

# Getting the Biggest Bang for the Buck in Fiscal Policy\*

Miles Kimball

University of Michigan and NBER

First Draft: August 27, 2011

This Draft: May 29, 2012

**Abstract:** In ranking fiscal stimulus programs, it is useful to focus on the ratio of extra aggregate demand to extra national debt that results. This note argues that (because of repayment after the end of a recession) “national lines of credit”—that is, government-issued credit cards with countercyclical credit limits and favorable interest rates—would generate a higher ratio of extra aggregate demand to extra national debt than tax rebates. Because it involves government loans that are anticipated in advance to involve some losses and therefore involve a fiscal cost even after efforts to minimize losses, such a policy lies between traditional monetary policy and traditional fiscal policy.

\* I would like to thank Chris Carroll, Noah Smith and Daniel Murphy for their encouragement and perspectives, and participants in discussions at the Federal Reserve Board for useful comments. I bear sole responsibility for the views expressed here.

**1. Introduction.** In the wake of the intense financial crisis in 2008 and its macroeconomic after-effects, many economists have wished for more powerful tools of monetary and fiscal policy than those that seemed ready to hand. But since in principle it is possible to dramatically increase the dosage of monetary and fiscal treatments, a wish for more powerful tools of monetary and fiscal policy only makes sense in the context of a concern for costs and side effects of such treatments.

For example, for monetary policy, the nature and extent of the ultimate costs and side effects of the Federal Reserve's large purchases of assets other than Treasury bills is unknown. Fear of those unknown costs and side effects is likely to have been a key reason that the Federal Reserve did not decide in late 2010 to purchase several trillion dollars worth of long-term bonds in late 2010 instead of only \$600 billion worth (dubbed "QE2" by the press). To clarify this issue, research on the actual costs and side effects of large purchases of assets other than Treasury bills has been, and will continue to be, a high priority on the part of many economists.

Given the reluctance to chance larger doses of non-traditional monetary policy, renewed attention has turned to fiscal policy. For fiscal policy, it seems clear that the main concern preventing the use of larger doses is the addition to the national debt caused by tax cuts and additional government spending—the two traditional methods of fiscal stimulus. Therefore, let me propose that fiscal policy measures designed to stimulate aggregate demand be judged by their *addition to aggregate demand per dollar added to the national debt*, regardless of the headline size of the measure.

Here I propose as an addition to the standard fiscal-policy toolkit a fiscal policy measure that seems likely to provide a favorable ratio of aggregate demand stimulus for each dollar added to the national debt. Assuming that this would be an action by the national government, I will call this measure "federal lines of credit" in the U.S. More generally, they could be called "national lines of credit." The basic idea is this: *in those situations in which general tax rebates have been used in the past*, policymakers might consider instead having the government provide a much larger line of credit to almost all adult citizens, which they could draw on, or not, as they saw fit. To the public, this would look like a government-issued credit card, but with the key proviso that the credit would be provided *in a countercyclical way*, unlike commercially provided credit, which tends to be *procyclical*. Such a general, large-scale provision of lines of credit by the government for the purpose of fiscal stimulus may have been proposed before, but does not seem to be part of the current policy discussion.

Although these national lines of credit would have a smaller effect on aggregate demand relative to the *headline* size of the program than a tax rebate would, the fact that much of the money would ultimately be repaid would dramatically reduce the ultimate addition to the national debt. Thus, given the government budget constraint, the headline size of a program of national lines of credit could be much larger than the headline size of a program of tax rebates. Examples below clarify this point. The comparison to tax rebates is important. The appropriate timing for

issuing such national lines of credit would be similar to what in the past has been considered the appropriate timing of tax rebates, although a more favorable benefit/cost ratio in the case of national lines of credit might justify somewhat more frequent use of national lines of credit as compared to tax rebates.

Before spelling out the issues involving national lines of credit in greater detail, let me take care of a potential distraction. It is fine if some economists consider national lines of credit a type of monetary policy rather than a type of fiscal policy. Indeed, a policy of providing national lines of credit to almost all adult citizens has a flavor somewhere between traditional monetary and traditional fiscal policy. Even aside from national lines of credit, it is likely that there are many other useful additions to the macroeconomic stabilization toolkit that are somewhere between traditional monetary and traditional fiscal policy in the sense that they involve loans that have a significant risk of not being paid back in full. Here I am calling national lines of credit “fiscal policy” *first* because they are expected to add to the national debt (though at a relatively attractive ratio of additional aggregate demand to addition to national debt) and *second* because national lines of credit are not within the current legal authority of the Federal Reserve or most other central banks.

The lack of legal authority for central banks to issue national lines of credit is not set in stone. Indeed, for the sake of speed in reacting to threatened recessions, it could be quite valuable to have legislation setting out many of the details of national lines of credit but then authorizing the central bank to choose the timing and (up to some limit) the magnitude of issuance. Even when the Fed funds rate or its equivalent is far from its zero lower bound at the beginning of a recession, the effects of monetary policy take place with a significant lag (partly because of the time it takes to adjust investment plans), while there is reason to think that consumption could be stimulated quickly through the issuance of national lines of credit. Reflecting the fact that national lines of credit lie between traditional monetary and traditional fiscal policy, the rest of the government would still have a role both in establishing the magnitude of this authority and perhaps in mandating the issuance of additional lines of credit over the central bank’s objection (with the overruled central bank free to use contractionary monetary policy for a countervailing effect on aggregate demand).

**2. Possible Details of National Lines of Credit.** There are many possible ways to set up the details of national lines of credit, but concreteness will help in explaining how this policy intervention could work. Suppose, for example, that each adult citizen who files a tax return or pays Social Security taxes is mailed a national credit card that allows him or her to borrow (either as cash or in conjunction with a purchase) up to \$2000, with the eligibility date staggered by the last digit of her or his Social Security number both to aid the econometric evaluation of the national line of credit program and in order to spread out the administrative task of sending out the cards. (Ideally, the bureaucratic capacity to physically produce and distribute these cards should be worked out in some detail by the government in advance of needing to use this policy.)

There are several possible ways to set up the timeline for the national lines of credit. Consider first the terms for those individuals who draw on the entire line of credit immediately. In order to make the national lines of credit countercyclical, the repayment period needs to be long enough that most of the required repayment is after the end of the recession motivating the issuance of the lines of credit. For a normal downturn or slowdown, a 5-year repayment period might be appropriate. But Reinhart and Rogoff (2009) have argued that economic slowdowns following a serious financial crisis tend to last much longer than after an ordinary recession. In such cases, even something as long as a 10-year repayment period might be appropriate.

In order to minimize the fiscal cost, repayment could be enforced through the tax system. When possible, the payments could be made by payroll deduction as an addition to tax withholding. Otherwise, they could be made as an addition to quarterly or annual tax payments. I am assuming that--as is now the case with student loans--that the debt to the government would not be extinguished by bankruptcy. The interest rate could be set in line with the Treasury bond rate for the appropriate term (five to ten years) or perhaps modestly higher.

What about those who do not draw on the full line of credit immediately, or repay more quickly than required? Given the likely importance for consumers not only of *current borrowing constraints* but also *fear of possible future borrowing constraints*,<sup>1</sup> there is an argument for having the ability to draw on the line of credit last for some time. To be specific, think of the credit limit as declining exactly in line with what the size of the declining balance would be if all the funds had been drawn on immediately. The fact that the credit limit *does* decline is important to ensure that the policy is countercyclical: reducing aggregate demand in times of strong demand as well as increasing aggregate demand in times of weak demand. Having the credit limit decline is also important to avoid having the issuance of national lines of credit in successive recessions ratchet up households' levels of debt more and more. However, having the credit limit decline *gradually* is important to induce the extra consumption due to households worrying less about possible future borrowing constraints. Note that this extra consumption can arise even for households who, in the event, do not draw on the national line of credit at all. Having the credit limit decline gradually also helps to avoid any sudden drop in aggregate demand as the program concludes.

**3. Household Finance Considerations.** From the perspective of Household Finance (see Campbell, 2006), one possible objection to national lines of credit would be that they tempt some households to get in over their heads in debt. For this reason, it might make sense to make the size of the credit lines smaller for those with low incomes (as determined by income tax returns and Social Security tax records). One thing that makes this fairer than it might be otherwise is that those with lower incomes might benefit more per dollar of credit from the relatively low

---

<sup>1</sup> I was reminded of the importance of possible future borrowing constraints by reading Nagel (2012).

interest rate on the national lines of credit. It is also worth pointing out that, *in principle*, national lines of credit in times of low demand could be superseded in the long run (at least in part) by a modest level of forced saving in times of high demand, with the funds from these “national rainy day accounts” released to households in time of recession (and also perhaps in the case of one of a well-defined list of documentable personal financial emergencies).

On the other hand, from the perspective of Household Finance, a benefit of national lines of credit would be giving those who currently do not have credit cards, *nor* in many cases, even bank accounts, greater access to the benefits of the financial system. It is possible that some individuals of modest means would keep their national lines of credit mostly paid off so that they could use their national credit cards for transactions. The main point to be made here is that any such benefit would need to be sharply distinguished from the primary aggregate demand management purpose of the national lines of credit, and should not be allowed to subvert the overall countercyclical profile of national lines of credit. If national lines of credit are not allowed to fully expire, countercyclicity requires that at least for many households the credit limits on these accounts in times of high demand be much lower than in times of low demand. Having national lines of credit fully expire in due course for all of those who under normal circumstances are able to obtain commercial credit would keep down the amount of direct competition between national lines of credit and commercial lines of credit.

#### **4. Aggregate Demand Effects and Budgetary Costs of National Lines of Credit.**

Consider again the proposed criterion of addition to aggregate demand compared to ultimate addition to the national debt. One complication in assessing this ratio is that the stimulus provided by additional aggregate demand may itself affect the ultimate level of the national debt through the effect of this stimulus on taxes and transfers. But since two fiscal programs that have the same aggregate demand effects will have the same indirect effects on taxes and transfers, ranking them by which one has the lowest direct budgetary cost will be equivalent to ranking them by the ratio of additional aggregate demand to the total effect on the national debt.<sup>2</sup> I emphasize the ratio as opposed to comparisons at the same level of aggregate demand stimulus since one of the most attractive aspects of national lines of credit is that they can be affordable at scaled-up headline size.

Another complication in assessing the ratio of additional aggregate demand to ultimate effect on the national debt is determining the overall aggregate demand effect generated by each dollar of additional consumption after accounting for multipliers and crowding out. In the main, this translation between additional consumption and overall additional aggregate demand should be similar for tax

---

<sup>2</sup> If indirect effects on taxes and transfers actually make the national debt smaller after a fiscal stimulus, the mathematical ratio of additional aggregate demand to this negative number will be confusing in its direction, but it will still be true that it should be better from the standpoint of stabilization policy to get those aggregate demand benefits—including aggregate demand benefits on the national debt—with the least possible direct budgetary cost.

rebates and national lines of credit and so should not affect the overall ranking according to the criterion I propose. One exception to this approximate equivalence of the two policies in the translation from consumption impact to aggregate demand impact is that by loosening borrowing constraints, national lines of credit might lower the Keynesian multiplier. However, it would be hard (though not theoretically impossible) for national lines of credit to have a powerful effect on the Keynesian multiplier by loosening borrowing constraints without being powerful in their *direct stimulus effects* through that loosening of borrowing constraints.

From here on, in assessing fiscal stimulus programs, I will focus on the ratio of extra consumption to direct budgetary cost. In this spirit, tax rebates have inspired a substantial line of research about what fraction of tax rebates are spent reasonably soon as opposed to saved or used to pay down debt. (See for example Shapiro and Slemrod, 2003, 2009; Sahm, Shapiro, and Slemrod 2010, forthcoming; Johnson, Parker and Souleles, 2006; and Agarwal, Liu and Souleles, 2007.) In the context of tax rebates, for which the direct budgetary cost is equal to the headline size of the tax rebate, this and the macroeconomic effects of additional consumption are the key issues. Based on this literature, 1/3 might be a reasonable estimate of the ratio of extra consumption to budgetary cost for tax rebates (with most of the debate being between that value and lower values).

For national lines of credit, the present value of the direct budgetary cost and the consumption impact are both key unknowns. A key virtue of national lines of credit is that many of the factors that would reduce a household's extra consumption due to the line of credit would also reduce the present value budgetary cost of the national line of credit. Thus, the uncertainty about the ratio of extra consumption to budgetary cost could be proportionally lower than the uncertainty in either the numerator or the denominator. In general, the concern about whether someone will spend the line of credit or not is muted by the fact that if not spent it is less likely to result in a *de facto* loan loss.

Consider some examples. Suppose a household decides to use funds from the national line of credit to pay off other debt. The reduction in other debt would make that household more likely to be able to repay the government. As another example, take the extreme case of a household that does not use the line of credit at all. Any extra consumption in this case is only from reduced worry about possible future borrowing constraints, which may be a modest effect, but the direct budgetary cost is zero! At the other extreme, some households will have almost no ability to repay the government, but most of these households will spend the bulk of the line of credit, yielding a ratio of extra consumption to direct budgetary cost for these households close to one. A particularly favorable case for the ratio of extra consumption to budgetary cost is the case where a household uses the national line of credit to put together a down payment for a consumer durable. This could generate extra consumption stimulus to aggregate demand greater than the headline amount while also providing some level of equity in a consumer durable to add to the probability the government gets repaid. Although the purchase of

consumer durables is a particularly favorable case for the effect of tax rebates as well, the larger size of the line of credit as compared to an equally costly tax rebate opens up a wider range of consumer durables to this kind of purchase.

The inability to extinguish these debts through bankruptcy implies that there would be no *de jure* loan losses. There would be *de facto* loan losses, since one cannot get blood out of a stone, but collection through the tax system (including withholding) should lead to relatively low levels of *de facto* loan loss. One of the main factors in the level of *de facto* loan losses would be the extent to which the size of the lines of credit goes up with income. Despite the reduction in additional aggregate demand per headline size of the program that might be occasioned by conditioning on income, *de facto* loan losses would probably decline by a greater proportion, meaning that conditioning on income might improve the ratio of extra consumption to budgetary cost. Certainly, having the line of credit go up with income might reduce the level of implicit redistribution, which is a consideration I will not try to address here.

Of course, evaluating the ratio of extra consumption to budgetary cost for national lines of credit should ultimately be an empirical matter. *A priori* considerations given here make it seem likely that this ratio would be much more favorable for national lines of credit than for tax rebates. Therefore, the value of conducting an experiment with national lines of credit at the appropriate time is high. The “experiment” could be either full-scale nationwide implementation in one instance, or it could be a smaller-scale experiment in which some randomly chosen households were singled out to take part. It should be possible to secure relatively high levels of cooperation in such a smaller-scale experiment. One caution is that determining the ultimate budgetary cost may require a relatively long period of time, since some households that initially could not repay would later become able to repay. From a scientific point of view, perhaps one of the most interesting experiments of all would be if half of all households were randomized to receive a \$200 per adult tax rebate, while the other half of all household received a (ten-times larger) \$2000 per adult line of credit. This is an experiment that could be conducted even at a moment when the need for action was urgent. However, it might lead to envy on the part of one treatment group for the other treatment group’s program.

**5. The Relationship Between Short-Run and Long-Run Fiscal Policy.** Even before the financial crisis that crescendoed with the fall of Lehman in September 2008, most advanced economies faced key long-run fiscal issues centering on the level of government spending (both purchases and transfers), the level of taxation with its attendant distortions, and fiscal sustainability. The financial crisis and the Great Recession brought these long-run fiscal issues to the fore at the same time that it introduced severe short-run fiscal issues. The European debt crisis in particular has brought fiscal sustainability concerns to the fore. The short-run fiscal issues came in the form of low levels of aggregate demand at a time when traditional forms of monetary policy had reached the zero lower bound on short-term interest rates.

Given the effects of low aggregate demand on government revenues and expenditures, raising aggregate demand is important for fiscal sustainability *if* it can be done without large direct budgetary cost. Austerity and *traditional* fiscal stimulus can only be reconciled by the difficult two-step of spending more or taxing less now while promising to spend less or tax more in the future. By contrast, it is perfectly possible to combine an immediate or relatively-quickly-phased-in austerity program with the issuance of large national lines of credit to counteract the negative aggregate demand effects of the austerity program. (Some countries may be close enough to being shut out of credit markets themselves that they might need an outside loan to be able to provide national lines of credit to their citizens.) Politically, these lines of credit could be explained as a way to cushion the blow of an austerity program on household budgets as well as providing macroeconomic stimulus.

In general, finding ways to stimulate aggregate demand that do not add too much to the national debt allows long-run fiscal issues to be separated from short-run stabilization issues. From this point of view, one of the great virtues of monetary policy is that monetary stimulus does not ultimately add much to the national debt. At worst, the assets a central bank purchases during times of low aggregate demand can be sold in times of higher aggregate demand at some capital loss, and then only when restraining a strong economy requires prompt selling of assets before their maturity. To the extent that purchases by a central bank of assets other than short-term government bonds are limited by concerns about the unknown effects of purchasing these assets, it is worth looking for fiscal policies that get as close as possible to the high ratio of extra aggregate demand to extra national debt achieved by monetary stimulus.

In Europe, monetary policy is limited not only by the zero lower bound on the nominal interest rate, but also by having only one monetary policy for the entire Eurozone. Thus, there is a special need in the Eurozone for cost-efficient forms of fiscal policy that can be tailored to individual countries or regions. Like other forms of fiscal policy, national lines of credit would allow for greater stimulus for particular countries or regions in the Eurozone. Though there would be spillovers, households would be likely to do a substantial fraction of their extra spending on nontradables within their own region, so national lines of credit should have an especially strong effect on aggregate demand within their region of issuance.<sup>3</sup>

**6. Comparison to Other Possible Policies.** It is quite possible that other policies between traditional monetary and traditional fiscal policies could also work well to stimulate aggregate demand at relatively low budgetary cost. One such policy that might be within the Federal Reserve's legal authority would be using discount loans to support the provision of consumer credit or home equity lines of credit. This would only loosen borrowing constraints for some households, but might have very little budgetary cost, even implicitly. Another attractive policy is investment in infrastructure projects that have good cost-benefit characteristics in any case.

---

<sup>3</sup> In principle, a state in the U. S. could obtain additional stimulus in an analogous way.



However, here the experience of the last few years has shown how difficult it is to get infrastructure projects to happen quickly. Unless these projects are queued up in advance with all the details worked out--waiting for the "go" signal at the beginning of a recession--a normal recession might be over before serious employment of resources begins on a project. A countercyclical investment tax credit has similar issues, since firms also need a fair amount of preparation before serious employment of resources on a project--unless the project has been queued up in advance, waiting for a recession to lower costs. A big advantage of national lines of credit is that, once triggered, the details of spending are worked out through the household decision-making process, which is relatively nimble compared to corporate and government decision-making processes.

**7. Conclusion.** This note is written at a time when concerns about insufficient aggregate demand are common. It should go without saying that it is quite possible to have too much aggregate demand. Permanently raising the level of inflation by having aggregate demand temporarily above the natural level of output is not very attractive. But when additional aggregate demand *is* called for, and monetary policy is constrained more than usual, it is valuable to have additional options for generating additional aggregating demand with as little addition to the national debt as possible.

## References

Agarwal, Sumit, Chunlin Liu, and Nicholas S. Souleles (2007). "The Reaction of Consumer Spending and Debt to Tax Rebates—Evidence from Consumer Credit Data." *Journal of Political Economy*, 115(6), 986-1019.

Campbell, John Y., 2006. "Household Finance," *Journal of Finance* LXI, 4 (August), 1553-1604.

Johnson, David, Jonathan A. Parker, and Nicholas S. Souleles (2006). "Household Expenditure and the Income Tax Rebates of 2001." *American Economic Review*, 95(5), 1589-1610.

Nagel, Stefan, 2012. "Macroeconomic Experiences and Expectations: A Perspective on the Great Recession," working paper, Stanford University.

Reinhardt, Carmen M., and Kenneth Rogoff, 2009. *This Time is Different: Eight Centuries of Financial Folly*. Princeton University Press.

Sahm, Claudia R., Matthew D. Shapiro and Joel Slemrod, 2010. "Household Response to the 2008 Tax Rebates: Survey Evidence and Aggregate Implications," *Tax Policy and the Economy* 24 (2010) 69-110.

Sahm, Claudia R., Matthew D. Shapiro and Joel Slemrod, forthcoming. "Check in the Mail or More in the Paycheck: Does the Effectiveness of Fiscal Stimulus Depend on How It Is Delivered?" *American Economic Journal: Economic Policy*.

Shapiro, Matthew D., and Joel Slemrod, 2009. "Did the 2008 Tax Rebates Stimulate Spending?" *American Economic Review Papers and Proceedings* 99 (May), 374-379.

Shapiro, Matthew D., and Joel Slemrod, 2003. "Consumer Response to Tax Rebates" *American Economic Review* 93 (March), 381-396