduction of debt may serve to lessen the negative crowding out effects on private-sector savings and investment, which would increase welfare. However, this may also reduce the


government's ability to finance growth-promoting infrastructure, which would reduce welfare.

CONCLUSIONS AND FURTHER CONSIDERATIONS

Evidence from the U.S. states suggests that strong BBRs require ex-post accounting, must be costly to amend, and must be enforced by politically independent agents that can impose significant penalties when deficit violations arise. Following the example of Switzerland and Germany, imposing a balanced budget rule contingent on economic conditions (or other shocks, such as wars and natural disasters) may be more beneficial than allowing for a super-majority override. The former would reduce the loss in flexibility associated with a ban on deficits while at the same time increasing the expected cost of taxation if deficits are used for constituent-driven spending. Additionally, existing rules in Europe generally express deficits as a percentage of GDP. This is reasonable in a growing economy, such as the United States. An upper bound on deficits to output, if appropriately chosen, would result in a level of debt that is not increasing relative to the long-run growth of the economy (see the study by Corsetti and Roubini).

Another important aspect that has received little attention in both the academic and the political debate regards which budgetary items should be subject to the rule. In particular, should

entitlement programs be included? The introduction of Social Security as an "on-budget" item (rather than as an "off-budget" one, as it is currently treated) would have important implications for the behavior of deficits and, more important, the size of debt.

A final point that has been overlooked in the current legislative discussion is the possibility of reaching a point at which the government accumulates assets. If a long enough stream of good shocks arises, it is possible that federal debt can actually become negative. In such a case, the government would be saving rather than borrowing. Under current U.S. law, unanticipated surpluses cannot be used to acquire financial or nonfinancial assets but must be saved in the form of cash. If a balanced budget rule like the one proposed in 2011 was in place, accumulated surpluses might not be able to be used to finance government spending or relieve adverse economic conditions with fiscal policy. The reason is that the rule proposed in 2011 required that expenditures not exceed revenues *even if these expenditures were financed by government savings*. The introduction of a capital account such as the ones operating at the state level (see Bassetto and Sargent, 2006) or the possibility of allowing for outlays to surpass spending when the government has savings (that is, when the level of debt is negative) should perhaps be considered in future proposals. 

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