

Discretionary Fiscal Policy as a Stabilization Policy Tool: What Do We Think Now That We Did Not Think in 2007?

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ABSTRACT

Six years ago there was near-consensus among economists and policymakers alike in support of Taylor's (2000) argument that aggregate demand management was the near-exclusive domain of central banks. Today central bankers like Federal Reserve Chair Bernanke (2013) are actively asking for help by fiscal authorities. What caused this shift? In part, the course of interest rates has made the costs of discretionary expansionary fiscal policy lower than anyone would have believed. In part, the benefits via Keynesian multiplier processes appear to have been much larger than was presumed. And in large part monetary policy has proven inadequate to the task without undertaking risky and untried non-standard policy measures at a scale that has so far proven too large for central banks to risk. Against this shift in the benefit-cost calculus toward use of discretionary expansionary fiscal policy in the current conjuncture we must set uncertain long-run costs of debt accumulation. These costs, however, remain especially hard to analyze as they seem to substantially consist of "unknown unknowns".

¹ We would like to thank Owen Zidar for excellent research assistance, and Olivier Blanchard, Joe Gagnon, Yuriy Gorodnichenko, Carmen Reinhart, Christina Romer, Robert Strom and Larry Summers for helpful conversations and observations.

II. What We Thought About Fiscal Policy Back in 2007

Six years ago, there was near-consensus among economists and policymakers alike in support of John Taylor's (2000) argument that aggregate demand management was the near-exclusive province of central banks and monetary policy.² There was also near-consensus that the expansionary stabilization policy tool of choice was the conventional open-market operation: buying short-term government bonds for cash in order to expand the money supply and so induce an increase in the pace of nominal spending.

There were five powerful reasons for this near-consensus against the use of discretionary fiscal policy³ and for the use of monetary policy:

1. **The problem of legislative confusion:** Legislatures that were told that expansionary policies which led to cyclical deficits in downturns were good might have difficulty retaining the other important lesson that structural deficits which led to perpetually rising debt-to-GDP ratios were bad. Better, it was thought, to keep the legislative process focused on “classical” considerations of the benefits and costs of spending programs and taxation levels.
2. **The problem of legislative process:** Legislatures are, by design, institutions that find it very difficult to make decisions quickly. Central banks, by contrast, can move asset prices in an hour. Fiscal policies that take effect this year as a result of decisions made by a legislature last year based on information from two or three years ago would seem to guarantee sub-optimal economic outcomes.
3. **The problem of implementation:** Public bureaucracies have limited capacities to ramp-up or ramp-down their spending levels quickly without incurring substantial waste. The larger the fiscal-policy intervention to balance aggregate demand, the less likely the intervention would be well timed, well designed and well executed.

² John Taylor (2000), "Reassessing Discretionary Fiscal Policy", *Journal of Economic Perspectives* 14:3 (Summer), pp. 21-36

<http://www.econ.ucdavis.edu/faculty/kdsalyer/lectures/ecn137/taylor_fiscal.pdf>.

³ There were no objections to "automatic stabilizers"--deficits produced by the natural income elasticity of both tax and benefit structures.

4. **The problem of rent-seeking:** In a world where we fear that the structure of government already leads to policies favoring too-many politically-powerful winners at the expense of politically-weak losers, an additional excuse to undertake fiscal projects and programs that would not meet conventional societal benefit-cost tests is not welcome.
5. **The problem of superfluity:** Monetary policy was strong enough to do the job. Fiscal policy was simply not necessary.

Of these, the fifth was most important.

The other four were political or institutional reasons for why the discretionary portions of fiscal policy were not well adapted to a fiscal stabilization role and instead should be set on “classical” principles. But those arguments would not have been decisive save for the near-consensus that central banks could, via monetary policy, direct the flow of nominal spending in the economy to any pace they might desire. Under this condition, no additional degrees of freedom of action were opened up by the addition of discretionary fiscal policy.

This part of the near-consensus was backed by two lines of argument:

First, there was the observation that the failure to find robust evidence of substantial non-wartime fiscal policy multipliers was a sign that central banks were already engaging in full fiscal offset. According to this line of thinking, central banks had in mind targets for the pace of nominal spending and did not want their elbows joggled by fiscal policy actions. So the central banks took steps to shift monetary policy to offset what would otherwise have been the effects on the flow of demand from discretionary fiscal policy.⁴ The econometric failure to find substantial and robust multipliers

⁴ J. Bradford DeLong and Lawrence H. Summers (2012), "Fiscal Policy in a Depressed Economy", *Brookings Papers on Economic Activity*. The belief that the Federal Reserve under Alan Greenspan was and that financial markets believed the Federal Reserve engaged in full fiscal offset was a key assumption behind Clinton Administration justifications of its 1993 deficit-reduction program. See Laura D. Tyson *et al.* (1994), *Economic Report of the President 1994* (Washington, DC: GPO): “Lower federal borrowing reduces interest rates directly, by reducing demand for credit. A more prudent fiscal policy reduces the likelihood that the Federal Reserve will need to pursue a restrictive monetary policy, and so reduces expected future short-term rates.” For a contrasting view that fiscal-policy multipliers have in fact been large and that central

was thus interpreted as evidence not just that central banks could engage in full fiscal offset but that they did--hence there was no point for an executive and a legislature to try to affect the flow of aggregate demand via discretionary fiscal policy.

Second, there was the theoretical belief that monetary policy could do the job--even, in all likelihood, if nominal interest rates hit their zero lower bound at which the elasticity of demand for cash was effectively unlimited. As Professor Bernanke (1999)⁵ wrote just before the millennium of Japan:

[L]iquidity trap or no, monetary policy retains considerable power.... Money... pays zero interest and has infinite maturity.... [I]f the price level were truly independent of money issuance, then the monetary authorities could use the money they create to acquire indefinite quantities of goods and assets. This is manifestly impossible in equilibrium. Therefore money issuance must ultimately raise the price level, even if nominal interest rates are bounded at zero. This is an elementary argument... quite corrosive of claims of monetary impotence.... [A] target in the 3-4% range for inflation.... A nonstandard open-market operation... the purchase of... long-term government bonds... at fair market value... [T]here is little doubt that such operations, if aggressively pursued, would indeed have the desired effect.... To claim that nonstandard open-market purchases would have no effect is to claim that the central bank could acquire all of the real and financial assets in the economy with no effect on prices or yields...

Yet in today's environment Federal Reserve Chair Bernanke (2013)⁶ takes a very different view:⁷ that the Federal Reserve either does not have the power to offset effects of discretionary fiscal policy on demand or sees large risks in doing so, and in any event will not try to offset these effects:

Although monetary policy is working to promote a more robust recovery, it cannot carry the entire burden.... The challenge for the Congress and the

banks have not been successfully engaged in full fiscal offset, see Christina Romer and David Romer (2010), "The Macroeconomic Effects of Tax Changes: Estimates Based on a New Measure of Fiscal Shocks" *American Economic Review* 100:3 (June), pp. 763-801 <<http://goo.gl/h0wrC>>.

⁵ Ben Bernanke (1999), "Japanese Monetary Policy: A Case of Self-Induced Paralysis?" <http://www.princeton.edu/~pkrugman/bernanke_paralysis.pdf>

⁶ Ben Bernanke (2013), "Semiannual Monetary Policy Report to Congress" (February 26) <<http://www.federalreserve.gov/newsevents/testimony/bernanke20130226a.htm>>.

⁷ Note that on April 5, 2013, the Bank of Japan in large part adopted Bernanke's policy recommendations of fourteen years before, embarking on a policy to double the monetary base in two years in order to reflate the Japanese economy.

Administration is to put the federal budget on a sustainable long-run path that promotes economic growth and stability without unnecessarily impeding the current recovery.... [L]owering the deficit has been concentrated in [the] near-term... which... could create a significant headwind for the economic recovery... slow the pace of real GDP growth by about 1-1/2 percentage points this year...

And Chairman Bernanke calls for a more expansionary fiscal policy posture in the United States:

[T]he Congress and the Administration should consider replacing the sharp, frontloaded spending cuts required by the sequestration with policies that reduce the federal deficit more gradually.... Such an approach could lessen the near-term fiscal headwinds facing the recovery...

While Professor Bernanke believed that central banks had the tools, the power, and the will to do what was necessary to support the level of aggregate demand consistent with the economy's productive potential--and thus assistance from fiscal policy was superfluous--Chair Bernanke now definitely asks for assistance from fiscal authorities in the form of delayed long-run fiscal rebalancing.

What caused this shift? And how far does this shift extend? What do we now think are the limits on the appropriate stabilization policy role of discretionary fiscal policy?

III. The Evolution of Thinking on Discretionary Fiscal Policy as Stabilization Policy, 2007-2013

Looking back, thought on discretionary fiscal policy as stabilization policy has only gradually shifted away from the near-consensus rejection of any appropriate role six years ago. Six distinct stages in the evolution of thinking can be seen.

First, with the reduction of short-term nominal policy interest rates to zero toward the end of 2008, there came recognition that conventional open-market operations were not powerful enough to accomplish the desired stabilization of aggregate demand. This recognition led to another: that discretionary fiscal policy might have an appropriate stabilization role, but

this role would be limited to a period of at most two years, until deleveraging, rebalancing, and price adjustment proceeded far enough to bring an end to the liquidity trap and an exit from the zero lower bound on short-term nominal interest rates.

By mid-2009, however, events had moved on to a second stage produced by the slow recognition that the financial shock was larger than anticipated and deleveraging and price adjustment slower than anticipated. The consequence was that exit from the liquidity trap would come not in 2010 but considerably later, and this raised the question of whether expansionary discretionary fiscal policy might have a medium-run rather than merely a short-run role to play.

The medium-run limit on expansionary fiscal policy had always been that it would trigger the crowding-out of investment spending. An increase in bond issues that raised the supply of government debt would lower the price of both government debt and private debt, and so crowd-out the private investment projects that private debt would normally finance. Unless there was strong confidence that the central bank would act on interest rates in a timely way to prevent such crowding-out from taking place, this channel had, in the general consensus, always made any medium-run stabilization policy role for expansionary discretionary fiscal policy unwise.

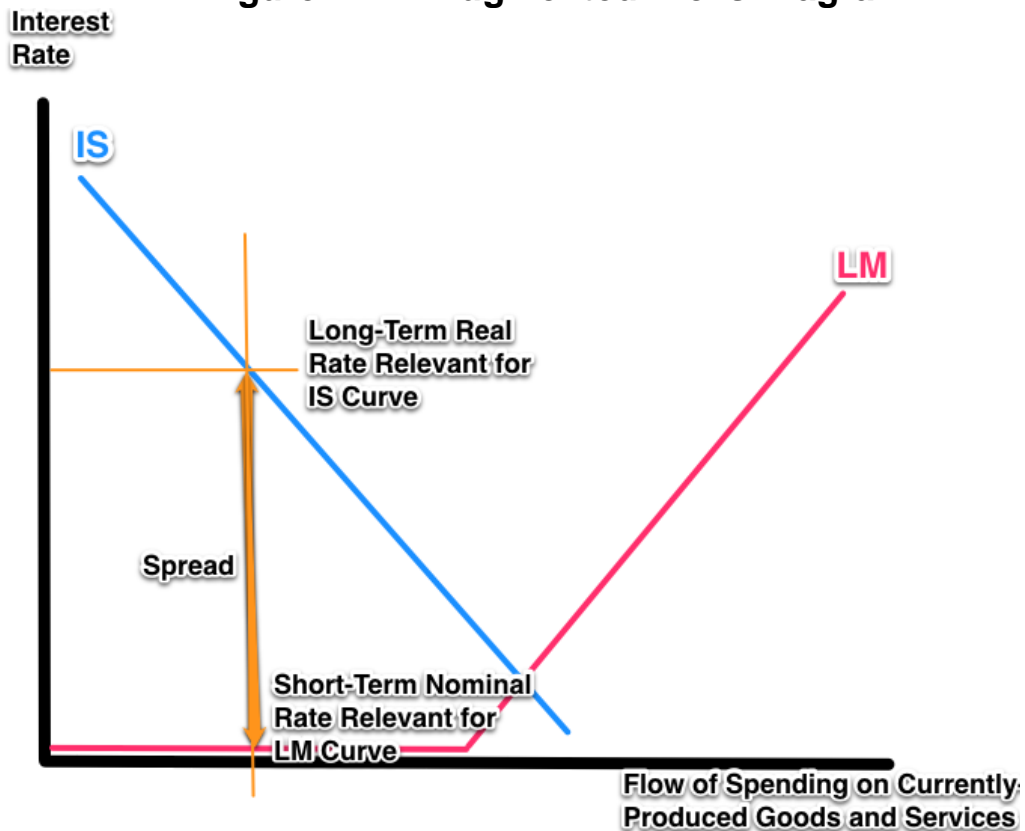
However, no interest rate increases occurred in much of Europe, including the UK, in North America, or in Japan. For the most credit-worthy sovereigns, even extraordinary rates of increase in sovereign debts did not call forth any rise in long-term rates. There was no crowding-out of private investment: rather the reverse.

Nevertheless, during this second stage of thinking there were questions as to whether “non-standard” monetary and banking policy measures—quantitative easing, relaxation of medium-term inflation targets, nominal GDP level targeting, loan guarantees, and bank recapitalizations—might be superior to discretionary fiscal policy and obviate the need for it.

A framework for analyzing these first-round issues can be found in a four-commodity model of John Hicks (1937), in which the commodities are: money, safe short-term bonds, risky long-term bonds, and spending on

currently-produced goods and services.⁸ In this framework there are four variables to be determined: the short-term safe nominal interest rate that clears the supply and demand for money balances according to the “LM” Irving Fisher quantity theory, the long-term risky real interest rate that clears the supply and demand for bonds according to the “IS” Knut Wicksell savings-investment equation, the spread between the interest rate relevant for the “LM” curve and the interest rate relevant for the “IS” curve, and the flow of spending on currently-produced goods and services.

Figure 1: An Augmented Hicks Diagram

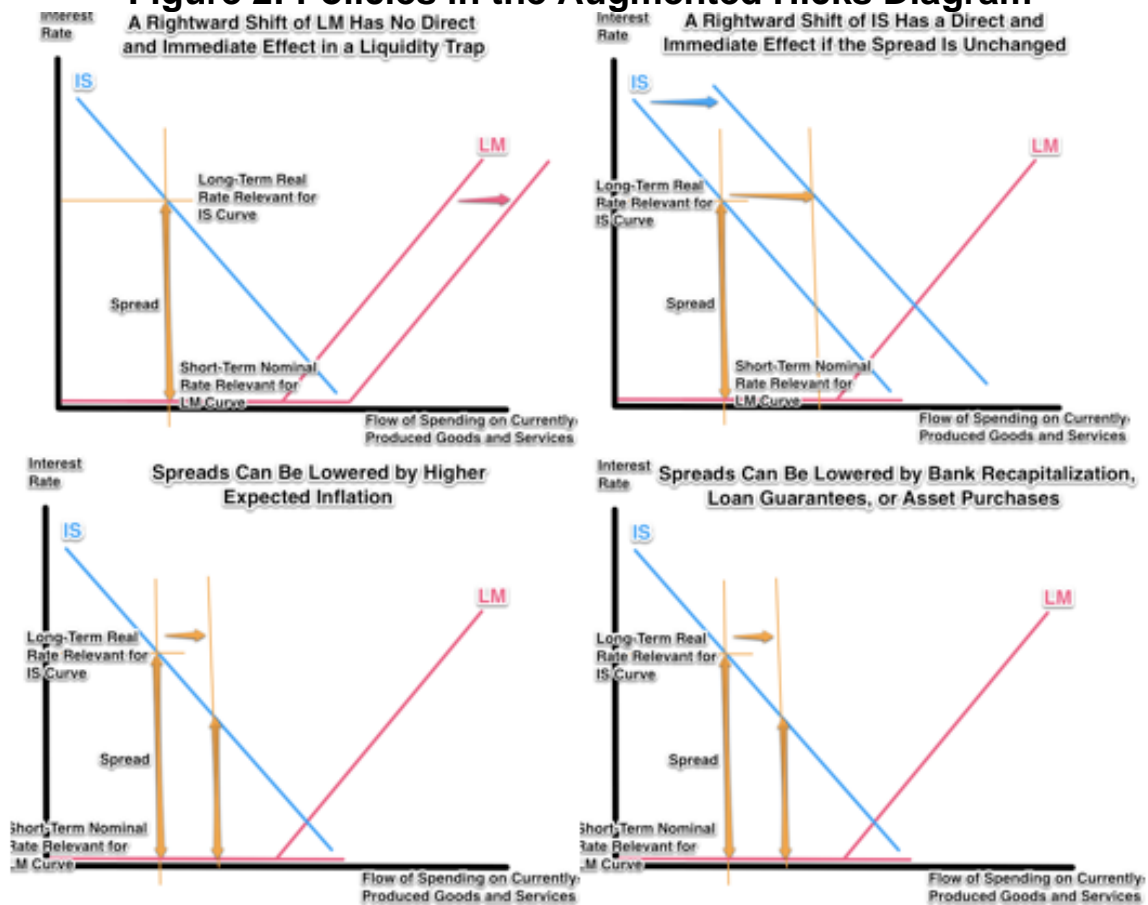


In this framework, the OECD economy as of late 2009 was characterized by (a) a very low short-term safe nominal interest rate relevant for money demand and money supply in the “LM” curve, (b) a rather high long-term

⁸ Olivier Blanchard stresses the importance of moving from a three-commodity to a four-commodity version of the Hicksian (1937) general-equilibrium framework. See Tim Besley, et al. (2013), “What should economists and policymakers learn from the financial crisis?” (London School of Economics video) <<http://goo.gl/9TG4K>>.

risky real interest rate relevant for the determination of savings, investment, and the flow of spending in the “IS” curve, (c) an unusually high spread between the interest rates relevant for the “IS” and the “LM” curves produced by low forecast inflation and the greatly diminished risk-bearing capacity of financial intermediaries in a context of heightened perceived risk, and (d) a reduced flow of spending on currently-produced goods and services.

Figure 2: Policies in the Augmented Hicks Diagram



Restoring the flow of spending to a pace consistent with normal levels of employment could, in theory at least, be achieved by a number of different policy tools. The obvious tool was monetary expansion to shift the quantity-theory money-market supply and demand “LM” curve to the right. However, the fact that the short-term safe nominal interest rate was at its zero lower bound meant that a further rightward shift of the “LM” curve would have no direct and immediate effect on the system’s current state. The next obvious

tool was fiscal expansion: shifting the IS curve to the right, with the hope of having a direct and immediate positive effect on spending and employment, which would naturally occur on the absence of a steep sudden rise in the interest-rate spread.

But there was also the possibility of policies to reduce the interest-rate spread, thus having a direct and immediate positive effect on the economy without requiring immediate increases in fiscal deficits. A credible commitment to a higher medium-term inflation rate would reduce the spread—for the interest rate relevant to the “IS” curve is a real rate, while the interest rate relevant to the “LM” curve is a nominal rate. Such a commitment might be accomplished via quantitative easing as a pledge that monetary expansion would be maintained even after the economy had exited the zero-lower bound. A reduction in risk, either through central bank purchases of risky assets via quantitative easing or through loan guarantees would also reduce the spread. And an increase in the risk-bearing capacity of the financial sector via banking-sector recapitalization would reduce the spread as well.

Thus by mid-2010 the debate over the medium-run role of expansionary discretionary fiscal policy had moved to the recurrent fear that fiscal expansion would increase the interest-rate spread. Most of the developed countries face a long-term fiscal dilemma. Aging populations require greater pension and health-care expenditures, a great deal of which will inevitably land on governments. An ongoing shift in economic structure towards an increasing share of GDP devoted to education and to health care promises a larger share of government spending in GDP as well—for the four major sectors of the economy that have never been successfully privatized are infrastructure, national defense, and the twins of health care and education. Governments have no consistent and coherent plans for dealing with this long-term projected rise in government spending as a share of GDP. In such a policy environment, a short-term move further away from what would be seen as fiscal prudence might increase perceptions of risk and increase spreads. Thus expansionary fiscal policy might prove to be counterproductive, if the rise in spreads overbalanced whatever rightward shift in the “IS” curve fiscal expansion accomplished.

In the absence of European fiscal union and with the commitment of the European Central Bank to support the government bond markets of peripheral European countries unclear, these third-stage considerations

moved from theory to reality as large budget deficits in southern European countries triggered runs on national government bond markets and a sharp increase in interest-rate spreads. It became clear that successful expansionary fiscal policy required a central bank willing to support the relevant government bond market and, behind it, a credit-worthy sovereign to support the central bank—or required backing of a non-credit-worthy sovereign by a credit-worthy sovereign. Thus among the developed countries, expansionary discretionary fiscal policy came to be a policy option limited to Japan, the United States and Canada, Great Britain, Germany, the IMF, and possibly France—and to other economies only insofar as they could draw on those credit-worthy sovereigns for backing.

But would those credit-worthy sovereigns remain credit-worthy?

By mid-2011 the debate had moved on to stage four. There was an acknowledgement that the limit on fiscal expansion and spending—for the most credit-worthy sovereigns, at least—was not that further deficit spending would lead to crowding-out and fail to boost output and employment now, but would rather that it would entail unwarranted risks of long-term inflation should electorates prove unwilling to tax themselves to properly amortize the debt. Delaying fiscal consolidation in these circumstances might not be counterproductive in the short-run or the medium-run, but it would elevate risks in the long-run when the electorates of the credit-worthy sovereigns would be presented with the bills that had been incurred in their name.

Stages five and six in the evolution of thinking about fiscal policy occurred between mid-2011 and mid-2012. Stage five was the slow recognition that the collapse of private-sector risk tolerance was not being reversed. Banking-sector recapitalization and central bank and Treasury backstops did not lead to a revival of the credit channel's willingness to assume risk and encourage enterprise. There was growing recognition that merely recapitalizing the banking system does not restore the trust of private savers in financial intermediaries and the functioning of the credit channel and that at least for the medium term private savers' demands for the debt of credit-worthy sovereigns will be much larger than had previously been thought possible. These developments encouraged some economists and policymakers to consider whether governments could create alternative savings vehicles that private-sector savers would trust as low risk without having a large adverse effect on government's long-term balance sheet.

It seemed as if demand for safe nominal assets was sufficiently elevated that only credit-worthy sovereigns could possibly provide the safe assets the private sector wanted to hold in sufficient quantity to allow for rebalancing near full employment.

And stage six was the recognition that the fiscal stakes both in the short-run and the long-run were larger than had been recognized. The IMF's revisiting of the cross-European experience led it to conclude that the open-economy policy-relevant fiscal multipliers in 2009-2011 had been not 0.5 but 1.5—which implies that the closed-economy policy-relevant fiscal multipliers not for individual countries but for Europe or for North America as a whole were in all likelihood close to if not greater than 2.5. And revisions of long-run forecast growth trajectories raised the possibility that continued slack demand was having a significant negative influence not just on short-run output but on long-run growth, raising the possibility that premature fiscal austerity was both reducing employment and production today and also worsening long-term fiscal dilemmas if austerity reduced the denominator of the debt-to-annual-GDP ratio by a greater fraction than it reduced the numerator.

And that is where we stand today. In the context of central banks that believe they lack the power and certainly lack the will to use non-standard expansionary monetary policy to rapidly rebalance economies to attain full employment and low inflation, expansionary fiscal policy thus acquires a stabilization policy role. The question is how large a role. And that requires assessing the benefits and the risks from expansionary fiscal policy.

IV. The Current Benefits of Expansionary Fiscal Policy, as Undertaken by Credit-Worthy Sovereigns

Overview: It is important to focus on the problems of the OECD. The problems are twofold: first, the presence of an extraordinary amount of economic waste in the form of idle resources, both labor and capital; second, the OECD economies are failing to prepare for the shift of resources into larger old-age pensions and more medical care that the combination of population aging and evolving technology will bring.

But, while it would be desirable to have a policy in place that would address

the second problem—and while policies in place to deal with the second problem might pay dividends in terms of greater confidence and reduced uncertainty —the second problem is not a current problem. It can be fixed gradually over time in the future. The current gap between actual and potential output, by contrast, represents a pure and tragic waste of productive and human potential that cannot be undone if not fixed now. As long as there is underutilized capacity, discretionary fiscal policy in the form of temporary tax cuts and temporary increases in government spending, can boost aggregate demand and help close the gap between actual and potential output, provided there is no offsetting monetary policy response. According to the Federal Reserve, this is the case in the US for the foreseeable future.

Under these circumstances, consistent with traditional Keynesian theory, recent research confirms⁹ that fiscal policy multipliers appear significantly larger than in “normal” conditions when the economy is operating near capacity, resources are tight, and monetary policy is not at or near the zero interest rate bound.

Using a variety of statistical techniques, researchers have reached the following conclusions about fiscal policy multipliers.

- The size of multipliers is state-dependent and nonlinear: multipliers vary over the business cycle, are significantly larger during downturns than during expansions, and significantly larger overall than previously thought.¹⁰
- The size of multipliers depends on what the current monetary policy

⁹ With the exception of Michael Owyang, Valerie Ramey, and Sarah Zubairy (2013), “Are Government Spending Multipliers Greater During Periods of Slack? Evidence from 20th Century Historical Data” (Cambridge: NBER Working Paper 18769)

<<http://goo.gl/cGh3P>>

¹⁰ See Alan J. Auerbach and Yuriy Gorodnichenko (2012) “Measuring the Output Responses to Fiscal Policy,” *American Economic Journal: Economic Policy* 4:2 (May), pp. 1-27; Alan Auerbach and Yuriy Gorodnichenko (2013), “Fiscal Multipliers in Recession and Expansion”, in *Fiscal Policy after the Financial Crisis* (Chicago: University of Chicago Press) <<http://www.nber.org/papers/w17447>>; and Olivier Blanchard and Daniel Leigh (2013), “Growth Forecast Errors and Fiscal Multipliers” (Washington, DC: IMF Working Paper 13/1)

<<http://www.imf.org/external/pubs/ft/wp/2013/wp1301.pdf>>.

régime is.¹¹

- When a government confronts borrowing constraints as a result of high public debt, multipliers are smaller.¹²
- Multipliers are larger when private actors are credit-constrained. Under these circumstances, consumption depends more on current income than on expected future income and investment depends more on current profits than on expected future profits.¹³
- Estimates of multipliers with credit-constrained hand-to-mouth consumers are 50% larger than estimates under normal credit conditions.¹⁴

¹¹ See J. Bradford DeLong and Lawrence H. Summers (2012), “Fiscal Policy in a Depressed Economy”, *Brookings Papers on Economic Activity* 2012:1; J. Bradford DeLong (2013), “The Full Fiscal Offset Principle” <<http://delong.typepad.com/sdj/2013/02/the-full-fiscal-offset-principle-away-from-the-zero-lower-bound-that-is-or-why-one-would-expect-the-multiplier-to-be-zer.html>>. “Local Multiplier” studies, that examine disparate output responses to disparate fiscal stimulus in sub-regions of a currency union—and that thus keep monetary and financial conditions constant as the degree of fiscal impetus shifts—do show much larger multipliers than do studies that do not control for how the central bank’s reaction function leads monetary policy to shift as the fiscal impetus shifts. See Juan Carlos Suarez Serrato and Philippe Wingender (2010), “Estimating Local Fiscal Multipliers” (Berkeley, CA: U.C. Berkeley) <http://ceg.berkeley.edu/students_9_2583495006.pdf>; Gabriel Chodorow-Reich et al. (2011), “Does State Fiscal Relief During Recessions Increase Employment? Evidence from the American Recovery and Reinvestment Act” (Berkeley, CA: U.C. Berkeley) <<http://econgrads.berkeley.edu/gabecr/files/2011/05/Does-State-Fiscal-Relief-During-Recessions-Increase-Employment-August-20114.pdf>>; Brock Mendel (2012), “The Local Multiplier: Theory and Evidence” (Cambridge, MA: Harvard University); and many others.

¹² See Giancarlo Corsetti, Andre Meier, and Gernot J. Müller (2012), “What Determines Government Spending Multipliers?” (Washington DC: IMF Working Paper 12/150) <<http://www.imf.org/external/pubs/ft/wp/2012/wp12150.pdf>>

¹³ See Giancarlo Corsetti, Andre Meier, and Gernot J. Müller (2012), “What Determines Government Spending Multipliers?” (Washington DC: IMF Working Paper 12/150) <<http://www.imf.org/external/pubs/ft/wp/2012/wp12150.pdf>>; Atif Mian and Amir Sufi (2010), “Household Leverage and the Recession of 2007-09”, *IMF Economic Review* 58:1, pp. 74–117; Gauti Eggertsson and Paul Krugman (2012), “Debt, Deleveraging, and the Liquidity Trap: A Fisher-Minsky-Koo Approach”, *The Quarterly Journal of Economics*, 1469–1513. <<http://qje.oxfordjournals.org/content/127/3/1469.full.pdf>>.

¹⁴ See Atif Mian and Amir Sufi (2010), “Household Leverage and the Recession of 2007-09”, *IMF Economic Review* 58:1, pp. 74–117.

- Opinion is divided on the relative size of the multipliers for government spending and for taxes. Keynesian models assume that the multipliers for government spending are larger, and most macroeconomic models of the US economy, including those used by the CBO and by private forecasters are consistent with this assumption. But some academic research indicates that the multipliers for tax policies are larger than previously thought¹⁵ and some *preliminary* research suggests that they may be larger than the multipliers for government spending under some circumstances.¹⁶
- The multipliers for changes in government spending vary for different kinds of government spending.
- The multipliers for changes in government taxes vary for different kinds of taxes.¹⁷
- The size of the multiplier varies across countries, so fiscal policies should be tailored to specific country conditions.
- Multipliers are smaller in small, open economies than in large economies.
- Countries operating with fixed exchange rate systems have larger multipliers than countries with flexible exchange rate systems.
- Cross-border multiplier effects can be significant. Fiscal stimulus in one country is likely to have economically and statistically significant effects on output in countries with the effects depending on the

¹⁵ Mertens and Ravn (2013) “Reconciliation of SVAR and Narrative Estimates of Tax Multipliers”

<http://www.economics.cornell.edu/km426/papers/Reconciliation_revision.pdf>

¹⁶ Alberto Alesina, Carlo Favero and Francesco Giavazzi (2012) "The Output Effect of Fiscal Consolidations"

<http://didattica.unibocconi.it/mypage/upload/48751_20120830_023720_THEOUTPUTOFFISCALCONSOLIDATIONS.PDF> and Andrew Jalil (2012) “Comparing Tax and Spending Multipliers: It’s All About Controlling for Monetary Policy”

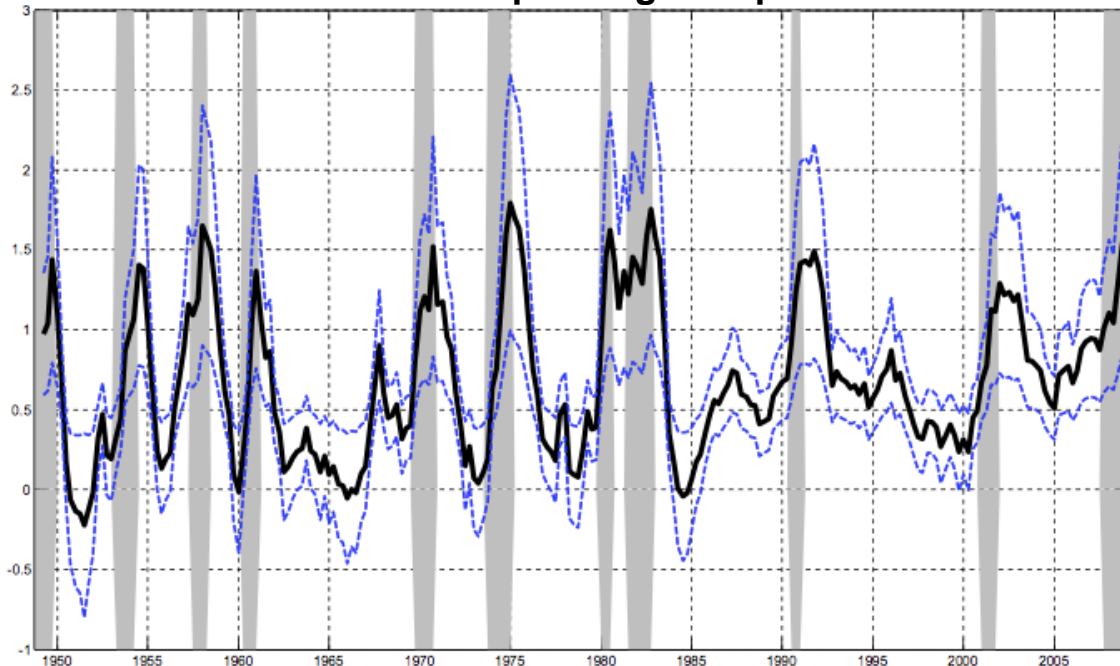
<http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2139855>

¹⁷ See Christina Romer et al. (2010), *Economic Impact of the Recovery and Reinvestment Act of 2009: Fourth Quarterly Report* (Washington, DC: Government Printing Office).

intensity of trade between the countries and their overall openness to trade. The strength of the spillovers also depends on the conditions in the recipient country and the source country, with large multipliers when both economies are in recessionary conditions.

Conventional Keynesian Multiplier Analysis: For the US, fiscal multipliers appear to vary from near 0, complete crowding-out, in normal circumstances to about 2.5 during recessions. Based on their own economic models and the models of other public and private forecasters, the Congressional Budget Office uses a broad range of multipliers that vary over both business cycle conditions and types of fiscal measures.

Figure 3: Auerbach and Gorodnichenko Time-Varying Government Spending Multipliers¹⁸



Notes: shaded regions are recessions defined by the NBER. The solid black line is the cumulative multiplier computed as $\sum_{h=1}^{20} Y_h / \sum_{h=1}^{20} G_h$, where time index h is in quarters. Blue dashed lines are 90% confidence interval. The multiplier incorporates the feedback from G shock to the business cycle indicator z . In each instance, the shock is one percent increase in government spending.

In its most recent publication assessing the effects of the 2009 economic stimulus package (the ARRA bill), the CBO used the following range of

¹⁸ Source: Figure 5 of Alan J. Auerbach and Yuriy Gorodnichenko (2012) "Measuring the Output Responses to Fiscal Policy," *American Economic Journal: Economic Policy* 4:2 (May), pp. 1-27.

multipliers for different components of the package. These multipliers show the effects on output of a particular fiscal policy over four quarters, starting the quarter in which the first direct effect on demand occurs in response to that policy. The size of these multipliers is based on the assumption that there was no monetary policy offset between 2009 and 2013. The CBO uses a range for the size of multipliers and their effects on output and employment to reflect differences in the size of multipliers from different sources and based on different modeling techniques.¹⁹

Under more normal conditions, when the economy is close to potential and away from the zero nominal lower bound, the Federal Reserve attempts to offset the effects of discretionary fiscal policy on aggregate demand. Then both the low and the high ends of the range for multipliers used by the CBO are about one-third smaller, reflecting the CBO assumption that roughly two-thirds of the effects of discretionary fiscal policies on aggregate demand are “crowded out” under normal economic conditions.

Within spending, direct government purchases of goods and services have the largest multipliers. Both government consumption spending and government investment spending have positive effects on output but the multiplier for the latter is much stronger, especially so in normal conditions when the multiplier for government consumption spending is considerably lower.

Government investment spending on programs like infrastructure and research boosts the economy’s potential growth and capacity both directly and indirectly by encouraging complementary private investment. Although the CBO notes that government investment spending offsets some of the possible “crowding out” of private investment that results from an increase in government debt in the future, the CBO does not include this effect in its multiplier estimates. The CBO estimates that government investment spending amounted to about 20%-25% of the 2009 stimulus.²⁰

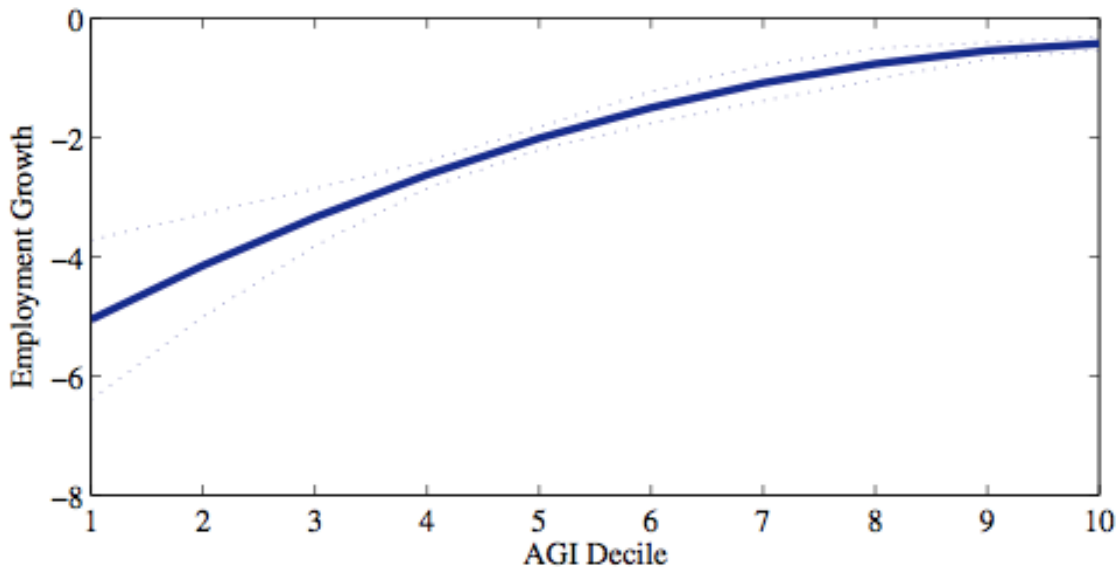
In general, tax cuts and transfer payments appear most effective when aimed

¹⁹ Congressional Budget Office (2013), *Estimated Impact of the American Recovery and Reinvestment Act on Employment and Economic Output from October 2012 Through December 2012* (Washington, DC: Government Printing Office); Congressional Budget Office (2012), *CBO’s Multipliers* <<http://goo.gl/2DqPw>>.

²⁰ Congressional Budget Office (2009), “H.R. 1: The American Reinvestment and Recovery Act of 2009” <<http://www.cbo.gov/publication/41756>>

at households that have the highest marginal propensity to consume. Rising income inequality is a problem facing the US and many other developed countries. “Progressive” discretionary fiscal policies that are targeted toward lower-income groups not only have larger multipliers but also address this problem. Tax cuts aimed at businesses should focus on additional or marginal investment incentives. Changes in corporate taxes that affect after-tax profits—like a cut in the corporate tax rate—have smaller multipliers than changes in corporate taxes that affect after-tax-returns to new investment—like a temporary investment tax credit. Increases in disposable incomes, either through transfer payments or tax breaks, are more likely to boost spending in lower-income households than in higher-income households. New research in the US finds that tax cuts for lower income groups have larger multipliers and larger effects on employment than comparable changes for higher income groups.²¹

Figure 4: Zidar Estimates of Employment Effects of Stimulus Ranked by AGI Decile²²



When the economy is operating far below potential and unemployment is high, there is also a strong case for targeted fiscal measures to increase labor

²¹ Owen Zidar (2013), “Tax Cuts for Whom? Heterogeneous Effects of Income Tax Changes on Growth & Employment”

<http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2112482>

²² Owen Zidar (2013), “Tax Cuts for Whom? Heterogeneous Effects of Income Tax Changes on Growth & Employment”

<http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2112482>

demand. These measures include credits to small and medium sized companies, tax credits for additions to payrolls, reductions in non-wage labor costs and funds to support active labor market policies like job training and assistance programs. The so-called “Jobs Package” proposed by President Obama in the fall of 2010²³ as a second fiscal stimulus package contained several targeted measures. Private forecasters estimated that this package would boosted private job creation by 1 million jobs over two years, but most of the package was not passed by the Congress. The temporary employer payroll tax, which would have strengthened labor demand, was not enacted and the temporary employee payroll tax, which was passed, affected labor demand only indirectly through additional consumption spending.

In addition to focusing on particular income groups or particular goals like infrastructure investment or labor demand, fiscal policy can also be targeted to specific regions. Recent US research confirms that the multipliers for federal spending in hard-hit states are considerably larger than economy-wide multipliers and can deliver strong employment effects per dollar of federal spending.²⁴

Compared to discretionary fiscal policy that can be targeted by income group, by purpose and by region, discretionary monetary policy is a blunt instrument. The low interest rate policy and the QE policies of the Federal Reserve have been aimed at strengthening aggregate demand by keeping long-term interest rates low and boosting the value of stocks and other financial assets. These policies, however, have been criticized by some for disproportionately benefitting high-income earners who own a large share of these assets,²⁵ and by others for inducing banks and private investors to take

²³ See Barack Obama (2010), “H. Doc. 112-53 - The ‘American Jobs Act of 2011’ Legislative Proposal” <<http://www.gpo.gov/fdsys/pkg/CDOC-112hdoc53/content-detail.html>>

²⁴ See Juan Carlos Suarez Serrato and Philippe Wingender (2010), “Estimating Local Fiscal Multipliers” (Berkeley, CA: U.C. Berkeley) <http://ceg.berkeley.edu/students_9_2583495006.pdf>; Gabriel Chodorow-Reich et al. (2011), “Does State Fiscal Relief During Recessions Increase Employment? Evidence from the American Recovery and Reinvestment Act” (Berkeley, CA: U.C. Berkeley) <<http://econgrads.berkeley.edu/gabecr/files/2011/05/Does-State-Fiscal-Relief-During-Recessions-Increase-Employment-August-20114.pdf>>.

²⁵ See “Yves Smith” (2009-2013), “Naked Capitalism” <<http://www.nakedcapitalism.com>>, *passim*.

on yet another round of poorly-understood and poorly-managed tail risk.²⁶

Safe Assets and Deleveraging Issues: As time passes and as the OECD economies continue to remain with relative levels of activity and employment far below normal, there has been increasing attention paid to perspectives that argue that standard models are not serving analysis well. Richard Koo has is a prominent and vocal critic of the relevance of these models to current circumstances.²⁷ Neither standard monetarist models, with their mechanical and predictable quantity-theoretic links between liquid balances on the one hand and spending on the other, nor standard Keynes-Wicksell savings-investment balance models with mechanical and predictable propensity-to-spend links between income flows on the one hand and spending on the other, appear to be capturing reality in an adequate fashion.

Stepping back to the beginning of macroeconomics in 1829, we have John Stuart Mill's insight²⁸ that downward pressure on spending that pushed production and employment below normal relative levels was driven by a perceived shortage of financial assets: excess demand (at full employment) for financial assets entailed, by what would become known as Walras's Law, led to excess supply (at full employment) of currently-produced goods, services, and labor. To the extent that the excess demand for safe assets took the form of excess demand for the liquid circulating medium, individuals could add to their accumulations by simply cutting spending below income—but while an individual could cut spending below income, the community could not. Restoring normal activity required then the injection of enough liquid money to balance demand and supply for liquidity at full employment. This is the insight underpinning Irving Fisher's original brand

²⁶ See Jeremy Stein (2013), "Overheating in Credit Markets: Origins, Measurement, and Policy Responses"

<<http://www.federalreserve.gov/newsevents/speech/stein20130207a.htm>>

²⁷ See Richard Koo (2003), *Balance-Sheet Recession: Japan's Struggle with Uncharted Economics and its Global Implications* (New York: John Wiley); Richard Koo (2009), *The Holy Grail of Macroeconomics: Lessons from Japan's Great Recession* (New York: John Wiley); Richard Koo (2011), "Learning Wrong Lessons from the Crisis in Greece" (New York: INET).

²⁸ John Stuart Mill (1829, pub. 1844), "Of the Influence of Consumption on Production", *Essays on Some Unsettled Questions in Political Economy* (London: Longmans, Green).

of quantity-theoretic monetarism.²⁹

Similarly, should the shortage of supply for financial assets take the form of a shortage of financial vehicles to convey wealth from the present to the future—should, in Wicksellian³⁰ terms, *ex ante* savings be greater than investment—individual savers will use liquid money as a proxy substitute financial savings vehicle and so attempt to depress their spending (at full employment) below their income. This requirement that supply and demand for financial savings vehicles balance at full employment is, as Hicks (1937) says, really “the [Keynesian] multiplier equation, which performs such queer tricks.”³¹

But as Koo argues, what if the problem is not a shortage relative to demand at full employment of liquid money or of financial savings vehicles, but rather a shortage of safe assets—or rather as assets perceived as safe? Economic agents will be anxious to cut their spending below their income and use extra cash as a proxy safe asset in order to boost the safe-asset component of their portfolios, and will continue to do so until an extended period of deleveraging has reduced risk and restored the economy’s relative balance of assets between those perceived to be risky and those perceived to be safe to what private savers require. This is the essence of a balance-sheet recession, and neither expansionary monetary policy (to the extent that it simply swaps the safe asset of cash for the safe asset of short-term government securities) nor expansionary fiscal policy (unless it is conducted on such a scale as not merely to affect income flows but rather the perceived riskiness of the entire stock of financial assets) will have much effect.

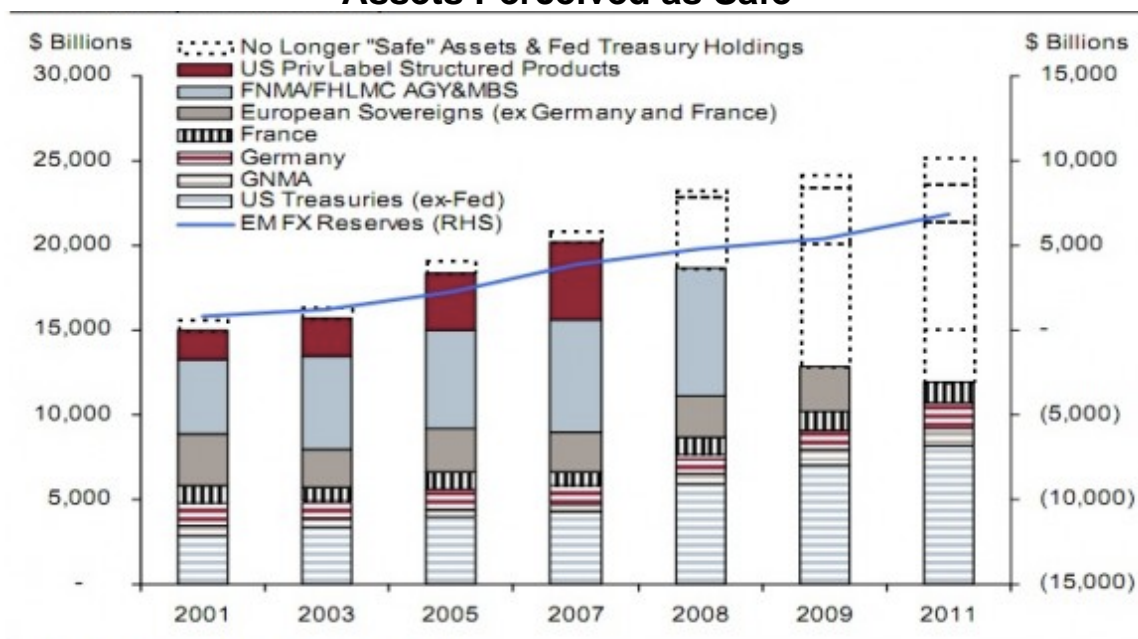
In this framework, if it provides an insightful way of looking at the situation, the source of the depressed condition of the OECD economy lies in (a) the increased demand by wealthholders for the safe-asset component of their portfolios coupled with (b) the disappearance of \$8 trillion of private structured products, mortgage-backed securities, and the ex-France ex-Germany sovereign debt of the Eurozone from the category of assets previously thought to be safe.

²⁹ See Irving Fisher (2011), *The Purchasing Power of Money* (New York: Macmillan).

³⁰ Knut Wicksell (1907), “The Influence of the Rate of Interest on Prices”, *Economic Journal* 17.

³¹ John Hicks (1937), “Mr. Keynes and the ‘Classics’: A Suggested Interpretation”, *Econometrica* 5:2 (April).

Figure 5: Credit Suisse Estimates of the Shrinking Universe of Assets Perceived as Safe³²



Filling in this safe-assets gap via conventional bond issues would require that credit-worthy sovereigns increase their debts relative to baseline by some \$10 trillion—and that they do so without cracking their own status as issuers of assets perceived to be safe. The large required scale raises the possibility that a better policy than expansionary fiscal policy would be for credit-worthy sovereigns to focus on transforming private liabilities into safe assets by taking on tail risk—through banking and credit market policies not through fiscal policy.

Hysteresis: Longer-Run Benefits of Expansionary Fiscal Policy on Output?: In recent testimonies and speeches, Fed Chair Ben Bernanke and Vice-Chair Janet Yellen have warned that the longer the economy operates below potential, with an elevated unemployment rate, the greater the danger that a cyclical unemployment problem becomes a structural one. In Bernanke’s words:

³² Cardiff Garcia (2011), “The Unwanted Mutant Offspring of the Most Important Chart in the World”, *FT Alphaville* <<http://ftalphaville.ft.com/2011/07/15/623881/the-aaa-bubble/>>

High unemployment has substantial costs, including not only the hardship faced by the unemployed and their families, but also the harm done to the vitality and productive potential of the economy as a whole.

In Yellen's words, the persistence of long-term unemployment—which is 40% of total unemployment—is of “great concern” because individuals out of work for extended periods become less employable as their skills erode and their attachment to the labor force weakens. Even when the economy recovers to capacity, these workers may not be able or willing to find jobs.

In the United States, the aging of the baby-boom generation and growing wealth currently impart a slow downward trend of between 0.1 and 0.2 percentage points per year to the labor-force participation rate. The business cycle also imposes its imprint on participation: when the employment-to-population ratio falls by 0.3 percentage points relative to trend, the labor force participation rate falls by 0.1 percentage point. The collapse of retirement savings in 2008-9 with declines in asset values and housing equity, however, was a countervailing force working to postpone retirement and raise labor-force participation. These factors would lead an observer to anticipate that today the U.S. labor-force participation rate would be roughly 65%. But it is lower: 63.5%,³³ lower than at any time since the 1970s, before the feminist revolution had opened American female employment opportunities. Even with a constant labor-force participation rate, and even with strongly impaired balance sheets leading households to postpone retirement, labor-force participation in the United States has been falling since 2009 at 0.5 percentage points per year.

How much of this decline will be reversed when the economy normalizes? How much of it reflects a permanent transformation of what was cyclical into structural unemployment?³⁴

Such concerns reflect a broader concern that the longer the economy operates far below its capacity, the slower the growth of its future capacity as a result of the erosion of worker skills, foregone investment, and

³³ 63.3% as of the March 2013 CPS survey week.

³⁴ Attempts to find any non-cyclical cause of the acceleration in the decline in labor-force participation have been strikingly unsuccessful. See Robert Moffitt (2012), “The U.S. Employment-Population Reversal in the 2000s: Facts and Explanations”, *Brookings Papers on Economic Activity* 2012:2 <<http://ideas.repec.org/p/nbr/nberwo/18520.html>>

diminished risk taking and entrepreneurship. As the recovery continues to be slow and partial, the CBO and other forecasters have been sharply revising downward their estimates of the long-run growth potential of the U.S. economy,³⁵ concluding that the financial crash, the recession, and slow recovery have significantly reduced this potential. Private investment plummeted to new lows as a share of GDP during the recession. It had yet to recover to its previous peak. Also sharply off is the rate of new business formation. In his typical colorful language, John Maynard Keynes warned that a time of unutilized resources was one strongly unfavorable to creative destruction, entrepreneurship, and growth: “the game of hazard which the entrepreneur plays is [then] furnished with many zeroes...”³⁶

How large is the effect of a persistent output gap on future potential output and growth? DeLong and Summers draw on the work of Oulton and Sebastia-Barriel, and note that with even a modest “hysteresis coefficient” of well below 0.2, the long-term real government borrowing rate is sufficiently low that each additional dollar of discretionary fiscal spending more than pays for itself, as the combination of low US Treasury borrowing rates, positive fiscal multiplier effects, and modest hysteresis effects renders fiscal expansion self-financing. Under these conditions, it is austerity right now rather than fiscal expansion that threatens to raise the long-run debt-to-annual-GDP ratio by lowering its denominator by more than it lowers its numerator.³⁷

V. Costs and Risks of Discretionary Fiscal Policy

In the wake of the 2008 financial crisis, and the resulting deep recession and slow recovery, government debt in the US and other advanced industrial

³⁵ See J. Bradford DeLong and Lawrence H. Summers (2012), “Fiscal Policy in a Depressed Economy”, *Brookings Papers on Economic Activity* 2012:1. They argue that the pattern of forecast revisions by the consensus of forecasters appears to take a one year output gap maintained for one year to be associated with a long-run decline in potential output of 0.2 percentage points. There is not enough information in the Post-World War II data sample for any econometric estimation to be convincing.

³⁶ See John Maynard Keynes (1936), *The General Theory of Employment, Interest and Money* (London: Macmillan), ch. 24.

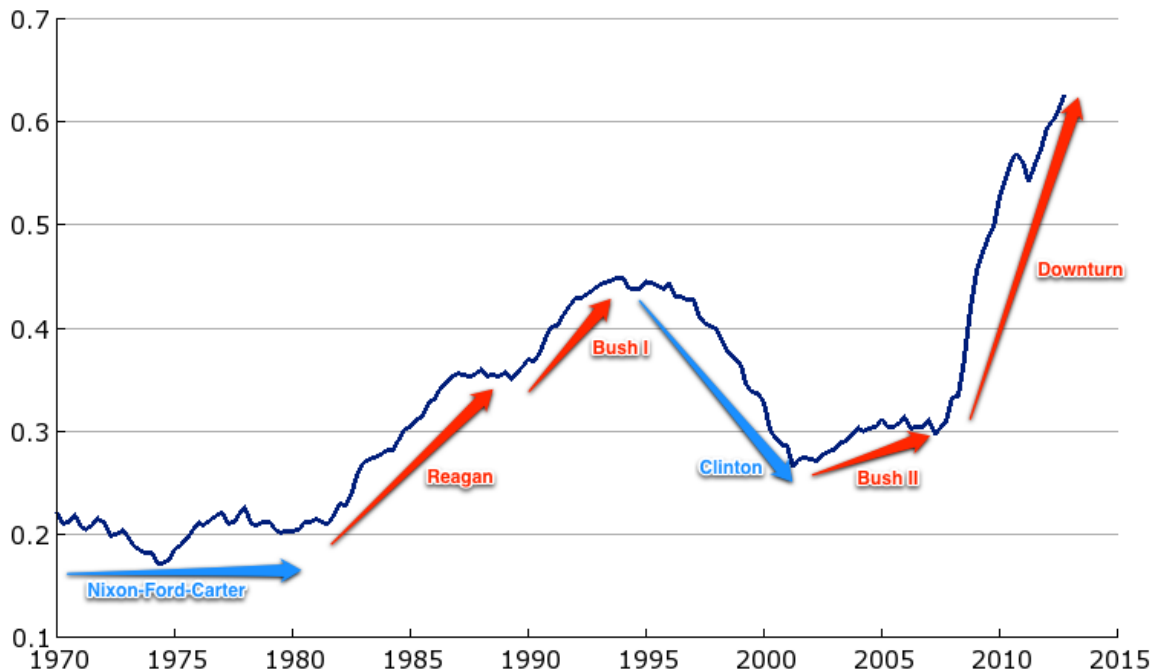
³⁷ Nicholas Oulton and María Sebastián-Barriel (2013), “Long and Short-Term Effects of the Financial Crisis on Labour Productivity, Capital and Output” (London: Bank of England Working Paper 470)

<<http://www.bankofengland.co.uk/publications/Documents/workingpapers/wp470.pdf>>

countries has increased sharply. The dramatic increase in the debt to GDP ratios in the developed countries is consistent with previous financial crises after which public sector debt soars as government revenues contract and government spending increases to offset the collapse of private sector demand and to stabilize the financial sector often by absorbing private sector losses.

The surge of public debt since 2007 has triggered concerns about the risks associated with high levels of public debt. There appear to be four distinct risks:

Figure 6: The Course of U.S. Debt Held by the Public to Annual GDP



First, large and rising government debt weakens market confidence in the creditworthiness of sovereign borrowers and heightens the risk of financial crises emanating in the markets for public sector debt. History shows, however, that most large financial crises begin in the private sector not the public sector. Over time, it appears that private sector credit booms and the resulting buildup of private sector debts, not excessive government spending and the buildup of public sector debts, pose the main risk to financial

stability in advanced industrial countries.³⁸

Second, when the output gap has closed and economies are operating at their potential levels, government debt crowds out private debt and private investment. This in turn reduces the private capital stock and the economy's productivity growth and wage growth. The main macroeconomic channel through which crowding out occurs is an increase in both short-term and long-term interest rates, as private sector borrowing competes with public sector borrowing for scarce capital and as central banks adjust short-term interest rates to contain inflation and offset expansionary fiscal policies. Crowding out also occurs through other channels such as an increase in taxes that may be necessary to provide the government with revenues to service its debt and cover its other spending commitments. Additional taxes impose deadweight losses on the economy and the composition of these taxes can have additional crowding-out effects on incentives for saving, investment and labor.

Third, large and rising public debt creates uncertainties about the course of future fiscal policies that could undermine private sector confidence and spending. Expected increases in future tax rates, for example, could discourage investment and weaken worker incentives. The uncertainty argument is a variant of the "crowding out" argument, allowing for the possibility that the expectations of future policy changes necessitated by a high and rising public debt "crowd out" private sector spending long before the economy is operating at capacity and reduce the economy's future potential growth rate.

There is no evidence of the "uncertainty crowding out" effects in the interest rates or other financial market indicators in the US and many other developed countries with large and rising public debt to GDP ratios. Indeed, recent evidence points in the opposite direction, with a negative correlation between near-term growth and CDS spreads on public debt. In some countries, large deficit reduction or fiscal consolidation packages adopted to boost market confidence have aggravated market concerns about slow growth and led to increased spreads on government debt.³⁹

³⁸ See Jorda, Schularick, & Taylor (2013), "Sovereigns versus Banks: Credit, Crises, and Consequences"

³⁹ Carlo Cottarelli and Laura Jaramillo (2012), "Walking Hand in Hand: Fiscal Policy and Growth in Advanced Economies" (Washington, DC: IMF Working Paper 12/137 <<http://www.imf.org/external/pubs/ft/wp/2012/wp12137.pdf>>

Fourth, large and rising public debt reduces budgetary flexibility or the “fiscal space” for governments to deal with unexpected adverse shocks or emergencies, and to finance spending on desired goals without jeopardizing fiscal sustainability or economic stability in the future.

The most analyzed and quantifiable of these four risks is the traditional crowding-out risk. It is also the one on which most economists agree. But since the US and most other advanced industrial countries with high and rising public debt burdens are still far from capacity, there is little sign of crowding out effects, or uncertainty/confidence effects, in interest rates—which are the major channel through which they operate. Chairman Bernanke (2013) recently pointed out that long-term interest rates have been falling, not rising, in the US, the UK, Japan, Germany and Canada. All of these countries had high and rising debt to GDP ratios between 2009 and the end of 2012, yet long-term interest rates declined both in nominal and in real terms along similar paths, with highly correlated movements during this period.⁴⁰

Moreover, these rates are now at or near all-time lows of around 2% in nominal terms and about 0% in real terms despite public debt to GDP ratios that are at peacetime highs.

Why are long-term interest rates so low? Why do investors appear to be unconcerned about the public debt trends in these countries? The answer is that markets expect slow growth and low returns to investment for the next decade, as a result of both the slow cyclical recovery and the resulting slowdown in future potential growth rates. Consistent with this slow growth expectation, markets anticipate that inflation will remain subdued and that central banks will continue to keep short-term nominal interest rates at very low levels. Under these conditions, markets believe that the crowding out risks of high government debt during the next decade will remain low for the foreseeable future.⁴¹

⁴⁰ Ben Bernanke (2013), “Long-Term Interest Rates” (Washington DC: Federal Reserve) <<http://www.federalreserve.gov/newsevents/speech/bernanke20130301a.htm>>

⁴¹ Standard quadratic yield-curve estimation predicts that if the U.S. Treasury issued a consol, it would currently carry a nominal coupon of 3.5%/year. The thirty-year inflation-protected TIPS currently has the same duration as a nominal consol would: its real yield is 0.56%/year. Since one of these securities is non-existent—hence present in zero volume—and the other is a small part of the debt, these interest rates speak to market

What of the risks that interest rates will normalize or super normalize in the near future and impose high costs. Recently, Martin Feldstein⁴² argued that the model scenario involves a 3 percentage point rise in real Treasury yields over the next five years, with a consequent unhedged 31% loss on ten-year Treasuries and on those other portions of their portfolios with equivalent duration. While individual firms can hedge this risk, the economy as a whole cannot—and the past six years have not impressed anybody with the ability of highly-leveraged money-center banks to find clients who understand and can afford to bear such risks.⁴³ Whether even the money-center banks can know whether their capital is large enough to absorb their share of such losses is something that would require that banks have greater understanding and control of their derivatives books than they have in the past. And as Treasury debt continues to mount, banks' exposure to interest rate risk is likely to mount as well.

That being said, a more common perspective than Feldstein's is the belief that a super-normalization of interest rates in the near-term is very unlikely. As Carmen Reinhart and Belen Sbrancia point out,⁴⁴ OECD governments have enormous regulatory tools to force their banking sectors to hold government debt on whatever terms governments wish—and governments have never been shy about using such tools. Should the interest rate environment change, the probable future would involve not spiking interest rates and rapidly accumulating public debt but rather “financial repression” of some form.

That future of “financial repression”, however, should it come to pass, might well be one in which debt accumulation imposes substantial costs in terms of reduced economic growth. Several recent studies have found a negative

forecasts of risk-neutral interest rate expectations and not to market fears or to the cost of downside risks.

⁴² Martin Feldstein (2013), “When Interest Rates Rise”, *Project Syndicate* <<http://www.project-syndicate.org/commentary/higher-interest-rates-and-financial-stability-by-martin-feldstein>>

⁴³ As current UBS Chair Axel Weber said: “while [a bank's] treasury department was reporting that it bought all these high-yielding products, its credit department was reporting that it had securitized and sold off all its risk.”

⁴⁴ See Carmen M. Reinhart M. Belen Sbrancia (2011), *The Liquidation of Government Debt* (Cambridge: NBER Working Paper 16893) <<http://www.imf.org/external/np/seminars/eng/2011/res2/pdf/crbs.pdf>>

relationship between public debt to GDP ratios and economic growth.⁴⁵ These studies establish correlation, not causality, between high and rising debt to GDP ratios and actual or potential economic growth. Some of these studies identify a threshold value for the debt to GDP ratio of 80%-90% beyond which higher ratios have a significant effect on growth.⁴⁶ Crowding out of private investment and future productivity growth is the major channel through which higher debt is presumed to impede growth. Italy and Japan, with debt to GDP ratios beyond these thresholds and with slow productivity growth, are often cited as examples of the deleterious effects of sustained crowding out over time.

Since the publication of the Reinhart and Rogoff results, politicians and policy makers in many countries have focused on the 90% threshold, and have suggested that 90% is a tipping point beyond which economic growth falls sharply or the odds of a sovereign debt crisis rise dramatically.

We question whether the Reinhart-Rogoff data support a tipping point interpretation. We find that countries with public debt-to-annual-GDP ratios over 90% for a five-year period do indeed grow less rapidly in per capita GDP terms over the next five years. Consistent with Kumar and Woo (2010), there is no sign of a threshold break at 90%.

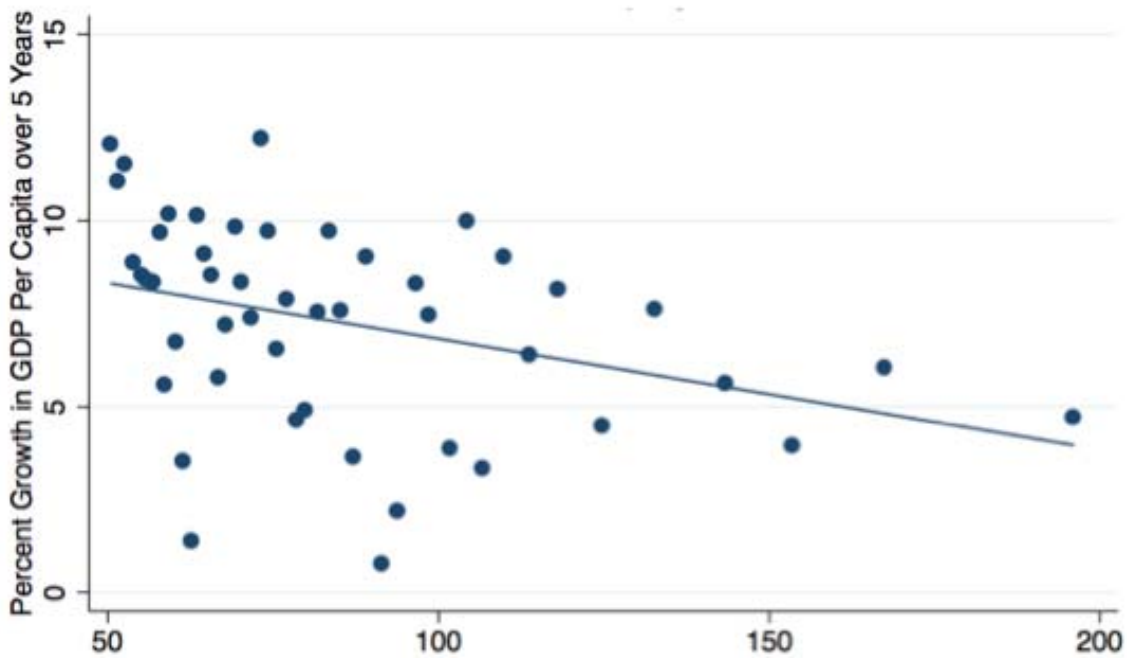
Interpreting this correlation is not straightforward. Surely cases in which high debt accumulation does lead to substantially-elevated interest rates are ones in which we would expect growth to slow, but that tells us little about

⁴⁵ See Manmohan S. Kumar and Jaejoon Woo (2010), "Public Debt and Growth" (Washington DC: IMF Working Paper 10/174) <<http://www.imf.org/external/pubs/ft/wp/2010/wp10174.pdf>>; Carmen Reinhart and Kenneth Rogoff (2010), "Growth in a Time of Debt" (Cambridge, MA: NBER Working Paper No. 15639 <<http://www.nber.org/papers/w15639>>; Carmen Reinhart, Vincent Reinhart, and Kenneth Rogoff (2012), "Debt Overhangs, Past and Present" (Cambridge, MA: NBER Working Paper No. 18015 <<http://www.nber.org/papers/w18015>>; Cristina Checherita and Philipp Rother (2010), "The Impact of High and Growing Government Debt on Economic Growth: An Empirical Investigation for the Euro Area" (ECB Working Paper 1237); and Stephen G Cecchetti, M S Mohanty and Fabrizio Zampolli (2011), "The Real Effects of Debt" <<http://www.bis.org/publ/othp16.pdf>>.

⁴⁶ Some, however, argue that the threshold is considerably higher. See Alexandru Minea and Antoine Parent (2012), "Is High Public Debt Always Harmful to Economic Growth? Reinhart and Rogoff and Some Complex Nonlinearities" (Paris: Association Francaise de Cliometrie Working Paper 8) <http://www.cliometrie.org/images/wp/AFC_WP_08-2012.pdf>

the consequences of high debt-to-annual-GDP accompanied by low interest rates. Moreover, the debt-to-annual-GDP ratio has both a numerator and a denominator: it can be elevated either by rapid debt accumulation or slow past growth, and we would expect slow past growth to forecast slow future growth as well. The effects are modest: raising debt-to-annual-GDP from 50% to 150% is associated with a growth reduction on the order of 0.6 percentage points per year. Controlling for country effects reduces the estimated magnitude of the effect on growth by more than half. Such a post-crisis growth-rate reduction is not obviously a cost that overwhelms the benefits of restoring normal employment and output levels more rapidly, if expansionary fiscal policies are indeed able to do so.

Figure 7: Public Debt Burdens and Subsequent Growth: No Threshold Effect



Federal Reserve Chair Ben Bernanke recently summarized the evidence as indicating that:

Neither experience nor economic theory clearly indicates the threshold at which government debt begins to endanger prosperity and economic stability.

We agree. The question of whether and how much growth reduction is

entailed in the future by rapid debt accumulation now is one that is absolutely key to making good policy, and yet one that is very poorly understood by economists. This time, it really is different: more research is definitely necessary.

VI. Policy Challenges and Tradeoffs

Policy makers face tough decisions in difficult and uncharted circumstances. With low inflation, interest rates at zero lower bound, a promise of continued monetary accommodation, and low and stable inflationary expectations, there is a strong case for additional expansionary discretionary fiscal policies to strengthen the recovery in countries like the US whose governments can borrow at or near historically low long-term interest rates. The possibility that the slow recovery will depress future potential output growth through hysteresis effects makes the case even more compelling, particularly for additional government investment spending on infrastructure and research and on targeted policies to strengthen the skills of the workforce.

But there are risks—albeit shadowy and poorly-understood ones

The US and other creditworthy countries must also confront the long-run dangers and costs of elevated and rising public debt levels. The policy challenge is to get the balance right. More discretionary fiscal support now means a stronger recovery, given the large multipliers that exist under current conditions, but a larger government debt and its attendant risks in the future. More deficit reduction now would curb the growth of government debt, but would slow the pace of recovery.

US policymakers right now are erring right now on the side of too much fiscal contraction now and too little planning for long-term budget balance.

Federal Reserve Chair Bernanke has warned that monetary policy “cannot carry the burden of ensuring a speedier recovery to economic health.” In a recent speech William Dudley, the President of the Federal Reserve Bank of New York, warned that “We have the opposite of what we need now”—too much fiscal retrenchment now, without a credible plan to stabilize and reduce the debt to GDP ratio in the long term. As a result of recent fiscal actions, fiscal drag will be about 1.34% of GDP in 2013. Federal Reserve

Vice Chair Janet Yellen has pointed out that while recoveries from previous postwar recessions in the US have been aided by expansionary discretionary fiscal policy, the current recovery from the longest and deepest recession since the Great Depression has been slowed by fiscal austerity. In the meantime, as a result of deep political and ideological divisions about the size and the purpose of government, US policymakers have not agreed on any long-term plan that grapples with the major drivers of the long-term debt problem: the aging of the population, the rising per capita cost of health care and insufficient revenues.

As a result of the excessively front-loaded fiscal measures already taken, the debt to GDP ratio in the US should stabilize at around 75% over the next decade. Soon thereafter, however, the debt to GDP ratio will start to climb again to unsustainable levels.

The prudent course for the U.S. at least, therefore, appears to be to, as long as asset prices maintain their current configuration, postpone deficit reduction and in fact to seek to pull spending forward in time from the future into the underemployed present, while pushing taxes back in time from the present into the presumably fully-employed future, all the while continuing to call for the adoption of long-term plans to properly fund the social insurance state.

But such a policy program may require sudden adjustment should interest rates spike, should financial repression policies prove suddenly necessary, or should more and better information emerge about the long-run costs of debt accumulation. And a political system that cannot get its act together to plan for fiscal balance over the long-run future is unlikely to be able to respond in order to reorient policy quickly should any of the risks involved in policies that entail rapid debt accumulation in the present be presented, and when these bills are presented it may well come as a substantial surprise.