



EPI TESTIMONY

TESTIMONY GIVEN BY

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IN A HEARING BEFORE THE
SUBCOMMITTEE FOR REGULATORY AFFAIRS,
COMMITTEE FOR GOVERNMENT OVERSIGHT,
US HOUSE OF REPRESENTATIVES

“The Stimulus: Two Years Later”

Wednesday, February 16, 2011

Thank you Chairman Jordan and members of the subcommittee for the opportunity to testify today. I am Josh Bivens, a macroeconomist at the Economic Policy Institute in Washington, DC. In assessing the economic impact of the American Recovery and Reinvestment Act (ARRA, the Recovery Act henceforth) I'd like to make four arguments today, and they mirror the arguments I've made when testifying about its impact in the past.

-First, the Recovery Act was badly needed. The American economy at the end of 2008 and the beginning of 2009 was essentially in freefall and all other policy tools that had been tried had little effect in arresting the decline.

-Second, it worked roughly as advertised. By the middle of 2010 (its period of peak effectiveness) it had created up to 5 million full-time equivalent jobs and kept the unemployment rate from flirting with 12% at the labor market's trough. Today, absent the impact of the Act the unemployment rate would surely remain in double-digits. That said, the economy needed many more jobs than this - the economic crisis that it was meant to address called for much stronger medicine than the Recovery Act could by itself provide.

-Third, while it was as effective as advertised, it was significantly cheaper than advertised. While the sticker-price of the Recovery Act (estimated at \$787 billion when passed and boosted to \$862 billion) is often characterized in press accounts as enormous, it was less than half as large as the tax cuts enacted during the 2000s, smaller than the cost of wars in Iraq and Afghanistan, and, most importantly, small relative to the economic shock it was meant to absorb. Further, because it spurred economic activity and tax collections and reduced the need for safety net spending, its net budgetary impact was likely well under its headline cost.

-Fourth, lessons learned from the passage of the Recovery Act should be heeded: More fiscal support should be provided to prop up the economy and spur a genuine recovery in the jobs-market. While the economy today would be worse off if the Recovery Act had not been passed, unemployment still sits at 9.0% today and will almost surely rise above 9.5% over the coming year, returning to pre-recession levels only several years from now (in 2016, if the Congressional Budget Office (CBO) forecast is right) unless more fiscal support is provided.

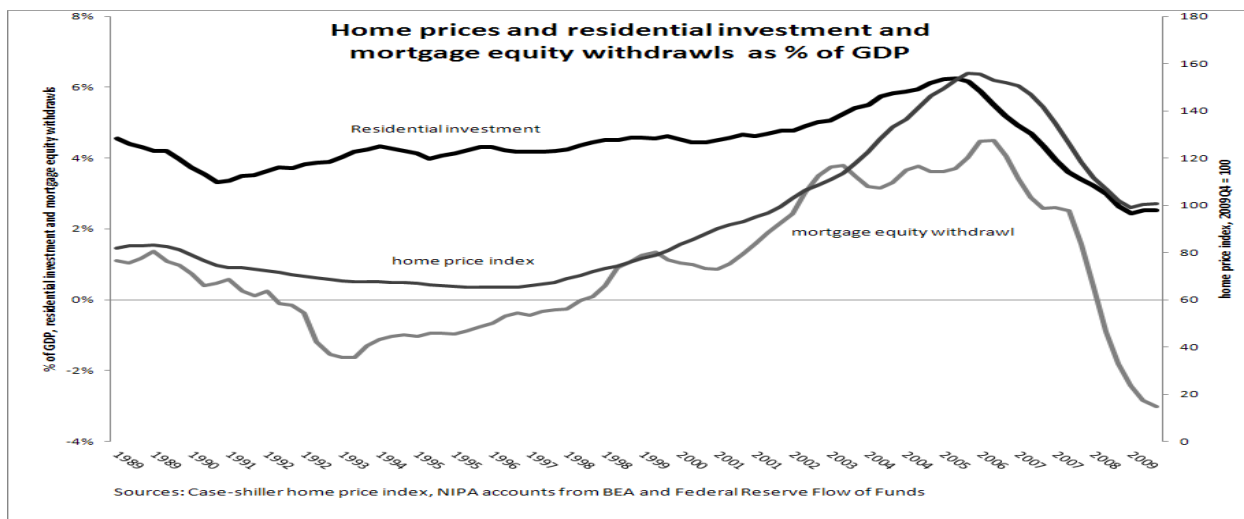
It was needed

The root of the current recession is simple to identify: the bursting of the housing bubble and its fallout. Between 1997 and 2006, the real price of homes in the U.S. economy, which had been roughly flat for many decades, roughly doubled. Given that the stock of housing in the U.S. is enormous, this led to a huge increase in wealth. Because so few influential economists correctly pointed out that this wealth increase was sure to be ephemeral, U.S. households began borrowing against the value of their homes to support current consumption. When the housing bubble popped, these same households realized that meeting long-run wealth targets (planning for retirement or sending their kids to college) could no longer be financed out of rising housing wealth, so they began saving. As households began saving, businesses, seeing a threat to new sales, stopped investing to expand their own capacity.

This negative shock to private sector spending was enormous – between the end of 2006 and the beginning of 2009, the private sector went from borrowing 3.6% of GDP to saving 5.6% of GDP. This 9.2% swing in private sector spending was a larger economic shock than the one that led to the Great Depression. **Figure A** below shows two concrete measures of this fallout: mortgage equity withdrawals that allowed households to extract wealth out of their homes and increase their purchasing and

residential investment – the economic activity generated by the act of building homes. Both are expressed as shares of GDP, both soared during the housing bubble, and both collapsed when this bubble burst.

Figure A



Luckily, the U.S. economy is different now than compared to the 1930s. In particular, today’s economy has a larger public sector and one that contains many “automatic stabilizers” – including progressive tax collections that fall more rapidly than private sector incomes and safety net spending (like unemployment insurance and food stamps and Medicaid) that provides increased transfers to households when the economy slows. These automatic stabilizers kicked in as private spending slowed. This led to a purely mechanical rise in the deficit – roughly \$329 billion of the increase in the deficit between 2007 and 2009 can in fact be attributed to this purely mechanical effect of automatic stabilizers, according to the Congressional Budget Office.

And this large increase in the deficit was a very good thing. The increase in public spending power leaned hard against the rapid decline in private spending power, and contributed to keeping the economy from entering another Depression.

Of course, the increase in the deficit was not the only thing that helped support the economy – at the same time the Federal Reserve was aggressively fighting the downturn by cutting interest rates and supplying liquidity to the financial sector.

Still, automatic stabilizers and Federal Reserve action were not enough to forestall a rapid economic deterioration. By March 2009 – the first month after the Recovery Act passed, the economy had seen monthly job-loss that averaged 712,000 *in each of the previous 6 months*, despite the fact that the short-term interest rates controlled by the Federal Reserve had been consistently reduced for 20 months – and had been below 1% since October 2008.

When an economy continues to spiral downward even when the monetary authority has reached the limit of what conventional policy can do to arrest the fall, it is often referred to as a liquidity trap.

Essentially, the economy “needs” short-term interest rates that are steeply negative in order to boost business investment and consumer spending on durables sufficiently to exit the recession. But, interest rates cannot go below zero. Even worse, as the economy suffers from a dearth of spending, this creates pressure for disinflation – as firms cannot sell output and new jobs are scarce, prices and wages are all-but-impossible to raise. This disinflation actually raises the “real”, or inflation-adjusted, interest rates facing businesses and consumers, even as the Fed’s control over nominal rates is bound at zero.

In short, because the primary tool that national policymakers use to fight recessions – lowering short-term interest rates - had been rendered ineffective, something else had to be done. This something was the Recovery Act, a deficit-financed combination of a roughly equal measure of tax cuts, transfer payments and direct government grants to support demand for goods and services and blunt the recession.¹

It should be remembered that the size and composition of the Recovery Act was a compromise. Many, including myself, thought the overall size of the package would be too small to bring the economy back to recovery without further action. Many (also including myself) also thought tax cuts had too large a weight in the final package and that many of them (particularly the fix to the alternative minimum tax, or AMT) were ill-suited for short-term stimulus. Because of these compromises on the size and composition of the Act, many believed that it would not be sufficient by itself to provide the economic boost needed to get the American job-market back to health in an acceptably rapid time-frame.

All this said, passage of the Recovery Act was a serious response to the nation’s economic crisis, and even with its somewhat-compromised composition, its forecasted impact was large – the best estimates were that it would create between 2-4 million jobs and boost GDP by roughly 2 - 4% over the first 2 years of its implementation.

It worked

And this estimate has been spot-on. For those most convinced by appeals to authority let’s start with what private sector macroeconomic forecasters say about the Recovery Act. These are, remember, people whose salary relies on being closer than their competitors in forecasting economic trends. As a group, they are in near-universal agreement in their central estimates that the Recovery Act added roughly 3 percent to GDP by the middle of 2010 and that it created or saved between 2-4 million jobs. The non-partisan Congressional Budget Office (CBO) concurs, calculating that the Recovery Act contributed between \$240 billion to \$645 billion to the economy by the middle of 2010, creating or saving up to 5.2 million full-time equivalent jobs at its peak and keeping the unemployment rate up to 2 points lower than it would have been in the absence of the act. **Figure B** below provides a range of forecasters’ average estimates of the Recovery Act’s effect on GDP and jobs.

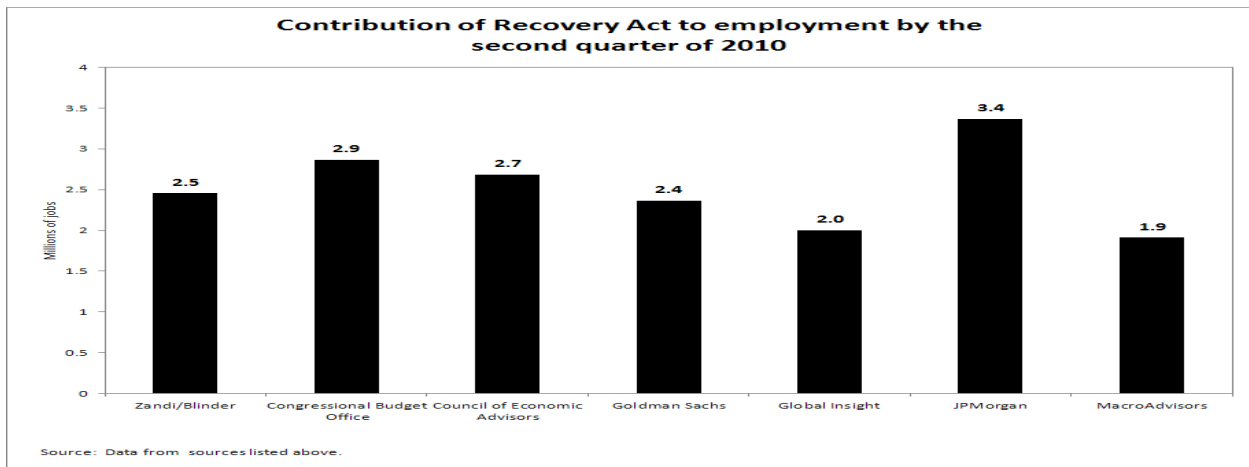
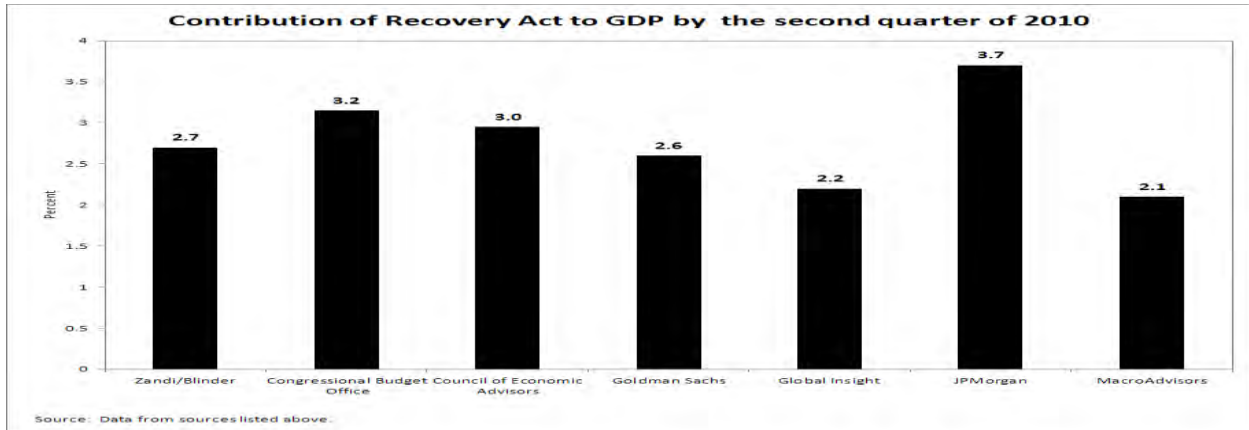
There are a number of factors that explain the near-unanimity among forecasters who have examined the impact of ARRA.

First, it is firmly in line with what mainstream economic theory teaches is the likely effect of deficit-financed tax cuts, transfers and spending in an economy that has high unemployment even in the presence of rock-bottom interest rates (i.e., is in a liquidity trap). The effect of increasing deficits to

¹ While tax cuts represented just over a quarter of the 10-year cost of the Act, they were a much heavier percentage in the first 2 years, as some of the cuts in those years were counter-balanced with small tax increases in the later years of the Act.

finance tax cuts, transfers and spending in a *healthy* economy is ambiguous and there are many complications to assessing it. However, in a liquidity trap these complications fade away and the impact of these policy maneuvers become quite straightforward; they unambiguously push the economy closer to its potential, lowering the unemployment rate.

Figure B: Estimates of the effect of the ARRA by mid-2010



Second, the timing of the Recovery Act coincides perfectly with the halt in the downward spiral of both economic output and employment.² In the 3 quarters before the Act began paying out significant funds, gross domestic product *contracted* at an average annualized rate of -5.2% while in the 3 quarters after its effect began the economy *grew* at an average annualized rate of 2%.

In the 6 months before the Recovery Act took effect, average monthly employment declined by 712,000 while in the 6 months after its passage it average declines fell nearly in half to 386,000. By June of 2010

² In what follows I date the effect of the Recovery Act as beginning April 1, 2009. While it was passed in late February and some money was spent before this, April 2009 is the first month that saw significant amounts of money being spent.

(again, the peak effectiveness of the Act) sector job-growth had averaged 110,000 for the first half of that year (private-sector job growth had averaged 71,000, the gap between public and private was mostly explained by the rise in hiring necessitated by the decennial census).

Figures C and D show growth in GDP and employment, respectively, in the periods before and after the onset of Recovery Act spending. The pattern is clear – the downward spiral is stopped and even reversed almost immediately after the onset of the Act.

Figure C: GDP growth before and after the ARRA

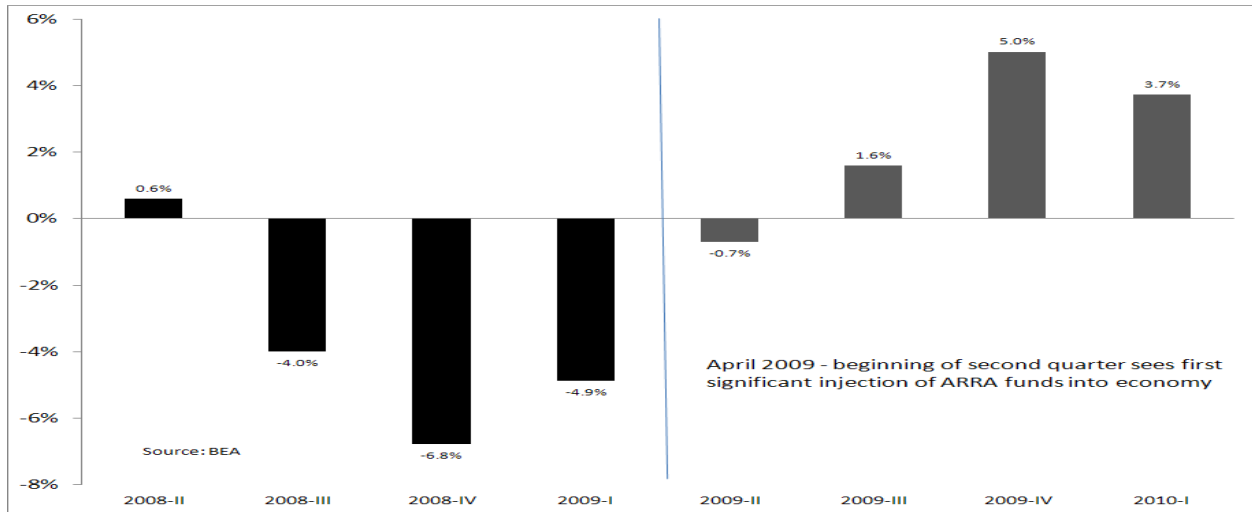
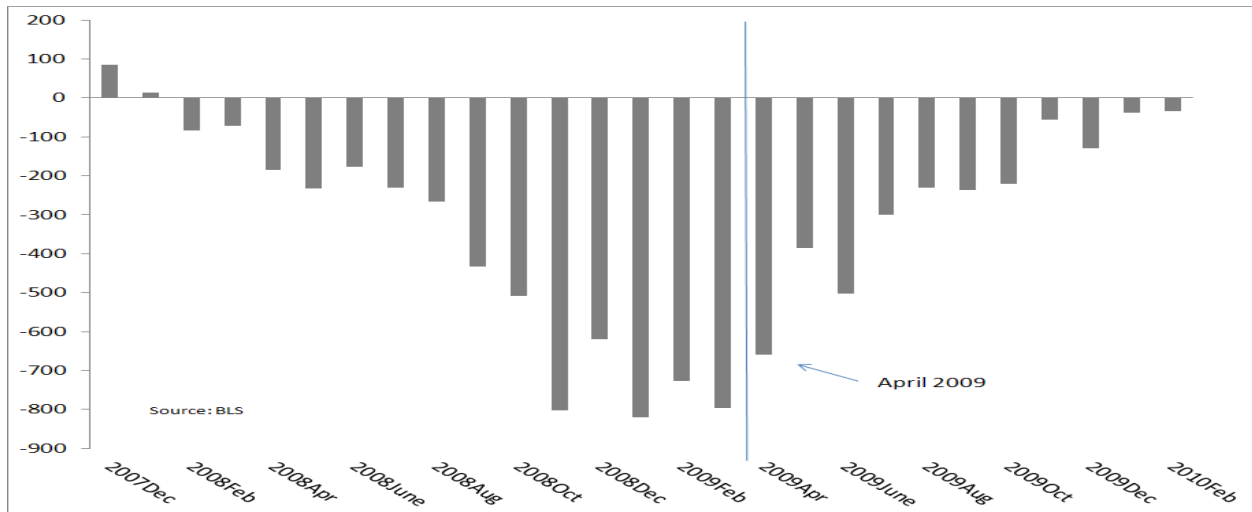


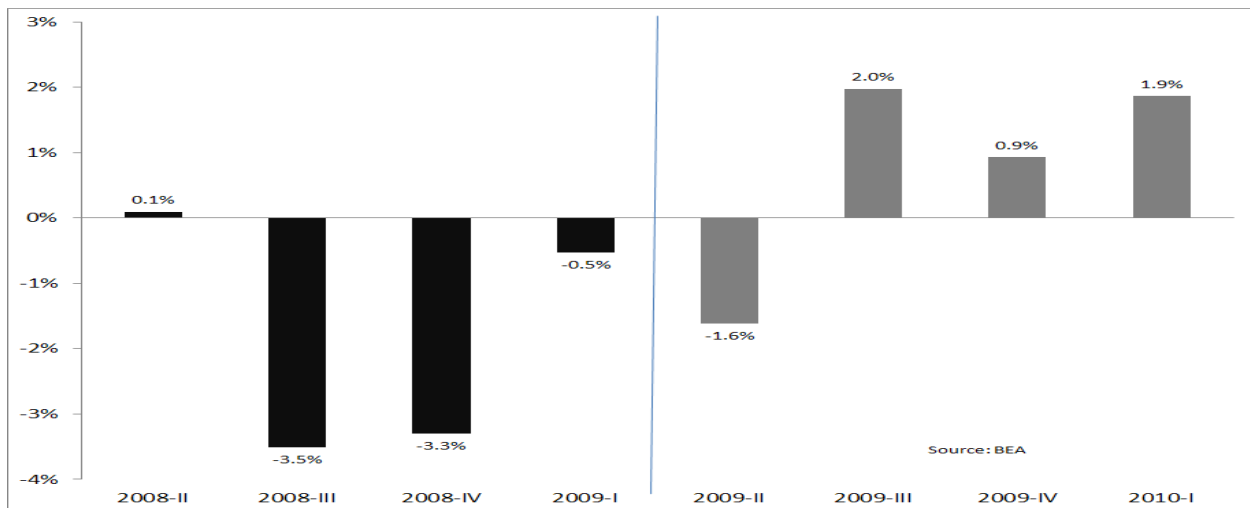
Figure D: Employment growth before and after the ARRA



Third, the turnaround in GDP growth between the 3 quarters before and the 3 quarters after the passage of the Recovery Act was driven predominantly by a reversal in consumer spending. This portion of GDP (accounting for almost 70% of the total) contracted at an annualized rate of -2.4% in the 3 quarters before the Act and actually grew by 0.4% in the 3 quarters after the Act's passage. Contrary to most descriptions of the Recovery Act as a boom for government spending, this boost to private-sector spending power is *actually* exactly what one would have expected if it was working.

Two-thirds of the Act's provisions (the tax cuts and transfer payments) go directly to boosting the purchasing power of households, not to directly purchasing goods and services for the government. This boost to household disposable income helped to arrest the steep fall in consumer spending.³ **Figure E** shows the before and after Recovery Act comparisons of consumption spending.

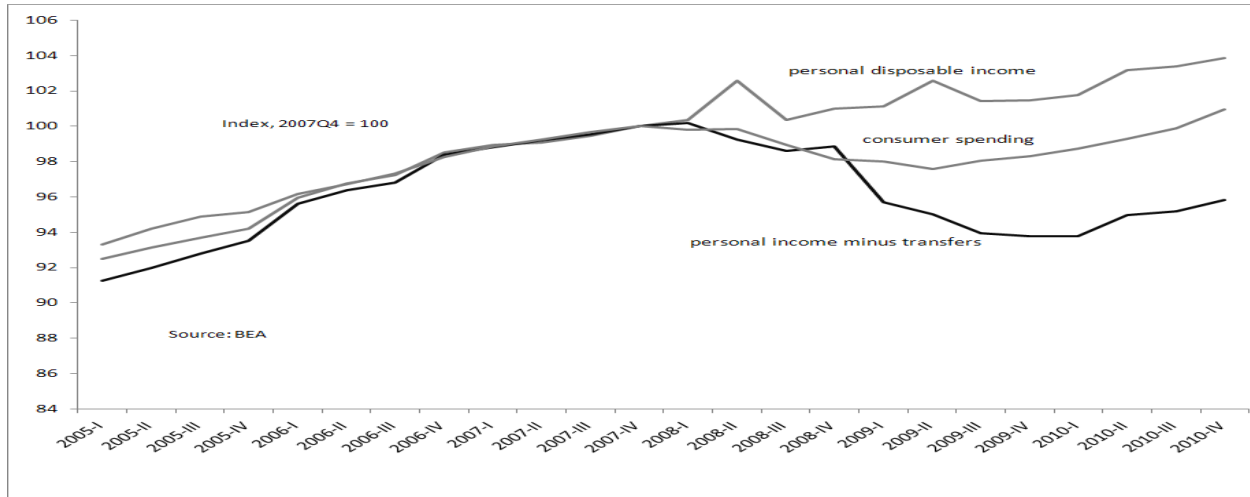
Figure E: Before/after the ARRA, Consumer spending



If one looks at total personal incomes (wages, profits, rental payments) and strips out the influence of government transfers, one can get a decent proxy for how robustly the private sector is generating income growth for households. This measure, personal income minus transfers, fell by over 8% from peak to trough during the recession – the largest decline since World War II. Yet, consumer spending fell by less than a third as much – less than 3%. The wedge between these two can largely be explained by looking at personal *disposable* incomes – incomes after-taxes and after-transfers. This measure actually never fell more than 2% peak-to-trough during the recession and is actually a bit higher today than it was before the recession. This is largely due to the Recovery Act, though some of this is also the automatic stabilizers mentioned earlier. **Figure F** shows each of these series in the period before and after the recession began, with each normalized at 100 in the last quarter before the recession hit.

³ See the appendix to this report for evidence that the Recovery Act actually has not led to outsized growth in government expenditures.

Figure F: Personal income minus transfers, disposable personal income and consumer spending



This evidence – the preponderance of opinion of macroeconomic forecasters, the timing of the Recovery Act taking effect and the reversal of the downward spiral in the middle of 2009, and the very large footprint of the Recovery Act provisions on personal disposable income and its correlation with consumer spending – adds up to an overwhelming case that the Recovery Act worked as advertised. Essentially, without it, the average estimate is that GDP would be about \$500 billion lower today, there would more than 3 million fewer jobs in the economy (and about 5 million fewer full-time equivalent jobs) and the unemployment rate would be roughly 1.5% higher *even with fewer Americans in the labor force*. While there remains much to be done to make sure that all Americans looking for a job have a decent chance of finding one, it is clear that we would be digging out of a much deeper hole today had the Recovery Act not passed.

It was cheaper than advertised

Besides a general misunderstanding about its effectiveness, the primary resistance to providing more fiscal stimulus to today's economy, even in the face of historically high unemployment, is concerns about the federal budget deficit. This section will argue that in the context of the nation's *actual* challenge concerning the national debt – budget deficits that are forecast to rise in coming decades even during periods of healthy economic growth – the costs of the Recovery Act and further fiscal support to the economy are minimal. It further argues that a broader view of the Act's costs – not just its cost in terms of the federal budget but in terms of *overall* economic opportunity costs – show that these costs are actually negative; that is the Act resulted in greater, not less, private investment and employment.

It is clear that the country faces long-run budget challenges that will require policy action in coming decades. A close look at the economics, however, shows that these budget challenges have nothing to do with the Recovery Act that was passed nor would they be appreciably exacerbated at all if more fiscal support was provided to the economy today.

For example, the Recovery Act added between 0.1 to 0.2% to the long-run (50-year) fiscal gap.⁴ If one is a true budget pessimist and believes that the alternative fiscal scenario identified by CBO in their latest report on the long-run budget outlook is a good forecast of the most likely trajectory of deficits (I'm not, for the record, such a pessimist) then this would imply that the Recovery Act was responsible for less than about 1-2% of the long-run fiscal gap facing the country.

The reason for this non-effect of the Recovery Act on long-run budget challenges is simple: the Act is temporary and the main drivers of long-run deficits remain rising health care costs and low revenues as a share of GDP.

Another reason why the Recovery Act was cheap (and why further fiscal action aimed at spurring the economy would be cheap) is that its headline cost (\$787 billion in the case of Recovery Act) is actual far greater than its actual net impact on the budget deficit. Because the Recovery Act saved jobs and wage incomes, it generated new tax revenue. And because it kept people working, it kept them out of public safety net programs.

Data from the Congressional Budget Office (CBO) suggests that each \$1 increase in GDP relative to potential yields a \$0.35 decrease in the deficit as revenues rise and spending falls. Taking the CBO estimate that the Recovery Act led to GDP by the middle of 2010 that was roughly \$500 billion higher than it would have been otherwise, this implies that the economic activity spurred by the Recovery Act recouped roughly \$175 billion – *well over a third* the spending that had occurred to that point. In short, well-designed policies aimed at spurring economic activity come with a *built-in and significant* offset to their total costs.

This exercise also drives home the importance of designing stimulus packages well. Take the high and low-end of Recovery Act provisions in terms of bang-for-buck provided by Moody's Economy.com. If the entire Act consisted of provisions with a bang-for-buck as low as that provided by corporate tax cuts or providing the opportunity of businesses to "carryback" past losses against future taxes, the budget offset provided by the Act would be less than \$80 billion. If instead the entire Act consisted of provisions with bang-for-buck comparable to safety net expansions and infrastructure spending, the budget offset approaches \$400 billion. Simple design of stimulus packages can make their final impact on the deficit differ by literally hundreds of billions of dollars. Besides just not providing effective stimulus, the less well-designed parts of the Act should have been excluded on the basis of fiscal responsibility.

It has been rightly pointed out by some that one could overstate the degree to which additional support would provide built-in offsets to its net addition the national debt. In a given year, it is highly unlikely that economic multipliers are large enough to allow additional fiscal support to be entirely self-financing. Because of this, many commentators have warned against supporters of more support engaging in hyperbole similar to that of supply-side tax advocates who claim that cutting tax rates can spur enough economic activity to bring in sufficient additional revenue so as to make these rate-cuts self-financing.

⁴ The fiscal gap is a short-hand measure of the long-run fiscal imbalance. Essentially, it tells one how much some combination of tax increases and/or spending cuts (expressed as a share of GDP, enacted immediately, would be needed to close the long-run budget deficits.

While this caution may be useful, it should be made clear that the case for full self-financing over time of temporary fiscal support in an economy stuck in a liquidity trap is actually not totally implausible, while the prospect of self-financing permanent cuts in tax rates is indeed totally implausible.

If fiscal support pushes the economy back to levels of GDP that are characterized by full-employment much quicker than in the absence of this support, then it is indeed possible for it to be all-but-totally self-financing. The economists' jargon for this is avoiding hysteresis in labor and product markets, but the insight is pretty simple – if fiscal support generates additional economic activity not only in the year of its implementation but also allows the economy to much more quickly reach its potential – this represents multiple years of additional revenue and less safety net spending and could indeed lower overall ratios of debts and deficits to GDP.

How likely such a full offset is depends largely on how effectively the fiscal support is structured and how much time it shaves off the wait for the economy to regain its potential. Given that many of the mechanisms that tend to push recessed economies back to trend levels seem weak or inoperative in the current economy, it seems quite likely to me that the net fiscal cost of particularly well-structured fiscal support is essentially zero over the medium and long-term. And it is budget deficits over this medium and long-term which are forecast to rise even during times of healthy economic growth that are the proper focus of concern.

Besides having a minimal impact on the stock of outstanding national debt, the Recovery Act was financed in an economic context of historically low long-term interest rates for government debt. These low rates are no fluke – they are low precisely because private spending and borrowing is at historic lows (i.e., the recession). Further fiscal support could also be financed at very low rates, as excess capacity and little competition for loanable funds continues to characterize the economy. Additionally, upward interest rate pressure stemming from Federal Reserve actions is extremely unlikely, given both the weakness of the overall economy and their stated intention to keep rates low until the economy has begun a robust recovery.

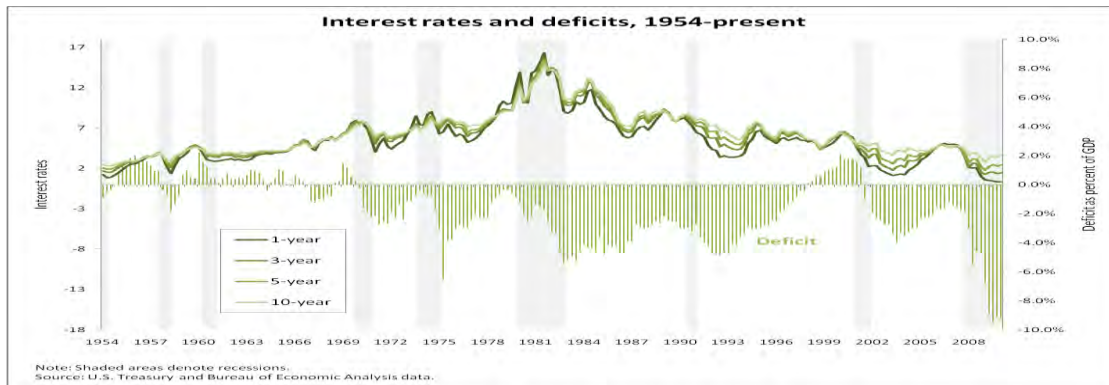
While low interest rates contribute much to the relative cheapness of the Recovery Act, they also provide the clearest indication that the Act is also cheap in its broader economic opportunity costs. The most well-pedigreed argument against increasing budget deficits in healthy economies is the fear that increased government borrowing causes interest rates to rise as public demand competes with private demand for fixed savings of households and businesses. These rising interest rates spurred by growing deficits results in private investment “crowding out” private capital formation and the lower value of the private capital stock leads to lower future growth. When economic commentators make arguments disparaging the ability of the Recovery Act (or government spending of any kind) to create jobs, they generally make variants of this crowding-out argument.

The general failure of interest rates to rise in response to the increase in budget deficits, and to the Recovery Act in particular, is a prime piece of evidence that no crowding out of private investment is occurring, making the Recovery Act not just cheap, but essentially free in terms of its overall economic opportunity cost.⁵ This is, again, not unexpected. Economic theory teaches that increased public

⁵ There is an additional channel through which increasing federal budget deficits in a healthy economy can lead to slower domestic income growth – if the increased borrowing spurred by them leads to greater borrowing from foreign investors. Very few (if any) detractors of the Recovery Act have made the argument that this has happened –

borrowing during a liquidity trap does not crowd-out private sector activity. **Figure G** shows the relationship between deficits, interest rates and recessions. It shows clearly that during recessions deficits rise (both due to automatic stabilizers as well as policy responses) while interest rates fall (in part due to Federal Reserve efforts to fight the recession but also because private demand for new loanable funds fall).

Figure G: Budget deficits and recessions



It is worth stressing this “crowding out” mechanism, given that many Recovery Act detractors have pointed to very low rates of overall investment as some sign that private activity is being stunted by increased public sector activity. The textbook presentation of the effects of fiscal policy *requires* higher interest rates as the mechanism through which private investment may be stunted by increased public borrowing in a healthy economy. Without the rise in interest rates, there is no way to link increased public borrowing and lower private investment.

Many Recovery Act detractors have ignored this portion of standard economic theory and instead invoked vague “uncertainty” created by the Act (as well as other policy actions of the Obama administration in particular) as reasons for continued sluggish economic growth, especially uncertainty of businesses.

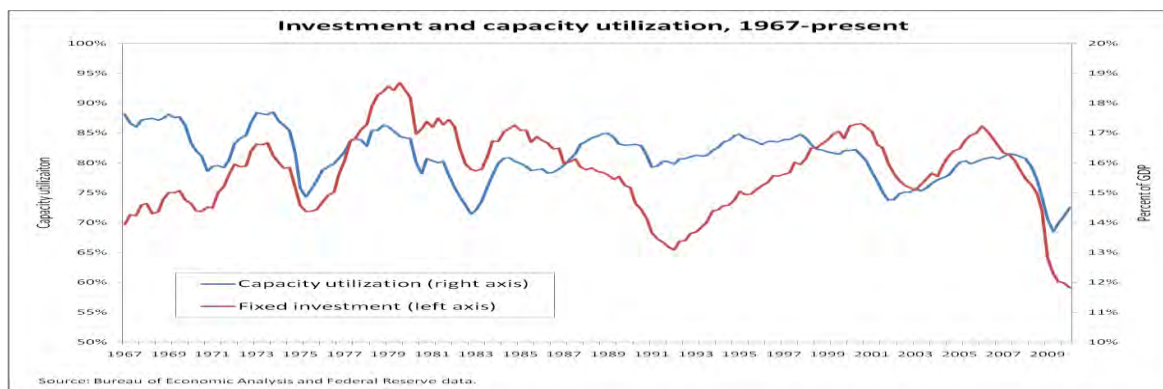
It should be noted that these uncertainty-based arguments have very little evidence on their side. For one, business investment in equipment and software is actually the best-performing part of the overall economy for more than the past year. If entrepreneurs are truly scared by the actions of the Obama administration they have a strange way of showing it: real investment in equipment and software is up by an average annual rate of 16.2% for the past 5 quarters (though admittedly it did slow a bit in the last quarter of 2010).

Further, the very large falls in business investment at the end of 2008 and beginning of 2009 are easy to explain without resorting to psychological channels. Numerous academic studies suggest that the prime determinant of private investment is in fact the simple state of the economy. Given that the end of 2008 and beginning of 2009 were the sharpest fall in economic activity in generations, it is far from surprising that investment spending fell quickly.

and correctly so. The mechanism for this channel to work would have to be a rise in the trade deficit. But, the trade deficit fell significantly over the course of this recession.

The capacity utilization rate (think of this as the employment rate of factories instead of people) reached historic lows during that episode of freefall. With current capacity far from being fully utilized, why would businesses seek to spend money to build more of this capacity? **Figure H** demonstrates the tight relationship between capacity utilization and investment as a share of GDP.

Figure H: Investment and capacity utilization



Additionally, it should be remembered that investment in structures, both residential and non-residential, is an important component (just under half) of overall investment. Given the massive overbuilding in the residential housing sector for the past decade and the sharply rising vacancy rates in commercial real estate, it is again hard to imagine why businesses would seek to expand investments in structures and it does not take recourse to “uncertainty” to see that this should be the case.

Given that overall economic activity is a prime determinant of private investment and that the Recovery Act assuredly spurred greater activity, it is very likely that the Recovery Act actually “crowded in” private investment – actually made the fall-off in private investment *less steep* that it would have been absent the Act’s effects. Evidence for this can be seen in a number of papers that find very large multiplier effects of fiscal support when an economy is a liquidity trap.⁶

Finally, as a side-note, it should be pointed out that the case for “uncertainty” keeping businesses from making new employee-hires is similarly lacking in evidence. For one, growth of temporary employment is actually lagging previous recoveries – if one imagined that there was sufficient demand in the economy to entice firms into producing more but that they did not want to make permanent commitments to staffing-up due to “uncertainty”, there would be a large increase in temp-hiring. By the same logic, one would expect average hours per employee to be trending rapidly upward if firms saw demand for their products but did not want to add to head-count. While hours have recovered some of the precipitous fall they saw during the worst of the recession, they remain below pre-recession averages. In short, the case for demand *not* being a problem but policy uncertainty restraining new hires looks awfully weak.

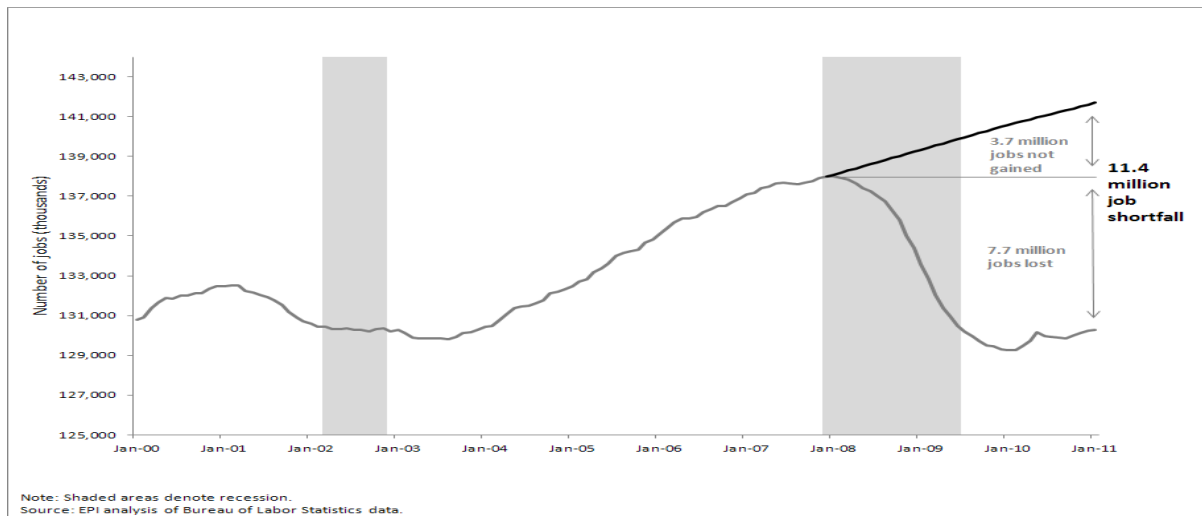
⁶ See Eggerston (2010), Woodford (2009) and Hall (2009) for representatives of this finding.

It should be repeated

So, while the Recovery Act saved the U.S. economy from a worse economic fate – today’s economic fate is still poor. Today’s unemployment rate stands at 9.0% and a series of economic overhangs – the overhang of average hours decline, the overhang of the “missing labor force” (the 2 million workers who withdrew from the labor force since the recession began and who will certainly return looking for work in coming years), and the overhang of business and consumer debt that will keep spending in both sectors cautious in coming years – mean that, absent further support to the economy, it will take an agonizingly long time to bring it down to levels seen before the recession began. For example, the Congressional Budget Office (CBO) has forecast the unemployment rate will average 7.4% for the full-year in 2013 – this is higher than the peak rate reached during the recession and jobless recovery in the early 2000s recession and nearly as high as the 7.8% peak rate reached during the early 1990s recession.

Figure I documents how many jobs are needed to return the unemployment rate even just to its rather undistinguished level of December 2007.

Figure I: How many jobs needed to return to December 2007 unemployment?



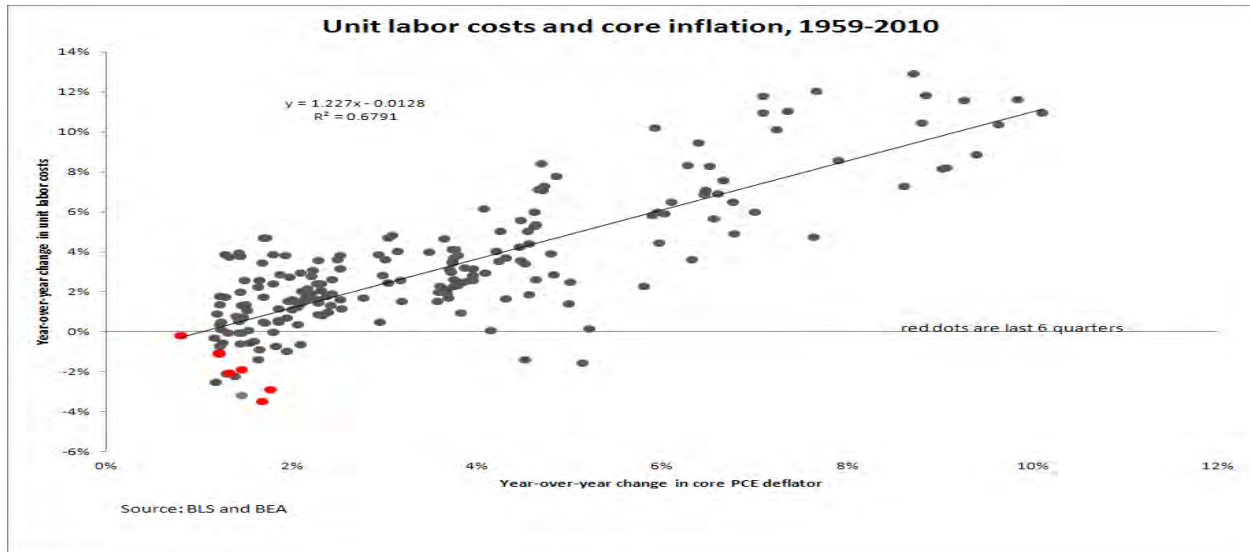
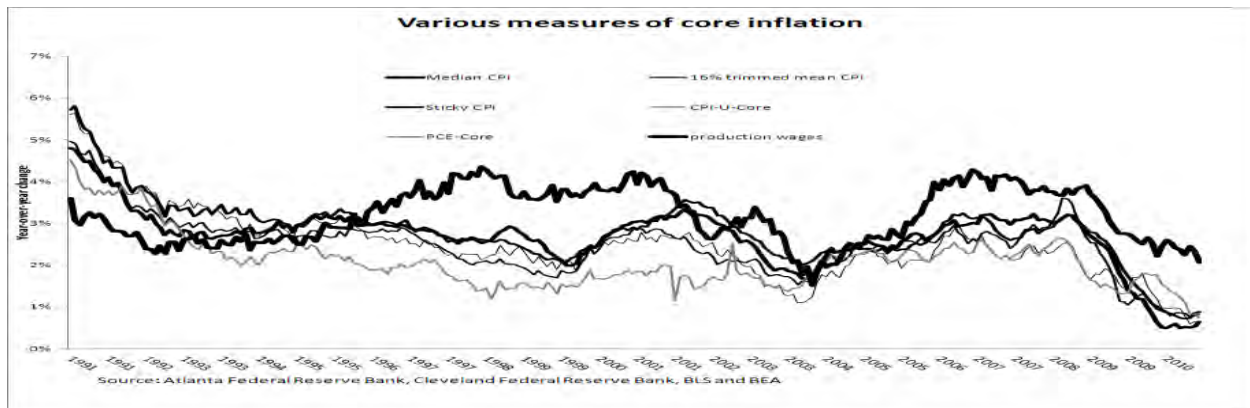
Further, even this grim forecast for unemployment assumes the economy grows consistently in the next couple of years. Given recent headwinds that have picked up steam in the past few months, even this cannot be assured. Most worrisome, home prices have begun falling again – and this development was not expected or factored into the majority of Blue-chip forecasts – it is a clear downside surprise. Further, many of the major trading partners of the United States have embraced fiscal austerity; the UK economy actually shrank in the last quarter of year. In short, net exports will likely not be a source of strength moving forward in the recovery (though it should be noted that they were a useful shock absorber during the recession and added a bit to growth in the last quarter of 2010).

Lastly, economic data in the form of rapidly decelerating prices and wages is also sending strong signals that excess capacity in the economy is threatening to grow again. Essentially all indicators of overall

price pressure in the economy show rapidly decelerating price growth, and several show outright deflation (falling prices) in recent months. **Figure J** shows some of these.

These falling wages and prices are not just a *symptom* of poor economic performance (although they are indeed this); this disinflation also *causes* real interest rates to rise just when we want them to fall. In short, this disinflation not only signals slower growth, it also adds to the growth headwinds facing the economy.

Figure J: Various measures of core price and wage inflation



Finally, the boost to growth provided by the Recovery Act is gone. Because the pace of the Act's spend-out has been greatly reduced, it has contributed next-to-nothing to growth in the last quarter of 2010. There is an irony here – many of Act's critics argued that it would not be "timely" enough to fight the Recession (we all remember the controversy over just how "shovel-ready" infrastructure projects could

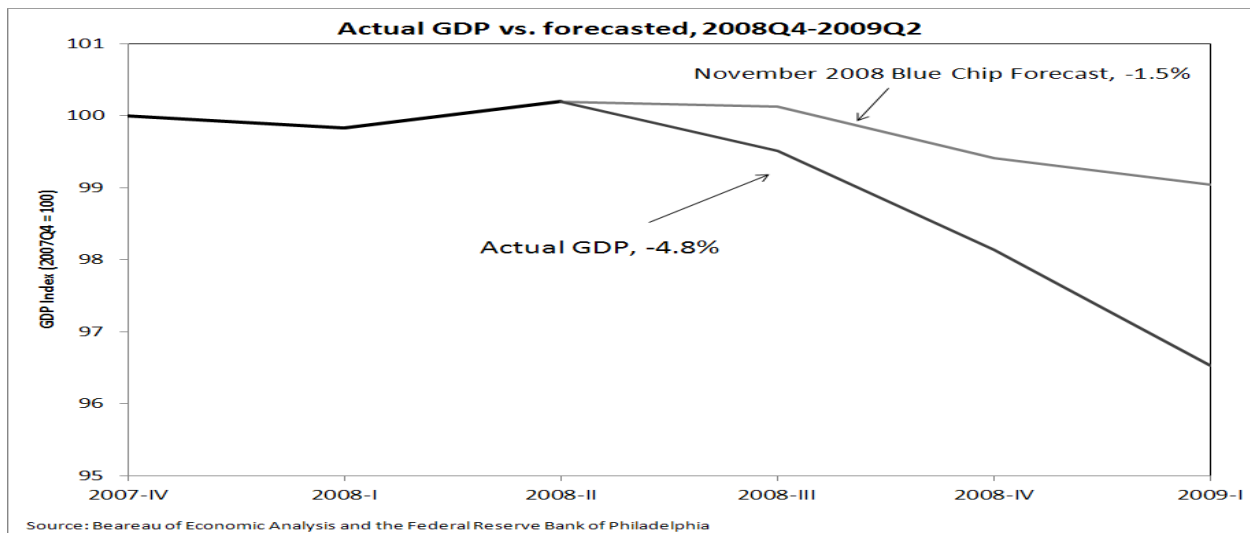
really be), but instead the real problem with the Act was that its effect wasn't long-lived enough to provide the bridge the economy needed over the enormous job-chasm inflicted by the Great Recession.

A couple of notes on Romer-Bernstein

A facile debating technique used by those contending that the Recovery Act did nothing invokes the Obama administration's forecast (authored by Bernstein and Romer) that the unemployment rate would rise to roughly 9% if the Recovery Act was not passed, but would not reach 8% if it was enacted—a forecast which even its makers would now acknowledge greatly underestimated the size of the private-sector spending shock hitting the economy in late 2008 and early 2009. When unemployment peaked at 10.1% *after* its passage, critics pounced, with some claiming that the Act had even somehow made things worse.

The problem with this interpretation is that it fails to consider the fact that it was not the Recovery Act that failed, but rather the imagination of economic forecasters (both within as well as *outside* the Obama administration) about how much damage would be inflicted on the economy by the failure of both regulators and the entire financial sector to contain the massive housing bubble. **Figure K** shows the simple average of the Blue-Chip consensus forecast for GDP growth in early 2009, as well as the *actual* path of GDP.

Figure K: Blue-chip forecast



The 3.3% difference between the forecast GDP growth rate and what actually occurred translates into roughly a 1.5% higher unemployment rate – essentially the difference between the Romer/Bernstein forecast of the trajectory of unemployment with the passage ARRA and what actually occurred.

Further, it's worth noting that just between December 2008 (when Romer and Bernstein published their document) and March 2009 (the month after the ARRA was passed), the economy lost nearly 3 million jobs. In essence, the 2% gap in what they projected the unemployment rate would be if ARRA passed and what eventually transpired can be explained by the historic hemorrhaging of jobs that happened

after their report was published and before the Act began paying out money. In fact, by April 2009, the first month that saw serious money being dispersed by the ARRA, unemployment was already 8.9%.

In short, it's clear that what is wrong with the Romer/Bernstein is simply their forecast of just how bad the economy was in early 2009, not in the likely impact of the ARRA. In fact, as noted above, the consensus among those who earn their money by doing economic forecasts is that the *difference* between an economy with and without the Recovery Act is that by the middle of 2010 *the economy had roughly 3-4 million jobs more than it would have had if the Act had not passed.*

A good metaphor for this controversy is the temperature in a log cabin on a cold winter's night. Say that the weather forecast is for the temperature to reach 30 degrees. To stay warm, you decide to burn three logs in the fireplace. You do the math (and chemistry) and calculate that burning these three logs will generate enough heat to bring the inside of the cabin to 50 degrees – or 20 degrees warmer than the ambient temperature.

But the forecast is wrong – and instead temperatures plummet to 10 degrees and burning the logs only results in a cabin temperature of 30 degrees. Has log-burning failed as a strategy to generate heat? Of course not. Has your estimate of the effectiveness of log-burning been wildly wrong? Nope – it was exactly right – it added 20 degrees to the ambient temperature. The only lesson to be learned from this is a simple one: since the weather turned out worse than expected, you needed more logs.

Conclusion

The Recovery Act worked largely as advertised, creating nearly 5 million full-time equivalent jobs in the economy when such growth was desperately needed. However, its effect has passed – and millions of jobs remain desperately needed.

It seems amazing now, but 30 months ago Congress acted quickly to pass a \$160 billion stimulus package to avoid the prospect of unemployment rising from 5 to 6%. The unemployment rate now stands at 9.0% and further fiscal support beyond 2011 does not seem to be forthcoming. A real jobs debate would take into account the extensive research that argues for the effectiveness of the ARRA.

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