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EXTENDED UNEMPLOYMENT INSURANCE—
NO ECONOMIC STIMULUS

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LEADERSHIP FOR AMERICA

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With the economy weakening, many Members of Congress support a second economic stimulus package, including extending the time period over which workers can collect unemployment insurance (UI). Congress has already extended that time period from 26 to 39 weeks. New legislation, the Unemployment Compensation Extension Act (H.R. 6867), would extend it to 46 weeks.

The theory is that unemployed workers will spend virtually all their additional income immediately, providing rapid economic stimulus. A 2004 study conducted by economist Mark Zandi concluded that additional UI spending provides significant economic stimulus, with each dollar in additional UI spending increasing gross domestic product (GDP) by $1.73.[1] Two false assumptions, however, marred this study. 1) The study assumed that every dollar of UI spending funds new consumption when research shows this does not happen. 2) It also assumed that unemployment insurance does not change workers' behavior. Studies consistently show that workers with extended UI benefits remain unemployed longer. A 13-week extension of unemployment benefits results in the average worker remaining unemployed for an additional two weeks.

The Heritage Foundation's Center for Data Analysis used the forecasting company IHS Global Insight's U.S. Macroeconomic model to estimate the full macroeconomic effects of extending unemployment insurance benefits. After taking the labor-market effects into account, extended UI benefits provide little economic stimulus. The 13-week extension already passed by Congress is estimated to have increased annual GDP by an average of $0.25 for each $1 spent while extended benefits are in effect. Increasing the duration by an additional 7 weeks to 20 weeks would depress the economy, causing GDP to decrease by $1.7 billion. Unemployment insurance provides virtually no "bang for the buck" as economic stimulus. This research confirms the existing scholarly analysis that finds greater unemployment benefits provide little stimulus.[2] Paying workers not to work does not promote economic growth. Congress should decide whether to extend UI benefits based on the merits of the policy, but should not expect additional UI benefits to promote economic growth.

THE WEAKENING ECONOMY

The economy has weakened considerably over the last year. Congress passed a $168 billion tax rebate in February to stimulate the economy and stave off a recession. The economy has continued to deteriorate and appears likely to enter a recession. Congress is now considering a second stimulus bill.

Stimulus bills rarely succeed in revitalizing economic activity. Stimulus checks mailed to American taxpayers, like those issued in the 1970s and 2001, did not succeed in revitalizing the economy. During

1. Mark M. Zandi, "Assessing President Bush's Fiscal Policies," Economy.com, July 2004, Table 4, at *http://www.economy.com/ dismal/economycom_bushfiscalpolicy.pdf* (November 13, 2008).

2. Kyung Won Lee, James R. Schmidt, and George E. Rejda, "Unemployment Insurance and State Economic Activity," *International Economic Journal*, Vol. 13, No. 3 (Autumn 1999), pp. 77–95.

the current period of slow economic growth, Congress should do what it does best: Set broad economic policy. Specifically, Congress should concentrate on signaling to investors and workers alike that its principal focus will be on improving pro-growth economic policies, mainly in the areas of tax, energy, and spending. Congress should only pass policies that are likely to raise the economy to a sustained, higher level of growth.

UNEMPLOYMENT INSURANCE PROMOTED AS STIMULUS

Many Members of Congress believe that the new stimulus bill should include expanded unemployment insurance benefits. Typically, workers who lose their job through no fault of their own collect unemployment insurance for up to 26 weeks (6 months) after losing their job, and workers in states with especially high levels of unemployment can collect payments for an additional 13 weeks. Congress extended the base period to 39 weeks earlier this year. Legislation that is now before Congress, which may be included in the next stimulus bill, would allow unemployed workers to collect UI benefits for an additional seven weeks, for a total of 46 weeks.

The theory behind extending UI benefits as a stimulus assumes that unemployed workers will immediately spend any additional UI payments, instantly increasing consumption, boosting aggregate demand, and stimulating the economy.

This is not a new idea. Economists in the 1960s thought that unemployment insurance could function as an important automatic economic stabilizer.[3] Empirical research in the 1970s demonstrated that this was not the case, and studies since then have concluded that unemployment insurance plays at best a small role in stabilizing the economy.[4] Empirical research at the state level also finds that UI plays a negligible role in stimulating the economy.[5]

Two recent studies have resurrected the idea of using UI insurance as economic stimulus. The Congressional Budget Office (CBO) reviewed various stimulus measures and concluded that UI payments were one of the most effective means of stimulating the economy.[6] In 2004, Mark Zandi released a macroeconomic study of fiscal policies that concluded that unemployment insurance benefits provided the greatest "bang for the buck." He found that each $1 spent on additional UI benefits resulted in $1.73 of economic growth in the short run.[7] These findings motivated Congress to pass the recent extension of UI benefits and have been a driving force behind extending benefits to 46 weeks.

INCOMPLETE ANALYSIS

The CBO and Zandi studies rest on two strong simplifying assumptions. They assume that unemployed workers spend every dollar of additional UI benefits almost immediately and that extending unemployment insurance does not affect workers' behavior. In that case, every dollar spent on unemployment insurance adds a dollar to consumption without any direct effects on the labor market. Both assumptions are false.

Unemployment Insurance Prolongs Unemployment. One of the most thoroughly established results in labor economics is the effect of unemployment benefits on unemployed workers' behavior. Labor economists agree that extended unemployment benefits cause workers to remain unemployed longer than they otherwise would.[8]

This occurs for obvious reasons: Workers respond to incentives. Unemployment benefits reduce the incentive and the pressure to find a new job by making it less costly to remain without work. Consequently workers with UI benefits look for new jobs less rigorously than do workers without them. The typical unemployed worker spends about 32 minutes a day looking for a new job.[9] Workers eligible for UI benefits spend only 20 minutes a day looking for work during their 15th week

3. For example, George E. Rejda, "Unemployment Insurance as an Automatic Stabilizer," *The Journal of Risk and Insurance*, Vol. 33, No. 2 (June 1966), pp. 195–208.

4. George M. Von Furstenberg, "Stabilization Characteristics of Unemployment Insurance," *Industrial and Labor Relations Review*, Vol. 29, No. 3 (April 1976), pp. 363–376. Alan J. Auerbach and Daniel Feenberg, "The Significance of Federal Taxes as Automatic Stabilizers," *Journal of Economic Perspectives*, Vol. 14, No. 3 (2000), pp. 37–56.

5. Lee, Schmidt, and Rejda, "Unemployment Insurance and State Economic Activity."

6. Congressional Budget Office, "Options for Responding to Short-Term Economic Weakness," January 2008, pp. 17, 22, at *http://cbo.gov/ftpdocs/89xx/doc8916/01-15-Econ_Stimulus.pdf* (November 13, 2008).

7. Zandi, "Assessing President Bush's Fiscal Policies."

of unemployment. They look much harder when their benefits are about to end, spending more than 70 minutes a day job hunting in the 26th week of unemployment.[10]

Since workers with unemployment benefits search less rigorously for work until their benefits are about to expire, it takes them longer to find new jobs. Labor economists estimate that extending the potential duration of unemployment benefits by 13 weeks increases the average amount of time workers on UI remain unemployed by two weeks.[11] Prolonged unemployment increases the unemployment rate.

This has economic consequences. Workers do not create economic wealth during the additional weeks they remain unemployed. They save and consume less because UI insurance replaces only a portion of their wages. Labor markets become less flexible because it takes more time for workers to transition from one industry or state to another. This hinders economic growth.

NOT EVERY EXTRA DOLLAR IS CONSUMED

The studies that estimate a large stimulus effect from expanded unemployment benefits also assume that households consume every dollar of extended benefits they receive. This is a reasonable assumption. Many UI recipients have limited liquid assets and a limited ability to borrow, so their spending is determined by their immediate cash income.[12] Microeconomic research, however, demonstrates that unemployed households do not follow this pattern. In fact, each dollar in additional UI benefits increases household consumption by only $0.55.[13]

Household behavior responds to unemployment benefits. The spouses of unemployed workers with UI benefits work less than those without benefits. For married men, each dollar of benefits reduces their wives' earnings by between 36 and 73 cents.[14] The fall in spousal income partly offsets the increase in UI benefits. Workers spend more of their savings without UI, so UI benefits indirectly fund some additional saving, not consumption.[15]

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8. See David Card and Phillip B. Levine, "Extended Benefits and the Duration of UI Spells: Evidence from the New Jersey Extended Benefit Program," *Journal of Public Economics*, Vol. 78 (1-2) (October 2000), pp. 107–138; Lawrence Katz and Bruce Meyer, "The Impact of the Potential Duration of Unemployment Benefits on the Duration of Unemployment," *Journal of Public Economics*, Vol. 41, No. 1 (1990), pp. 45–72; Stepan Jurajda, "Estimating the Effect of Unemployment Insurance Compensation on the Labor Market Histories of Displaced Workers," *Journal of Econometrics*, Vol. 108, No. 2 (2002), pp. 227–252; John T. Addison and Pedro Portugal, "How Does the Unemployment Insurance System Shape the Time Profile of Jobless Duration?" *Economics Letters*, Vol. 85, No. 2 (November 2004), pp. 229–234; Alan B. Krueger and Bruce D. Meyer, "Labor Supply Effects of Social Insurance," in A. J. Auerbach and M. Feldstein (ed.), *Handbook of Public Economics*, First Edition, Vol. 4 (2002), pp. 2327–2392; and Rafael Lalive, Jan Van Ours, and Josef Zweimüller, "How Changes in Financial Incentives Affect the Duration of Unemployment," *Review of Economic Studies*, Vol. 73, No. 4 (October 2006), pp. 1009–1038.

9. Alan B. Krueger and Andreas Mueller, "Job Search and Unemployment Insurance: New Evidence from Time Use Data," IZA Discussion Paper No. 3667, August 2008, p. 11, at *http://ssrn.com/abstract=1261452* (November 13, 2008).

10. *Ibid.*, pp. 20–21. Note that this study occurred when extended benefits were not in effect, so benefits expire after the 26th week.

11. Katz and Meyer, "The Impact of the Potential Duration of Unemployment Benefits on the Duration of Unemployment." Note that an elasticity of 0.16 implies that increasing the duration of unemployment insurance by 13 weeks results in a roughly two-week longer (13 * 0.16 = 2.08) unemployment spell. Also note that this is the same estimate used by the Congressional Budget Office in its 2008 survey of stimulus options.

12. Raj Chetty, "Moral Hazard Vs. Liquidity and Optimal Unemployment Insurance," NBER Working Paper No. W13967, April 2008, at *http://ssrn.com/abstract=1122755* (November 13, 2008).

13. Jonathan Gruber, "The Consumption Smoothing Benefits of Unemployment Insurance," *American Economic Review*, Vol. 87 (March 1997), p. 195. Note that a 10 percent increase in the replacement rate (representing a 10 percent increase in individual income) reduces the fall in individual consumption by 2.65 percent. Footnote 9 of this paper notes that the average recipient obtains 48 cents out of every additional dollar of which he or she is eligible because not all workers eligible for benefits receive them. Thus, when UI raises incomes by 4.8 percent, consumption rises by 2.65 percent. Each dollar spent on UI raises consumption by approximately 55 cents.

14. J. B. Cullen and J. Gruber, "Spousal Labor Supply as Insurance: Does Unemployment Insurance Crowd Out the Added Worker Effect?" *Journal of Labor Economics*, 18, No. 3 (2000), pp. 546–572.

For a large number of families, extended UI benefits do less to increase consumption than to provide alternative financing for consumption that would nonetheless take place. Macroeconomic models should account for this. Inaccurately assuming that households consume every additional dollar of UI benefits overstates the predicted stimulus UI provides.

Comprehensive Model Needed. The studies showing that unemployment insurance provides significant economic stimulus overstate the positive economic effects of additional UI benefits and ignore the negative effects.

Both the Congressional Budget Office and Zandi assume that UI recipients consume every dollar spent on UI. The Zandi study ignores the role of unemployment insurance in extending unemployment. The CBO acknowledges that UI causes workers to stay unemployed longer, but argues that this fact presents a smaller problem in a weak economy. This is also a reasonable assumption, but research contradicts it. Extended UI benefits have roughly the same effect in both strong and weak economies.[16]

Unsurprisingly, then, these studies find that extending UI provides substantial economic benefits. Their methodology is flawed because it increases aggregate consumption by the full (or near full) amount of the spending increase on the assumption of a micro-level liquidity-constraint benefit with no offsetting account of the micro-level employment effect. This inconsistency artificially inflates the "bang for the buck."

Most models that overstate the positive effects and ignore the negative effects of a policy will come to the same conclusion. Policymakers should not rely on incomplete models to guide economic pol-icy. Instead they should examine comprehensive models that account for the full economic effects of unemployment insurance.

Dynamic Macroeconomic Model. While extended UI benefit payments are easily visible, the economic costs of lost income due to extended unemployment are often unseen, but equally real. Simulations based on economic theory can reveal these hidden costs and give policymakers a tool for evaluating proposals.

Heritage Foundation analysts used the IHS Global Insight short-term U.S. Macroeconomic Model[17] to estimate the full effects of extending UI benefits. The Global Insight model is an econometric dynamic-equilibrium growth model. The baseline forecast of the model is the October 2008 baseline.[18] This baseline accounts for the current economic weakness and the considerable slack in the labor market.[19]

The effect of increased UI spending was modeled by increasing the cyclical component of government transfers by the estimated cost of the policy. The dynamics of the model calculate the effects on household income, household spending, and household saving. These first-order effects then make their way through the economy, affecting employment, prices, investments, and so on.

The employment effect is modeled by estimating the effect of extended UI benefits on the natural rate of unemployment, what economists consider full employment unemployment, by the amount estimated using micro-level studies. For example, a 13-week extension would increase the number of hours unemployed by an average of 250 million hours, which is equivalent to about 600,000 workers. This translates into an approxi-

15. Eric M. Engen and Jonathan Gruber, "Unemployment Insurance and Precautionary Saving," *Journal of Monetary Economics*, Vol. 47 (June 2001), pp. 545–579.

16. Stepan Jurajda and Frederick Tannery, "Unemployment Duration and Extended Unemployment: Benefits in Local Labor Markets," *Industrial and Labor Relations Review*, Vol. 56, No. 2 (January 2003). See also Olympia Bover, Manuel Arellano, and Samuel Bentolila, "Unemployment Duration, Benefit Duration and the Business Cycle," *The Economic Journal*, Vol. 112, No. 479 (April, 2002), pp. 223–265. The authors find that receiving UI benefits has a much larger effect on workers' re-entrance to the labor force than does the state of the macro economy.

17. The methodologies, assumptions, conclusions, and opinions in this Center for Data Analysis (CDA) Report are entirely the work of CDA analysts. They have not been endorsed by and do not necessarily reflect the views of the owners of the GI model. The GI model is used by leading government agencies and Fortune 500 companies to provide indications to policymakers of the probable effects of economic events and public policy changes on hundreds of major economic indicators.

18. This was the latest baseline available at the time of publication.

19. For example, the baseline predicts an average gap between the natural rate of unemployment and actual unemployment of 2.25 percentage points.

Extending Unemployment Insurance Will Have Little Effect on the Economy or Employment

	Q1 2009	Q2 2009	Q3 2009	Q4 2009	Average	% Chg. from Current Avg.
Real GDP (billions)						
Current duration of unemployment insurance	$11,658.97	$11,694.26	$11,727.52	$11,788.12	$11,717.22	
Adding 13 weeks	$11,663.88	$11,699.55	$11,733.45	$11,795.53	$11,723.10	0.05%
Adding 20 weeks	$11,663.66	$11,697.61	$11,731.28	$11,792.93	$11,721.37	0.04%
Employment (millions)						
Current duration of unemployment insurance	136.44	136.02	135.90	136.05	136.10	
Adding 13 weeks	136.26	135.78	135.62	135.77	135.86	−0.18%
Adding 20 weeks	136.25	135.68	135.49	135.61	135.76	−0.25%
Labor force (millions)						
Current duration of unemployment insurance	155.08	155.23	155.40	155.60	155.33	
Adding 13 weeks	155.08	155.23	155.40	155.60	155.33	0.00%
Adding 20 weeks	155.08	155.23	155.40	155.60	155.33	0.00%
Calculated increase in unemployment						
Adding 13 weeks	0.11%	0.16%	0.18%	0.18%	0.16%	–
Adding 20 weeks	0.12%	0.22%	0.27%	0.29%	0.22%	–
Ten-year Treasury note (%)						
Current duration of unemployment insurance	3.56%	3.55%	3.69%	3.89%	3.68%	
Adding 13 weeks	3.55%	3.53%	3.66%	3.85%	3.65%	−0.75%
Adding 20 weeks	3.55%	3.53%	3.66%	3.85%	3.65%	−0.71%
Three-month Treasury bill (%)						
Current duration of unemployment insurance	1.18%	1.25%	1.54%	2.01%	1.49%	
Adding 13 weeks	1.16%	1.21%	1.48%	1.94%	1.44%	−3.20%
Adding 20 weeks	1.16%	1.21%	1.48%	1.95%	1.45%	−2.91%
Federal debt outstanding (billions)						
Current duration of unemployment insurance	$10,621.28	$10,945.05	$11,120.07	$11,430.69	$11,029.27	
Adding 13 weeks	$10,630.72	$10,959.25	$11,138.95	$11,454.25	$11,045.79	0.15%
Adding 20 weeks	$10,630.92	$10,959.70	$11,139.75	$11,455.51	$11,046.47	0.16%
Non-residential investment (billions)						
Current duration of unemployment insurance	$523.15	$487.16	$454.92	$443.40	$477.16	
Adding 13 weeks	$522.97	$486.25	$452.96	$441.06	$475.81	−0.28%
Adding 20 weeks	$522.87	$486.02	$452.57	$440.00	$475.37	−0.38%

Sources: Heritage Foundation calculations based on the Global Insight Macroeconomic Model.

Table 1 • CDA08-13 ☎ heritage.org

mately 0.38 percentage point higher natural rate of unemployment. (See Appendices A and B for the details of these calculations.)

Economic Effects of Extended Benefits. The Heritage Foundation modeled two policy extensions. The first simulates extending unemployment benefits by 13 weeks to 39 weeks. This simulates the effect of the legislation that Congress has already passed in a supplemental appropriations bill. The second simulates a 20-week extension of the program.[20] This estimates the effect if Congress increases eligibility for UI benefits an additional 7 weeks above the 39 weeks currently legislated.

The model predicts that the 13-week policy

20. In both cases it was assumed that extended benefits would remain in effect until the baseline unemployment rate declined for two consecutive quarters, which occurs in Q3 2010.

increased the unemployment rate by 0.16 percentage point. It also predicts that if Congress passed a 20-week extended benefit package the unemployment rate would rise by an additional 0.06 percentage point to a total 0.22 percentage point increase in unemployment.[21]

The model also shows that the 13-week extension already passed expands GDP by only $5.8 billion from the baseline of $11.7 trillion, a 0.05 percent increase. This is significantly less than the $24 billion annual cost of the extension. Passing the 20-week extension depresses the economy relative to the current 13-week extension. Under 20 weeks of extended benefits, GDP increases by just $4.1 billion, $1.7 billion less than under the current extended benefits program.

The higher unemployment rates further weaken the economy by decreasing non-residential investment by $1.4 billion under the 13-week extension, and by $1.8 billion under the 20-week extension. Investment creates long-term economic growth by increasing the productive capacity of the economy. Lower investment levels results in less output in the future. This suggests that extending UI benefits has even less stimulus effect in the long term. The model also forecasts an increasing spread between the three-month Treasury bill and the ten-year Treasury note compared to the baseline; this is often viewed as an indicator of economic weakness and demonstrates the policy's effect of further weakening the economy.[22]

No Bang for the Buck. How cost-effective are unemployment benefits in stimulating the economy? After accounting for their labor-market effects, extended unemployment benefits provide little stimulus per dollar spent by the government. For the 13-week extension, the higher consumption is partially offset by higher unemployment and GDP expands by only 25 cents for each dollar spent. Spending on extended benefits does not invest in economic growth. Each dollar spent expands GDP by far less than one dollar.

Extending unemployment benefits for an additional seven weeks to 20 weeks provides even less stimulus, actually reducing the size of the economy relative to the 13-week extension. For each dollar of debt the government issues to pay for extended benefits, GDP grows by just 17 cents. Extended UI benefits reallocate resources within the economy; they do not create wealth or spur economic growth. Increasing the debt burden on future taxpayers may have the appearance of a stimulus, but unless it increases GDP by more than is spent, it is not.

The purpose of debt is to use current assets to earn greater returns. This debt financing earns negative returns. Pumping debt money into the economy may appear as a stimulus while it is being spent because it eases some liquidity constraints—*but 75 to 83 cents of every dollar of that spending is lost.* Therefore, once the spending stops the bubble bursts because the increases in GDP were artificial. The policy does not increase investments that will increase the fundamental productivity of the economy. In fact, the incentives to reduce labor supply decrease productivity.

WHAT CONGRESS NEEDS TO KNOW

Extended unemployment insurance benefits provide little economic stimulus. The models that claim that unemployment benefits strongly stimulate the economy ignore the effect of UI in increasing unemployment and overestimate the amount that finances new consumption. Consequently, they overstate the economic stimulus that extended UI benefits provide.

A comprehensive model incorporating the complete effects of extended UI benefits shows the current 13-week extended benefits program provides little "bang for the buck." It increases GDP by only $0.25 per dollar spent. Increasing the duration of UI benefits by seven more weeks to 46 weeks would hurt the economy, reducing the already modest effect on GDP to $0.17 per dollar spent.

People respond to incentives. Paying workers not to work does not stimulate the economy. Because

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21. Actual job losses are approximately half those calculated from the employment effect alone. The employment effect, all else equal, raises unemployment by an average of 0.38 percent and 0.55 percent for 13- and 20-week extensions, respectively. The dynamic model takes into account the many other influences on the labor market, such as the current slack in it, such that actual job losses are lower than the increase in unemployment from the purely micro-level behavioral response to longer benefit duration.

22. Arturo Estrella and Frederic S. Mishkin, "The Yield Curve as a Predictor of U.S. Recessions," *Current Issues in Economics and Finance*, Vol. 2, No. 7 (June 1996), at *http://www.newyorkfed.org/research/current_issues/ci2-7.pdf* (November 13, 2008).

the increased benefits will most likely be financed by debt, they simply transfer resources from future taxpayers to UI recipients. The lost production resulting from increased unemployment diminishes the effect of this spending, resulting in a negative return. Receiving less GDP than is spent cannot sustain economic growth.

Sound public policy reasons exist to extend unemployment insurance benefits. Congress has many humanitarian justifications for doing so. Many employees have been out of work for over six months because they cannot find new jobs, not for lack of effort. Many families receiving extended benefits face dire financial circumstances. If Congress chooses to extend unemployment benefits, it should do so because extended benefits are a humanitarian policy. Congress should not, however, expect extended UI benefits to improve the economy.

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APPENDIX A
LABOR-MARKET CALCULATIONS

Economists have conducted extensive research on the microeconomic effects of unemployment insurance. An optimal unemployment insurance policy seeks to provide consumption smoothing for those who find themselves unemployed through no fault of their own while balancing the competing moral hazard effect—the incentive to remain unemployed and collecting benefits instead of working. The behavioral effects of increasing the duration of unemployment insurance are well documented.

To estimate the extent to which extended benefits increase unemployment, we estimate the extent to which the 13-week and 20-week extended benefit programs will increase the average duration of unemployment for those receiving UI insurance. Since a proportionate increase in the duration of unemployment implies a proportionate increase in the level of unemployment at any point in time (though not in the number of workers who enter unemployment), we can then estimate the extent to which extended benefits increase unemployment.

To do this, we use estimates from Katz and Meyer (1990).[23] They find that each week of additional benefits causes UI recipients to remain unemployed 0.16 to 0.20 weeks longer. For a 13-week extension, this amounts to 2.1 weeks longer unemployment per UI recipient. This is also the "rule of thumb" cited by the CBO.[24] For a 20-week extension of benefits, these estimates imply a 3.2-week extension of time unemployed.

First, we estimated the average percentage of unemployed persons who receive UI benefits by calculating the average of the ratio of the total number receiving unemployment insurance to the total number of unemployed during the last period of extended benefits between 2002 and 2004.[25] This was found to be 40.6 percent of unemployed people.

Second, Heritage analysts used Bureau of Labor Statistics data to calculate the average duration of unemployment in the 12 months before Congress extended unemployment benefits to 39 weeks in late June 2008.[26] This was 16.9 weeks.

Third, Heritage analysts added the 2.1 and 3.2 weeks by which extended benefits increase the average duration of employment to the initial average duration of unemployment. This yielded the average length of time that unemployed workers will remain unemployed under the 13- and 20-week benefit extensions. This figure was then divided by the original 16.9 weeks to find the average increase in unemployment duration for workers across the economy. This was 12.3 percent for workers under the 13-week extension, and 18.9 percent under the 20-week extension.

Increasing the duration of unemployment does not directly increase the number of workers who *become* unemployed. It does proportionately increase the number of workers who *remain* unemployed at each point in time. The fourth step was to multiply the model's estimates of the number unemployed in each quarter by the proportion by which the 13-week and 20-week extensions increase the duration of unemployment. This was then multiplied by the 40.6 percent of the unemployed who receive UI benefits. This gives quarterly estimates of the net increase in unemployment because of the benefits extension.

Unemployment benefits also indirectly reduce employment. Cullen and Gruber find that UI crowds out the labor of the wives of married men.[27] In the absence of unemployment insurance, working wives would increase their labor supply to help smooth family consumption. Cullen and Gruber estimate that married women work an average of 30 hours more per month when their husbands do not receive unemployment benefits. This does not hap-

23. Katz and Meyer, "The Impact of the Potential Duration of Unemployment Benefits on the Duration of Unemployment."

24. Congressional Budget Office, "Options for Responding to Short-Term Economic Weakness."

25. Department of Labor, "Employment and Training Administration, Unemployment Insurance Weekly Claims Report," Continued claims/Haver Analytics and Department of Labor, Bureau of Labor Statistics, News Release "The Employment Situation," Table A1, Employment Status of the Civilian Population by Age and Sex, 2002–2004.

26. Department of Labor, Bureau of Labor Statistics, "The Employment Situation," Table A-9.

27. Julie B. Cullen and Jonathan Gruber, "Does Unemployment Insurance Crowd Out Spousal Labor Supply?" *Journal of Labor Economics*, Vol. 18, No. 3 (2000).

pen when families receive extended benefits. Extended UI benefits forestall an increase in spousal labor supply that would have occurred had benefits expired after the standard 26-week duration. The economic opportunity cost of these lost hours should also be accounted for in evaluating the economic effects of extending UI benefits.

To estimate this indirect effect, Heritage analysts estimated the percentage of workers who are eligible for unemployment benefits and are married men who have been unemployed for more than 26 weeks using the March 2000 through March 2007 Current Population Surveys. Workers considered eligible for unemployment insurance were those who reported that they usually work full time and that that they were laid off from their last job. This is 4 percent of all UI-eligible persons.

The average duration of unemployment for these men, conditional on being unemployed for at least 26 weeks, was again calculated from the March 2007 CPS. It was found to be 34 weeks. Extended benefits consequently forestall an average of eight weeks of increased spousal labor in these families. These families thus lose added spousal labor for an average of eight weeks out of 13 weeks per quarter = 0.615 quarters.

To quantify this opportunity cost, the total number of unemployed per quarter is multiplied by the 40.6 percent of the unemployed who receive UI benefits to get the total quarterly number of UI recipients. This number was multiplied by the 4 percent of UI-eligible workers who are married men and who have been unemployed for at least 26 weeks. This yields an estimate of the total number of wives affected by the policy per quarter.

To find the total quarterly reduction in (wo)man hours, the number of affected wives is multiplied by 90 hours less work per quarter. This is then multiplied by 0.615 quarters that, in the absence of a UI extension, each wife would have worked more before her husband found new employment. This yields the total hourly reduction in spousal labor supply.

Cullen and Gruber did not estimate the effects on husbands' labor supply of wives' receipt of UI benefits. Research indicates that while female labor sup-

ply is quite elastic to spousal income, male labor supply is highly inelastic. Rather than inaccurately impute wives' labor supply response to husbands, it was assumed that husbands' hours are unaffected by wives' receipt of UI.

One caveat to these results is that the Bureau of Labor Statistics does not report completed unemployment durations. It reports the length of time workers have been unemployed at the time they are interviewed. This introduces two sources of bias into estimates of unemployment duration. First, workers who have been unemployed longer are more likely than workers with short unemployment spells to be unemployed when interviewed. Consequently, workers with extended times out of the labor force are overrepresented in the unemployment duration, biasing the estimates upward. Second, since most workers do not find work immediately after being interviewed, they spend additional time out of work that is not recorded in the unemployment duration. This biases estimates of unemployment duration downward. Research shows that the first effect dominates, especially in recessions, so the Bureau of Labor Statistics estimates overstate the average duration of unemployment.[28]

This artificially inflates Heritage estimates of the positive stimulus effect of extended UI benefits. This assumption inflates the denominator when calculating the proportionate increase in the duration of unemployment. Consequently, Heritage's CDA analysts understate the extent to which UI increases the duration of unemployment. To see how this occurs, imagine that the average duration of a completed spell of unemployment was actually 15 weeks, while we use the interrupted duration of 16.9 weeks. The estimated increase in unemployment duration following a 13-week UI extension would then be $(15.0 + 2.1) / 15 = 14$ percent, instead of the 12.3 percent calculated using the interrupted duration of unemployment. This artificially reduces our estimates of the extent to which extended benefits increase unemployment and harm the economy. Our results should thus be considered an upper bound on the stimulus effect of extended benefits.

28. Rob Valletta, "Recent Trends in Unemployment Duration," Federal Reserve Bank of San Francisco, Economic Letter 2002–35, November 22, 2002, at *http://www.frbsf.org/publications/economics/letter/2002/el2002-35.html* (November 13, 2008) and Miles Corak and Andrew Heisz, "Alternative Measures of the Average Duration of Unemployment," *Review of Income and Wealth*, Vol. 42, No. 1 (March 1996).

APPENDIX B
MACROECONOMIC DYNAMIC ANALYSIS

Analysts at The Heritage Foundation used the Global Insight short-term U.S. Macroeconomic Model to simulate the effect of an increase in unemployment duration on the U.S. economy as a whole.

The model baseline is the October 2008 baseline with forecasting assumptions that take into account the current economic distress. The policy period assumes the policy will be in place until the baseline unemployment rate declines for two consecutive quarters. This occurs after the third quarter of 2010.

The unemployment extension experiment was conducted as follows:

STEP 1: Cyclical government transfers were increased by $24 billion annually for the four quarters starting in the fourth quarter of 2008 through the third quarter of 2010. This variable is an annual rate in the model. As mentioned above, the CBO estimated the policy would cost approximately $6 billion per quarter.

STEP 2: The employment effect, due to people's behavioral changes, increases the average duration of unemployment spells (as explained in Appendix A). This increases the economy's full employment unemployment rate. The employment effect is phased in so that only one-third of the increase in unemployment due to behavioral changes occurs in the quarter in which the policy is implemented. Because the baseline assumes that the economy's natural rate of unemployment is below its current rate, increasing the natural rate alone brings it closer to the actual rate and, therefore, when the model calculates the recessionary gap it "thinks" the economy is improving. For this reason, the actual unemployment rate is also increased to keep the assumptions about the baseline recessionary gap constant.

STEP 3: Government spending is also held constant. That is, no spending offset is assumed as part of the policy.

The Global Insight model has a variable that allows monetary policy to respond to current economic conditions. The simulation was conducted without this variable[29] in order that the fiscal policy effects could be isolated.

The dynamics of the model adjust the level of employment in the economy to the changes made to the natural rate of unemployment and the actual unemployment rate variables. The current slack in the labor market as measured by the recessionary gap, measured by the difference between the natural rate and actual rate of unemployment, means that employment adjustments in the short term will not decrease by the full, long-term level calculated at the static equilibrium—for example, those levels that were calculated in Appendix A when all micro-level decisions are aggregated together. Thus the dynamic model adjusts more slowly to these changes consistent with macroeconomic patterns, causing the calculated rate of unemployment estimated in the model to be 0.16 percentage point higher for a 13-week extension and 0.22 percentage point higher for a 20-week extension.

Because of the short duration of the experiment, there are two "shocks" to the model. The first is the actual policy; the second is the end of the policy that causes an abrupt return to baseline values. The short duration of the policy experiment creates unrealistic fluctuations toward the quarters near these "shock" points. For this reason, the analysis focuses only on 2009 to estimate the stimulus effect. If the whole policy experiment period were included, the moving average annual increase in GDP for the 13-week extension ranges from $0.28 to $0.50 per dollar spent. The range for the 20-week extension is a $0.25 to $0.44 increase in GDP per dollar spent.

Simulations were also conducted in order to check the robustness of the results. This included holding the level of savings constant in order to determine the effect of assuming more of the UI dollars are spent than has historically been the case. This simulation produced negligible changes in the results. This implies that the fluctuations in savings that occur in the simulation are not driving the results and, hence, reinforces the point that assuming all dollars are immediately consumed is an

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29. The federal funds rate is allowed to adjust due to market forces rather than due to a policy intervention. The simulation was also run with a monetary policy response. This did not significantly change the result.

over-simplification of the economic dynamics that greatly distorts the effects of this policy.

Another simulation allowed consumer confidence to increase due to the increased transfers. This heightened consumer stimulus effect was then held constant and the model was simulated with the employment effect. The increase in GDP was again minimal.

Extending the policy for longer or shorter durations did not alter the results substantially.

The model was also estimated allowing a monetary policy response. It was also run holding the federal funds rate constant. These simulations improved GDP only slightly. For example, for a 20-week extension, average GDP increases by $0.02 for each dollar spent. One implication is that a monetary response would be needed to counteract the negative effects of the fiscal policy. The combination of all of these responses adds increased uncertainty and volatility to an already volatile economic environment.

APPENDIX C
MATCH QUALITY GAINS FROM UNEMPLOYMENT INSURANCE

Some economists have suggested that unemployment insurance has labor-market effects beyond prolonging the duration of unemployment. The income that unemployment insurance provides may enable workers to become more selective about which jobs they accept. With the government replacing an average of 36 percent of their wages, workers can delay returning to work while they look for a better job. This could result in workers ultimately finding jobs for which they are better suited and are more productive, fostering economic growth. Acemoglu and Shimer construct a model of unemployment benefits that finds this result, predicting that unemployment insurance increases labor market productivity and encourages the creation of more productive jobs, expanding the overall economy.[30]

However, if workers on UI take longer to find a job because UI reduces the incentive to search for new work, not because they are looking for a better job, UI will not increase the productivity of workers who return to work. If workers' job skills deteriorate while they remain unemployed for extended periods of time, then extended benefits will decrease employee productivity. Because unemployment insurance has ambiguous theoretical effects, determining whether UI increases worker productivity becomes a purely empirical question.

Some studies do find that additional UI benefits increase the quality of jobs of unemployed workers when they return to work. In an early study, Ehrenberg and Oaxaca examine cross-sectional differences in UI replacement rates and find that UI benefits increase post-employment wages.[31] Burgess and Kingston come to the same conclusion.[32] Classen, however, examined legislated changes to UI benefits and found that more generous benefits did not raise post-employment wages.[33]

More recently, Centeno examines National Longitudinal Survey of Youth (NLSY) data and finds the unemployed in states with more generous UI benefits have longer job tenure post-unemployment than workers in states with less generous benefits.[34] Böheim and Taylor also find that workers who stay unemployed longer on UI have longer tenure in the jobs they take after resuming work.[35]

Other more recent studies, however, find weak to nonexistent effects of UI on subsequent job quality. Kiefer and Neumann examine data on workers displaced by international trade and find a negligible positive effect of UI on subsequent wages.[36] Meyer finds that experiments that give UI recipients a lump sum payment speed their return to work without reducing their post-employment wages.[37] Addison and Blackburn look at Current Population Survey (CPS) data on displaced workers and find that UI benefits have, at best, a weak positive effect on earnings.[38]

Recent studies employing "natural experiments" have found that UI does not improve the jobs that

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30. Daron Acemoglu and Robert Shimer, "Productivity Gains from Unemployment Insurance," *European Economic Review*, Vol. 44, No. 7 (June 2000), pp. 1195–1224.

31. Ronald G. Ehrenberg and Ronald L. Oaxaca, "Unemployment Insurance, Duration of Unemployment, and Subsequent Wage Gain," *American Economic Review*, LXVI(5) (1976), pp. 754–766.

32. P. L. Burgess and J. L. Kingston, "The Impact of Unemployment Insurance Benefits on Reemployment Success," *Industrial and Labor Relations Review,* Vol. 30 (1976), pp. 25–31.

33. Kathleen Classen, "The Effect of Unemployment Insurance on the Duration of Unemployment and Subsequent Earnings," *Industrial and Labor Relations Review,* Vol. 30 (1977), pp. 438–444.

34. Mário Centeno, "The Match Quality Gains from Unemployment Insurance," *The Journal of Human Resources*, Vol. 39, No. 3 (Summer 2004), pp. 839–863.

35. Rene Böheim and M. P. Taylor, "The Search for Success: Do the Unemployed Find Stable Employment?" *Labour Economics,* Vol. 9 (2002), pp. 717–735.

36. N. M. Kiefer and G. R. Neumann, *Search Models and Applied Labor Economics*, (Cambridge: Cambridge University Press, 1989).

37. Bruce Meyer, "Lessons from the U.S. Unemployment Insurance Experiments," *Journal of Economic Literature*, Vol. 33, No. 1 (1995), pp. 91–131.

UI recipients find. Van Ours and Vodopivec examine worker behavior following a "natural experiment" in Slovakia and find that additional UI benefits do not increase post-employment wages or tenure.[39] Card *et al.* examine changes in match quality following changes in Austria's UI program.[40] They find no evidence that additional benefits increase workers' job-match quality.

Those studies that find unemployment insurance improves productivity or job quality tend to find small and only weakly statistically significant effects, while many credible studies find no effects.

Of particular importance is the fact that those studies with the most credible research design, the natural experiment of the employee response to an exogenous change in government policy, find no effects of unemployment insurance on job quality or worker productivity. This work is the most relevant to this case because policymakers want to know how workers will respond to a legislated change in UI benefits. Consequently, Heritage analysts rely on these results and model extended UI benefits as having no effect on workers' productivity or wages once they return to employment.

38. John T. Addison and McKinley L. Blackburn, "The Effects of Unemployment Insurance on Post-Unemployment Earnings," *Labour Economics*, Vol. 7, No.1 (2000), pp. 21–53.

39. Jan C. van Ours and Milan Vodopivec, "Does Reducing Unemployment Insurance Generosity Reduce Job Match Quality?" *Journal of Public Economics,* Vol. 92, Nos. 3–4 (April 2008), pp. 684–695.

40. David Card, Raj Chetty, and Andrea Weber, "Cash-On-Hand and Competing Models of Intertemporal Behavior: New Evidence from the Labor Market," *The Quarterly Journal of Economics*, Vol. 122, No. 4 (2007), pp. 1511–1560.