

Testimony before the Budget Committee
“Challenges for the U.S. Economic Recovery”

February 3rd 2011

Till von Wachter

Associate Professor of Economics

Columbia University

Chairman Conrad, Ranking Member Sessions, and distinguished members of the Budget Committee, it is an honor to be with you today. Since the beginning of 2008, millions of individuals have lost their jobs through no fault of their own. Even though growth in domestic product has started to rise again, the situation in the labor market remains difficult. Measures of the rate of underemployment are still above 15%, and an unusually large number of job losers has been unemployed for over six months.¹ Unless we see unprecedented job growth in the near future, available estimates suggest the process of reintegrating these workers into employment is going to be long-lasting and gradual.

During this process, many individuals are at risk of permanently leaving the labor force. Those most likely to drop out are older workers, partially disabled workers, and less educated workers. This development is potentially costly for society, since these workers, while able to work, do not pay income taxes, are more likely to draw Social Security benefits early, or enter costly programs such as Social Security Disability Insurance (SSDI). In the process of searching for jobs, many workers are likely to exhaust unemployment insurance (UI) benefits. It is well known that upon exhaustion, families' consumption falls, and the incidence of poverty rises.² This effect is particularly large for single earner families with children. On the other hand, only a limited fraction of individuals exhausting UI benefits actually find a job.³

Upon finding a job for those who do, experience from previous large recessions suggests that earnings of laid off workers are substantially lower. The average mature worker losing a stable

¹ E.g., Congressional Budget Office (2010b), Bureau of Labor Statistics (2011).

² E.g., Gruber (1997), Congressional Budget Office (2004).

³ Card, Chetty, and Weber (2007).

job at a good employer will see earnings reductions of 20% lasting over 15-20 years.⁴ While these earnings losses vary somewhat among demographic groups or industries, no group in the labor market is exempt from significant and long lasting costs of job loss.⁵ A job loss is also typically followed by an extended period of instability of employment and earnings.⁶ During this period, job losers can also experience declines in health. In severe downturns, these health declines can lead to significant reductions in life expectancy of 1 to 1.5 years.⁷

The effects of unemployment and job loss are also felt by workers' children, who can suffer from the consequences even as adults, and by their families.⁸ Young adults entering college with lower financial support from their families are at risk of not completing their studies. In the current labor market, these students also face fewer opportunities to finance their studies by part-time employment, further raising the risk of dropping out of college.⁹

More generally, evidence from past recessions suggests that entering the labor market in a recession can have long-lasting consequences for young workers. Entering the labor market in a large recession such as the current one can lead to reduced earnings for up to 10 to 15 years. These effects differ by education group.¹⁰ In the short run, lower educated workers experience larger increases in unemployment than more educated labor market entrants. However, in the long run less educated individuals tend to recover faster, as do individuals at the top of the education distribution. It is workers in the middle of the education distribution that can suffer near permanent earnings consequences from entering the labor market in a recession.

Large-scale layoffs and persistent unemployment have wide-reaching consequences for

⁴ Jacobson, Lalonde, and Sullivan (1993) and von Wachter, Song, and Manchester (2009) show the long-term earnings losses of laid-off workers during the 1982 recession in Pennsylvania and the U.S., respectively.

⁵ Farber (2005) provides estimates of the short-term costs of job loss for the U.S. over the past two decades. Schoeni and Dardia (2003), von Wachter, Handwerker, and Hildreth (2008), Couch and Placzek (2010), and Kodrzycki (2007) show medium run estimates for California, California, Connecticut and Massachusetts in the 1990s.

⁶ See, e.g., Stevens (1997) and von Wachter, Song, and Manchester (2009).

⁷ Sullivan and von Wachter (2009) estimate the short- and long-term effects of lay-off on mortality. Burgard, Brand, and House (2007) give an overview of other health effects of job loss and unemployment.

⁸ Stevens and Schaller (2009) and Oreopoulos, Page, and Stevens (2008) provide evidence that layoff affects children's test scores and adult earnings, respectively. Del Bono, Weber, and Winter-Ebmer (2008) show that layoff affects fertility rates.

⁹ The fraction of workers working while in college has been increasing (e.g., Scott-Clayton 2007). However, there is no evidence that this work provides a return later in the labor market (Hotz, Xu, Tienda, and Ahituv 2002), suggesting that this work partly finances school attendance.

¹⁰ Oreopoulos, von Wachter, and Heisz (2008) and Kondo (2008).

affected workers and their families, but also for expenditures on many government programs. Government policies can help reduce the impact of extended joblessness on laid off workers and their families, as well as mitigate the potential impact on government finances. My recommendations fall in four areas, comprising extensions in durations of unemployment insurance benefits; development of an ‘exit strategy’ for the long-term unemployed; prevention of layoffs; and assistance to young labor market entrants.

My first policy recommendation is to extend and potentially reform unemployment insurance (UI) benefits. On the one hand, extensions of unemployment insurance have been shown to prevent large declines in consumption for the substantial number of workers at risk of exhausting their benefits. Thereby, UI extensions can also provide a degree of demand stabilization.¹¹ On the other hand, recent research suggests that the negative effects of extending UI benefits on employment are likely to be smaller in recessions. Similarly, there is evidence neither that individuals use UI extensions to take jobs with higher wages, nor that wages decline for long-term UI recipients.¹² For these reasons, our calculations suggest that the benefits of extending UI benefits in recessions are likely to outweigh the costs.¹³

Extensions in UI duration can also prevent individuals who are at risk of dropping out of the labor force from entering more costly government programs such as Social Security Disability Insurance (SSDI) or to claim Social Security benefits early. Thus, these extensions could imply cost savings for the Social Security trust fund that should be incorporated into calculations of the budgetary effect of UI extensions. However, the exact quantification of these mechanism is in principle possible, but the available data is current not accessible to researchers. Further

¹¹ Congressional Budget Office (2008, 2010a) summarizes evidence that spending through unemployment insurance is an efficient means to provide economic stimulus

¹² Schmieder, von Wachter, and Bender (2011) show how slack aggregate labor market conditions, externalities from reduced search, and the fact that take-up of UI is imperfect in the United States is likely to reduce the effect of UI extensions on labor supply. In addition, recent research suggests that a sizeable part of the decline in employment may not due to the distortion in work incentives, but due to the presence of individuals facing credit constraints (Chetty 2008). If this is the case, not all of the employment effects of UI represent a distortion, but may be a sign that UI helps to alleviate credit constraints that prevent individuals to self-insure against unemployment shocks.

¹³ Schmieder, von Wachter, and Bender (2011) present estimates of the effect of UI extensions in recessions and welfare calculations based on data from Germany. The German case is helpful since unlike in the United States UI durations are not a function of labor market conditions, ensuring that estimates reflect causality from UI to non-employment durations, and not vice versa. The study also presents approximate calculations based on the United States, which are similar. These calculations do not take into account the potential beneficial effect on demand stabilization. As argued in Landais, Michailat, and Saez (2010) it also assumes that any adverse effect on job creation is negligible in a slack labor market.

extensions in UI or grants to state UI trust funds should be made conditional on data sharing between concerned state and federal agencies.

Available approximations suggest cost savings from UI extensions through these channels could be substantial. For example, using unpublished data from the Department of Labor, the Joint Economic Committee (2010) provided estimates indicating that – absent further extensions in the duration of unemployment insurance benefits – the number of disabled unemployment insurance recipients who were likely to exhaust their unemployment insurance benefits in the latter half of 2010 is 290,000. Estimates of the value of average life-time benefits of SSDI and the value of Medicare benefits accruing to SSDI recipients provided in von Wachter, Song, and Manchester (2010) imply large budgetary costs if even a fraction of these individuals apply and receive SSDI. Thus, if extensions in the duration of unemployment insurance benefits can prevent some of these individuals to apply to SSDI, this can imply substantial cost savings that partially offset the cost of benefit extensions.

At a monthly job finding rate of ten percent,¹⁴ an extension of benefits by six month would imply that about half of these individuals find a job. Clearly, not all the 290,000 disabled individuals would apply for SSDI and, conditional on applying, not everyone is eligible.¹⁵ Using estimates in von Wachter, Song, and Manchester (2010), the Joint Economic Committee (2010) reports that if two thirds of the 290,000 potentially eligible individuals apply for and receive SSDI, the potential cost would amount to \$24.2 billion. Given that a six month UI extension would lead to reemployment of approximately half (less if the job arrival rate is lower for disabled individuals, potentially more if the labor market continues to recover), the total cost saving is likely to be smaller than this number. However, these back-of-the-envelope calculations demonstrate that the magnitudes involved may be significant.

Recessions also tend lead to early retirement from the labor force, especially for lower educated men. My own estimates based on past recessions suggest that for a five point rise in state unemployment rates, the employment-population rate of 60-64 year old high-school

¹⁴ E.g., conforming with estimates for job finding rate by Hall (2005) at the through of the 1982 recession,

¹⁵ Bound and Burkhauser (1999) report that among non-working disabled individuals, about 70% receive some form of disability benefits, the majority of which is likely to be SSDI.

graduates by 4-5 percentage points.¹⁶ One reason is likely to be that earnings of older workers are particularly hard hit by a layoff.¹⁷ The majority of these workers does not return to the labor force and is likely to claim Social Security benefits early. In the current recession, new monthly primary claims for both genders have risen steeply by about 25-30 percent from 2008 to 2010. Annual primary claims were roughly constant from 2003 to 2007 at two million per year, then rose to 2.7 and 2.6 million in 2009 and 2010.¹⁸ Extensions in UI durations may prevent some of these workers from dropping out of the labor force and claiming Social Security benefits early.

My second policy recommendation is the need to prepare an ‘exit strategy’ for UI recipients once the labor market shows signs of recovery. To help the long-term unemployed to find a job amidst an improving labor market, three types of programs have shown to be able to achieve lasting increases in employment while potentially saving money for the unemployment insurance system: Job Search Assistance, Retraining Programs, and Reemployment Bonuses.¹⁹

To find a new job, workers laid-off in a recession may need to reorient their career goals. Job search assistance can help with this uncertain and time consuming process by providing access to job listings, but also by providing information on occupations, industries, or regions with promising job prospects. Various types of job search assistance provided within the unemployment insurance system in the United States’ and in other countries have been shown to be efficient and cost effective. Yet, research has also suggested that the current infrastructure of One-Stop Career centers could be improved and extended to provide more efficient and cost-effective services to unemployed job seekers. In particular, the provision of more intensive services – involving individual career-counseling and training courses – could be made more efficient and extended to a broader population.²⁰ Thereby, it is worth considering targeting more expensive services such as training to workers most likely to run out of UI benefits or become long-term unemployed.

¹⁶ von Wachter (2007).

¹⁷ Chan and Stevens (2001), von Wachter (2007), von Wachter, Song, and Manchester (2009).

¹⁸ Social Security Beneficiary Data (<http://www.socialsecurity.gov/OACT/ProgData/awards.html>). The awards were 2.3 million in 2008, consistent with the recession gaining strength in mid-year.

¹⁹ The following summary is based, among others, on surveys of the literature in Department of Labor (1995), Heckman, Lalonde, and Smith (1999), Kluve (2006), Card, Kluve, and Weber (2009).

²⁰ See, e.g., Jacobson (2009).

To reorient or restart their careers and improve their job prospects, some unemployed workers will have to acquire new skills. Some training programs have been shown to be more efficient and cost-effective at raising employment of laid-off workers than others. For example, while completing technical courses at community colleges appears helpful for many workers, training in non-technical subjects is less promising.²¹ Similarly, on-the-job training programs that provide on-the-job experience while matching unemployed workers with interested firms appear promising.²² Thus, proper counseling of workers, subsidizing the right kind of training, and mandating further scientific evaluations of what training works are thus likely to be important aspects in any effort to effectively retrain workers. In contrast to job search assistance, which has been shown to quickly reduce the number of workers receiving unemployment insurance benefits, the impact of training accrues over time.²³ A combination of job search assistance and targeted training may thus lead to sustained job finding and employment rates.

Federal financial aid can also play a role in assist displaced workers in updating or modifying their skills via higher education. For example, the college enrollment rate of older students has been shown to be increased by access to Pell grants.²⁴ Similarly, in downturns the incidence of Pell grant recipients engaged in short-term training rises, indicating that this may be a channel through which workers upgrade their skills in recessions.²⁵ However, rules of the UI system in many states do not continue to pay benefits when individuals enroll in school. Reforms encouraged by the American Recovery and Reinvestment Act have led to reforms in several states that continue payment of UI benefits for workers obtaining certain types of training for up to 26 weeks.²⁶ It is worthwhile to consider further initiatives to encourage efforts by UI recipients to obtain retraining.

For some workers, a long period of time may elapse before they find a new job. These workers may have lost motivation, hope, or a realistic view of what wages to expect in the labor market. If targeted to workers most likely to exhaust unemployment insurance benefits, bonuses

²¹ Jacobson, Lalonde, and Sullivan (2005).

²² See the discussion in Katz (2010).

²³ See Card, Kluve, and Weber (2009).

²⁴ Seftor and Turner (2002)

²⁵ Turner (2003).

²⁶ See, e.g., information at the National Employment Law Project, www.nelp.org.

that pay workers for finding a new job can reconnect long-term unemployed workers to the labor force can raise employment and reduce the cost for the unemployment insurance system.²⁷

An advantage of these policies is that they have been evaluated and implemented within the current unemployment insurance system. These policies cannot substitute for a rise in job creation; but such an ‘exit strategy’ represents a potentially important complement to help to make sure the long-term unemployed and the finances of the unemployment insurance system both benefit quickly from the onset of an economic expansion. Combinations of these policies could also be implemented simultaneously for further effectiveness. For example, a combination of stricter job search requirements, intensive counseling and retraining, plus reemployment bonuses may keep workers attached to the labor force and willing to accept jobs as soon as job creation increases. An approach of this kind would raise skills and visibility of some unemployed workers while at the same time bringing their wage expectations in line with the reality in the labor market. Such an “exit strategy” built into the unemployment insurance system may be particularly useful for older laid-off workers who face strong wage penalties and low employment rates. It may also help to address concerns regarding the effect of extending unemployment insurance benefits on the employment rate itself.

Current research suggests government policy is less effective in helping to alleviate the large and lasting reductions in wages that eventually follow a typical job loss during a recession. While some training programs have been shown to raise earnings of laid-off workers, and may do so cost-effectively from a tax-payers point of view, the resulting increases are modest relative to the losses these workers have experienced.²⁸ The reason is that the main factors likely underlying long-term earnings losses are deeply rooted in the workings of the labor market. The majority of long-term losses are due to losses in the value of certain skills as industries decline; due to the loss of long-term career jobs; or due to slow wage-adjustment in the labor market.²⁹ None of these sources of wage loss are easily manipulated by government policy.

²⁷ Evidence on ‘reemployment bonus experiments’ suggest that short-term subsidies raise employment (e.g., Meyer 1995), but may only be cost effective if targeted to workers most likely to exhaust their benefits (Department of Labor 1995, O’Leary, Decker, and Wandner 2005).

²⁸ Non-experimental estimates in Jacobson, Lalonde, and Sullivan (2005) imply that one year of technical training at community college reduces the average earnings loss by about a third.

²⁹ See von Wachter, Song, and Manchester (2009) for additional discussion.

Given the difficulties of helping job losers and unemployed workers recover from long-term earnings losses after the fact, my third recommendation is to explore available options to reduce large-scale layoffs in the future. One way would be to avert some large-scale layoffs through ‘work-sharing’ arrangements (also termed ‘short-time compensation’). This would prevent the decline in spending power associated with layoffs, avoid dislocation and long-lasting earnings losses of laid-off workers, and may be cost-effective from society’s point of view.

For example, the cost of unemployment insurance benefits for a typical worker is a small fraction of the total earnings lost due to a layoff over the remainder of the individual’s working life. If the same benefits were paid during employment to avoid job loss, this would substantially reduce the cost of recessions. An added advantage of such ‘work-sharing’ arrangement is that it may immediately raise employment during the current recovery by reducing ongoing job destruction.

Such a system of work-sharing has already been instituted in 17 states.³⁰ However, the current system may have to be extended and publicized to have a visible impact on ongoing job destruction and to have a substantial impact on employment.³¹ More research is needed on the specific features of an extended work-sharing system;³² however, by building on existing programs work-sharing may be a way to start shifting away from the notion that large-scale and costly layoffs are unavoidable if firms need to cut their wage bills.³³

My fourth and final recommendation concerns assistance for unlucky young individuals coming of age during the recession. First, the current system of financial aid for college could be used to help prevent children of low-income background or of families who experienced a job

³⁰ See Department of Labor (1997) for an overview of short-time compensation programs in different states.

³¹ Hassett’s (2010) testimony to the House Committee on Financial Services suggests that short-time compensation may immediately reduce job destruction. Abraham and Houseman (2009) suggest regulatory uncertainty as one reason for a low take-up of short-time compensation among states. See the Department of Labor (1997) for reasons of low take-up among employers within states that allow short-time compensation. The German experience is the most cited example of a successful implementation of a work sharing program (see Möller 2010 for a critical assessment). Vroman and Brusentsev (2009) provide an overview of short-time compensation in other European countries and Canada.

³² Work-sharing bears some similarities to wage insurance (e.g., Kletzer and Litan 2001, Kling 2006) in that wages are replaced while workers remain employed; it shares the feature with direct subsidies or tax breaks targeted to job creation that some jobs may be subsidized that may have been viable from the outset if firms game the system.

³³ Alternative options include the relocation and retraining of workers within firms (see, e.g., Koller 2010 for an example); reductions in salary among all employees (e.g., Akerlof, Dickens, and Perry 2000); or managed employment reductions, such as early retirement programs.

loss from dropping out of college.³⁴ Research documents a robust correlation of parental income and the cost of college with college attendance especially of lower income individuals, and this relationship appears to have strengthened over time.³⁵ Financial aid can be an important buffer against labor market shocks affecting parental income or students' own ability to work while in school.³⁶ However, students are often not aware of available programs, and thus even eligible students do not take up available aid.³⁷ Current research suggests that this is partly driven by complexity of the student loan process.³⁸ Reducing the complexity of the financial aid process and informing and assisting students with applications would be helpful and relatively low-cost policy. Another concern is that many resources available for especially lower income students are currently provided at the state level, such as subsidized Community Colleges or merit scholarships. As states budgets are being cut, these resources are at risk. Since Community College resources and merit scholarships affect the incidence and quality of college education, federal assistance to maintain access to college for low income students would be helpful.³⁹

For those young individuals not bound for college, the recent increase in idleness can represent a risk but also an opportunity to take time to invest in skills.⁴⁰ Recent research has shown sectoral training programs can be successful in raising the employment rate of participants.⁴¹ These programs cooperate with firms in structuring their training programs and in placing workers. Expanding support for participation in such programs is worth considering. An alternative is to further encourage the use of federal financial aid such as Pell grants to enroll young workers at vocational schools.⁴² However, very little is known about the actual rewards in the labor market of these schools. Mandating scientific evaluations of the returns to private programs receiving federal funding through financial aid and making the necessary data

³⁴ Lovenheim (2010) documents how changes in housing values of parents can also affect children's college attendance.

³⁵ See Demin and Dynarski (2009) for a summary. Belley and Lochner (2007) document the rise in the effect of family income on educational outcomes controlling for measures cognitive ability.

³⁶ Turner (2003) shows how the take-up rate of Pell grants is countercyclical.

³⁷ E.g., see King (2004) for an overview.

³⁸ See Bettinger, Long, Oreopoulos, and Sanbonmatsu (2009) for background information and suggested solutions to this problem.

³⁹ Turner (2003) documents a decline in state-spending on higher public education. Results in Turner and Bound (2010) imply that increasing enrollment rates in recessions could further reduce the quality of education at state institutions.

⁴⁰ See the testimony by Holzer (2010) for in depth discussion of additional training options for these workers.

⁴¹ See Maguire, Freely, Clymer and Conway (2009) for a summary.

⁴² See, e.g., Cellini (2010).

available to the academic community would be a useful policy.

To conclude, job loss and unemployment during severe recessions can impose substantial and lasting costs on affected workers in terms of earnings, health, and strain on their families. This testimony has focused on cost-effective ways to alleviate the burden of these workers. It has also recommended making necessary administrative data and program information available to allow researchers give better assessments of the full costs and benefits of these programs.

References

- Abraham, Katharine G. and Susan N. Houseman. 2009. "Short-Time Compensation Is a Missing Safety Net for U.S. Economy in Recession." Upjohn Institute, Newsletter (July).
- Akerlof, George A., William T. Dickens, and George L. Perry. 2000. "Near-Rational Wage and Price Setting and the Long-Run Phillips Curve." *Brookings Papers on Economic Activity* 31(2000-1): 1-60.
- Belley, Philippe and Lance Lochner. 2007. "The Changing Role of Family Income and Ability in Determining Educational Achievement." National Bureau of Economic Research Working Paper 13527.
- Bettinger, Eric P., Bridget Terry Long, Philip Oreopoulos, and Lisa Sanbonmatsu. 2009. "The Role of Simplification and Information in College Decisions: Results from the H&R Block FAFSA Experiment." NBER Working Paper 15361, 2009
- Bound, John and Richard V. Burkhauser. 1999. "Economic analysis of transfer programs targeted on people with disabilities." In: O. Ashenfelter and D. Card (ed.), *Handbook of Labor Economics*, Vol. 3, Chapter 51, Elsevier.
- Bureau of Labor Statistics (2011). Economic News Release - Employment Situation Summary. January (<http://www.bls.gov/news.release/empsit.nr0.htm>).
- Burgard, Sarah A., Brand, Jennie E., and House James S. 2007. "Toward a Better Estimation of the Effect of Job Loss on Health." *Journal of Health and Social Behavior*, 48(4): 369–384
- Card, David Raj Chetty, and Andrea Weber. 2007. "The Spike at Benefit Exhaustion: Leaving the Unemployment System or Starting a New Job?" *American Economic Review* 97(2): 113-118
- Card, David, Jochen Kluge, and Andrea Weber. 2009. "Active Labor Market Policy Evaluations: A Meta-analysis." *Austrian Center for Labor Economics and the Analysis of the Welfare State Working Paper Series*, No. 0902.
- Cellini, Stephanie. 2010. "Financial Aid and For-Profit Colleges: Does Aid Encourage Entry?" *Journal of Policy Analysis and Management*, 29(3): 526-552.
- Chan, Sewin and Ann Huff Stevens (2001). 'Job Loss and the Employment Patterns of Older Workers.' *Journal of Labor Economics* 19(2): 484-521.
- Chetty, Rajeev. 2008. "Moral Hazard versus Liquidity and Optimal Unemployment Insurance." *Journal of Political Economy*, 116(2): 173-234.
- Congressional Budget Office. 2004. "Family Income of Unemployment Insurance Recipients." *Policy Brief* (March).
- Congressional Budget Office. 2008. "Options for Responding to Short-Term Economic Weaknesses." *Policy Brief* (January).
- Congressional Budget Office. 2010a. "Policies for Increasing Economic Growth and Employment in 2010 and 2011." *Policy Brief* (January).
- Congressional Budget Office. 2010b. "Losing a Job During a Recession." *Policy Brief* (April).
- Couch, Kenneth A. and Dana W. Placzek. 2010. "Earnings Losses of Displaced Workers Revisited." *American Economic Review*, 100(1): 572-589.

- Del Bono, Emilia, Andrea Weber, Rudolf Winter-Ebmer. 2008. "Clash of Career and Family: Fertility Decisions after Job Displacement." IZA Discussion Papers 3272, Institute for the Study of Labor (IZA).
- Deming, David and Susan Dynarski. 2009. "Into College, Out of Poverty? Policies to Increase the Postsecondary Attainment of the poor." NBER Working Paper 15387.
- Department of Labor. 1995. "What's Working (and What's Not). A Summary of Research on the Economic Impacts of Employment and Training Programs." (January).
- Department of Labor. 1997. "Evaluation of Short-Time Compensation Programs." Final Report (March).
- Farber, Henry S. 2005. "What Do We Know About Job Loss in the United States? Evidence from the Displaced Workers Survey, 1984–2004." *Economic Perspectives* (Spring): 13–28.
- Gruber, Jonathan. 1997. "The Consumption Smoothing Benefits of Unemployment Insurance." *The American Economic Review*, 87(1): 192–205.
- Hall, Robert E. 2005. "Job Loss, Job Finding, and Unemployment in the U.S. Economy over the Past Fifty Years." *NBER Macroeconomics Annual* (2005): 101-137.
- Hassett, Kevin. 2010. "Prospects for Employment Growth: Is Additional Stimulus Needed?" Testimony before the House Committee on Financial Services, American Enterprise Institute for Public Policy Research.
- Heckman, James, Robert LaLonde, and Jeffrey Smith. 1999. "The Economic and Econometrics of Active Labor Market Programs." In: O. Ashenfelter and D. Card (eds), *Handbook of Labor Economics*, Vol. III, Chapter 11, Elsevier.
- Holzer, Harry. 2010. "Avoiding a Lost Generation: How to Minimize the Impact of the Great Recession on Young Workers." Testimony before Joint Economic Committee of Congress (May 26th 2010).
- Hotz, Joe, L. Xu, M. Tienda, and A. Ahituv. 2002. "Are There Returns to the Wages of Young Men from Working While in School?" *Review of Economics and Statistics* 84(2): 221-236.
- Jacobson, Louis. 2009. "Strengthening One-Stop Career Centers: Helping More Unemployed Workers Find Jobs and Build Skills." *The Hamilton Project Discussion Paper Series*, No. 2009-01.
- Jacobson, Louis, Robert LaLonde and Daniel Sullivan. 1993. "Earnings Losses of Displaced Workers." *American Economic Review*, 83(4): 685-709.
- Jacobson, Louis, Robert LaLonde, and Daniel Sullivan. 2005. "Estimating the Returns to Community College Schooling for Displaced Workers." *Journal of Econometrics*, 125:271-304.
- Joint Economic Committee. 2010. "Extending Unemployment Insurance Benefits: The Cost of Inaction for Disabled Workers." Report by the U.S. Congress Joint Economic Committee (May).
- Katz, Larry. 2010. "Long-Term Unemployment in the Great Recession." Testimony for the Joint Economic Committee U.S. Congress (April 29th 2010).
- King, Jacqueline E. (2004) "Missed Opportunities: Students who do not Apply for Financial Aid." American Council on Education Issue Brief.

- Kletzer, Lori, and Robert Litan. 2001. "A Prescription to Relieve Worker Anxiety." *Brookings Policy Brief*, No. 73.
- Kling, Jeffrey. 2006. "Fundamental Restructuring of Unemployment Insurance: Wage-Loss Insurance and Temporary Earnings Replacement Accounts." *The Hamilton Project Discussion Paper Series*, No. 2006-05.
- Kluge, Jochen. 2006. "The Effectiveness of European Active Labor Market Policy." IZA Discussion Paper Series, No. 2018.
- Kodrzycki, Yolanda K. 2007. "Using Unexpected Recalls to Examine the Long-Term Earnings Effects of Job Displacement." Federal Reserve Bank Working Paper, W07-2.
- Koller, Frank. 2010. *Spark – How Old-Fashioned Values Drive a Twenty-First Century Corporation: Lessons from Lincoln Electric's Unique Guaranteed Employment Program*. Public Affairs: New York.
- Kondo, Ayako. 2008. "Differential Effects of Graduating during Recessions across Race and Gender." Mimeo, Columbia University.
- Landais, C., P., and E. Saez. 2010. "Optimal unemployment insurance over the business cycle." NBER Working Paper 16526.
- Lovenheim, Michael F. 2010. "The Effect of Liquid Housing Wealth on College Enrollment." Mimeo, Cornell University.
- Maguire, Sheila, Joshua Freely, Carol Clymer, and Maureen Conway. 2009. "Job Training that Works: Findings from the Sectoral Employment Impact Study," *P/PV In Brief*, Public/Private Ventures, Issue 7, May.
- Meyer, Bruce. 1995. "Lessons from the U.S. Unemployment Insurance Experiments." *Journal of Economic Literature*, 33(1):91-131.
- Möller, Joachim. 2010. "The German Labor Market Response in the World Recession – Demystifying a Miracle." *Zeitschrift für Arbeitsmarktforschung - Journal for Labour Market Research*, 42(4): 325-336.
- O'Leary, Christopher J., Paul T. Decker, and Stephen A. Wandner. 2005. "Cost-Effectiveness of Targeted Reemployment Bonuses." *Journal of Human Resources* 40(1): 270–279.
- Oreopoulos, Philip, Marianne Page and Ann Huff Stevens. 2008. "The Intergenerational Effects of Worker Displacement." *Journal of Labor Economics*, 26(3): 455-483.
- Oreopoulos, Philip, Till von Wachter and Andrew Heisz. 2008. "The Short- and Long-Term Career Effects of Graduating in a Recession: Hysteresis and Heterogeneity in the Market for College Graduates." IZA Discussion Paper No. 3578.
- Schmieder, Johannes, Till von Wachter and Stefan Bender. 2011. "The Effects of Extended Unemployment Insurance Over the Business Cycle: Evidence from Regression Discontinuity Estimates Over 20 Years." Mimeo, Columbia University.
- Schoeni, Robert and Michael Dardia. 2003. "Estimates of Earnings Losses of Displaced Workers Using California Administrative Data." PSC Research Report No. 03-543.
- Scott-Clayton, Judith (2007). "What Explains Rising Labor Supply Among U.S. Undergraduates, 1970-2003?" mimeo, John F. Kennedy School of Government, Harvard.

- Stevens, Ann Huff. 1997. "Persistent Effects of Job Displacement: The Importance of Multiple Job Losses." *Journal of Labor Economics*, 15(1, Part 1): 165-188
- Stevens, Ann and Jesamyn Schaller. 2009. "Short-run Effects of Parental Job Loss on Children's Academic Achievement." NBER Working Paper 15480.
- Sullivan, Daniel and Till von Wachter. 2009. "Job Displacement and Mortality: An Analysis using Administrative Data." *Quarterly Journal of Economics* 124(3): 1265-1306.
- Von Wachter, Till. 2007. "The Effect of Economic Conditions on the Employment of Workers Nearing Retirement Age." Center for Retirement Research at *Boston College Working Paper*, WP#2007-25.
- von Wachter, Till, Elizabeth Weber Handwerker and Andrew Hildreth. 2008. "Estimating the 'True' Cost of Job Loss: Evidence Using Matched Data from California 1991-2000." Center for Economic Studies Working Paper 09-14.
- von Wachter, Till, Jae Song and Joyce Manchester. 2009. "Long-Term Earnings Losses due to Mass-Layoffs During the 1982 Recession: An Analysis Using Longitudinal Administrative Data from 1974 to 2004." Mimeo, Columbia University.
- von Wachter, Till, Jae Song and Joyce Manchester. 2010. "Trends in Employment and Earnings of Allowed and Rejected Applicants to the Social Security Disability Insurance Program." *American Economic Review* (forthcoming).
- von Wachter, Till. 2010. "Testimony before the Joint Economic Committee of U.S. Congress on 'Long-Term Unemployment: Causes, Consequences and Solutions'." (April 29th 2010).
- Vroman, Wayne and Vera Brusentsev. 2009. "Short-Time Compensation as a Policy to Stabilize Employment." Urban Institute, mimeo.