Do unemployment benefits reduce the risk of cardiovascular disease? Exploiting variations in changes in unemployment benefits across US states

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ABSTRACT

Although the association between income and cardiovascular disease (CVD) is well established, it is unclear whether specific income transfer policies reduce cardiovascular disease risk. We exploit the decentralized regulation of unemployment compensation in the United States to investigate whether variations in state specific unemployment benefits are prospectively associated with cardiovascular disease. We used data of 16,390 participants aged 50 – 64 at enrollment from the Health and Retirement Study (HRS). We modelled the effect of state-level variation in unemployment benefits on two-year CVD. Our results show that states with higher unemployment benefits have significantly lower two-year CVD incidence rates (OR 0.86, CI 0.75 – 0.98), but changes in unemployment benefits within states did not consistently translate into significant risk reductions (OR 0.91, CI 0.72 – 1.16). As this study was not specific to the unemployed we investigated interaction between unemployment benefits and occupational status. This interaction analysis supported a stronger protective effect of benefits among the unemployed. Overall our findings suggest a limited short-term effect of unemployment benefits on cardiovascular disease. Future studies should examine whether the unemployed actually experienced a reduction of risk when receiving more generous benefits.

INTRODUCTION

Although the association between income and cardiovascular disease (CVD) is well established, it is unclear whether specific income transfer policies have the potential to reduce cardiovascular disease risk. Part of the puzzle reflects a lack of understanding of the causal pathways linking income and health. Some studies suggest that income has a causal effect on health[1-2], while others suggest that a large part of the association may result from reverse causality[3-9]. Whether the association is causal has an important policy implication: if income has a causal effect on cardiovascular disease, it follows that policies that increase financial security or redistribute income have the potential to reduce cardiovascular disease risk. Most previous studies have examined the impact of individual income shocks such as lottery wins[2], inheritances[4] or financial market losses[3] on general health. However, no studies have examined whether specific income transfer programs are associated with reductions in cardiovascular risk.

Income transfers are a fundamental component of modern welfare states as a means to alleviate poverty or insure individuals against unexpected income loss. In the United States, The Social Security Act of 1935 created the Federal-State Unemployment Compensation (UC) Program to provide temporary wage replacement to involuntarily unemployed workers who were recently employed, and to help stabilize the economy during recessions[10]. The US Department of Labor oversees the system, but each state administers the system and has autonomy to define program eligibility and maximum benefits. Substantial variations across states and over time offer a unique opportunity to examine the impact of unemployment benefit compensation on cardiovascular disease in the United States.

In this study, we exploit the decentralized regulation of unemployment compensation in the United States to investigate whether variations in state specific unemployment benefits are prospectively associated with incident cardiovascular disease. We use data from middle-aged participants aged 50 to 64 in the Health and Retirement Survey (HRS), and link employment and health histories to US state specific data on unemployment benefits for the last twenty years. We hypothesized that high maximum unemployment benefits in the state of residence would predict lower risk of cardiovascular disease incidence. Because the advantages of generous unemployment policies are likely to accrue primarily to individuals who experienced an unemployment spell, we investigate whether effects are modified by employment status.

METHODS

Population

The HRS is a longitudinal survey of US adults aged 50 or older and their spouses. Details of the study are provided elsewhere.[11] The HRS sample is selected using a multi-stage area probability sample design of the US population. Enrolment was staggered by birth cohort with enrolments in 1992 (Original HRS cohort, age-eligible born 1931-1941), 1998 ("War Babies" born from 1942-47), and 2004 ("Early Baby Boomers" born from 1948-1953). Response rates were high and ranged from 70% for the 1942 to 1947 birth cohort enrolled in 1998, to a high of 82% for the 1931 to 1941 birth cohort enrolled in 1992, without major differences by demographic factors. The majority of baseline interviews were face-to-face. Biennial

interviews (or proxy interviews for decedent participants) were conducted through 2008, with wave-to-wave retention rates around 90%. We included all HRS participants once they fell in 50 -64 age-range and followed them till 2008.

From a total of 20029 participants enrolled in these cohorts 3172 were excluded a priori because of the following reasons: a) they did not fall into the required age range (n=2970); b) they lived in one of 15 states with fewer than 20 individuals in the sample (n = 202).

Cardiovascular disease

At each interview, new enrollees were asked "Has a doctor ever told you that you have had a heart attack, coronary heart, disease, angina, congestive heart failure, or other heart problems?" Participants were separately asked the same question regarding stroke. At subsequent interviews, participants were asked again "Since we last talked to you, that is [last interview date], has a doctor told you that you have had…" In addition they were asked whether they had a recurring CVD if they previously reported stroke or heart disease. In case of deceased participants, next of kin was interviewed for about these conditions corresponding to the survey wave where the fatality occurred. Cardiovascular disease was defined as any stroke or heart disease (incident or recurring) identified by self-report of a physician's diagnosis in the two-year interval.

Maximum Unemployment Benefits

Maximum benefit levels for each year of the survey period were obtained from the US Department of Labor (http://www.oui.doleta.gov/unemploy/statelaws.asp). The maximum total benefit per month was defined as the maximum monthly benefit (in dollars) multiplied by the maximum number of months these benefits could be received. The resulting value describes the state and year specific maximum benefits an unemployed person could be entitled to during an unemployment spell in a given state and in a given year.

All values were adjusted to 2006 US dollars using the consumer price index (CPI). In order to account for non-linear effects of maximum benefits, we used the natural logarithm of maximum benefits (log[maximum benefits/1000 USD_{2006}]) as the main independent variable.

Covariates

We adjusted all models for age, gender, years of education of the respondent, mother's educational attainment (> 8 years, <=8years), father's educational attainment (> 8 years, <=8years), race (white, African American, other), Hispanic ethnicity, and time-varying marital status (married, separated / divorced, widowed, and never married) as explanatory factors of the relationship between state-level unemployment benefits and health (CVD). Missing values for marital status were imputed by carrying forward the last known value, which was typically not further than two years. In addition, we included an indicator variable for year of outcome (CVD) assessment to account for secular trends in CVD incidence rates. Previous evidence suggested important health differences between HRS participants who were able to report on the education of their parents and those who did not know their parents' education, probably

reflecting whether the respondent lived with both of his/her parents in childhood. For parental education, we therefore created a missing category ("unknown parents education") rather than imputing or dropping these individuals from the sample.

Estimation Methods

We used Generalized Estimation Equations (GEE) with a logit link and an unstructured working correlation matrix to account for repeatedly measuring the determinant and the outcome in the same individuals over the course of follow-up. We considered a one period lag of maximum benefits as determining the likelihood of incident CVD events in each wave. In the first models, we modelled CVD as a function of lagged state unemployment benefits, exploiting variation both across states and time for identifying the effect. In the primary models, we incorporated state-fixed effect to control for all observed and unobserved state-level differences that may lead to a spurious correlation between unemployment benefit levels and stroke incidence. The model including state fixed effects was our primary model for identification of the treatment effect, thus exploiting variation over time within states, controlling for time-constant differences across states. In all models, we controlled for individual characteristics including age, gender, years of education, mother's educational attainment, father's educational attainment, race, Hispanic ethnicity, and time-updated marital status.

RESULTS

Of 16,857 eligible participants 16.390 had complete outcome data available for analyses (Table 1). Participants had a median age of 56 (inter quartile range (IQR): 54 – 59 years) when first interviewed and were eligible for analyses. The respondents were 55% female and largely completed high school, median years of education: 12 (IQR: 12 – 14). The majority (78%) was White, 16% were African American, and 6% of other origin. About 10% were of Hispanic ethnicity.

Figure 1 shows descriptive results on the percentage change in maximum unemployment benefits between 1991 and 2008 in US states. The median maximum benefit level in 2006 US dollars was US$9,010 (interquartile range: US$7,630 – US$10,650). Over the period of study, there were large differences in unemployment benefits levels across states. For example, in 1992, there was a fourfold difference in the level of benefits between Alabama (US$5,985) and Massachusetts (US$20,441). Large variations were also evident in the evolution of benefits over time. Figure 1 shows that while many states experienced reductions over time in the level of benefits, several states experienced increases in benefits. Only few states experienced no change in unemployment benefits. The evolution of benefit levels was thus heterogeneous across the country. To illustrate, we observed a reduction in unemployment benefits in Alabama from US$5,985 in 1991 to US$5,721 in 2008, while in Massachusetts benefits increased from US$20,441 in 1991 to US$25,282 in 2008. We were thus able to exploit these variations across states in the evolution of benefits for effect identification.

8,314 CVD events occurred in the sample between 1994 and 2008 (Table 2). As expected, being female and younger was associated with reduced odds of incident CVD. Higher educational attainment and Hispanic ethnicity were associated with reduced risk of CVD.

In models adjusted for demographic covariates, an increase in lagged log(maximum benefits) was associated significantly reduced odds of CVD (Odds Ratio (OR): 0,86, Confidence Interval (CI): 0,75 - 0,98). After additional adjustment for area and state effects, an increase in the log of maximum benefits remained associated with reduced CVD risk, but this as association was no longer significant: OR 0.93, CI: 0.79 - 1.08 additionally adjusted for geographic area; OR 0.91, CI 0,72 - 1,16 adjusted for state of residence.

Sensitivity Analysis

To better illustrate the sensitivity of our findings we investigated different lag structures for the benefits and interaction terms with occupational status and education. We tested concurrent benefits and two- and three-period time lags. Although the concurrent analyses revealed similar effects as the one-period time lag, we preferred the one-period time lag as main determinant in order to preserve the temporal sequence between state-level unemployment benefits and CVD. The two- and three-period time lags did not show any evidence of association (results not reported).

The interaction with education likewise did not show evidence of different effects by education background. The interaction with occupational status at the time of the CVD event was not statistically significant but the direction of effect supported a stronger effect of the higher unemployed benefits among the unemployed (Table 3 and Table 4).

DISCUSSION

In this longitudinal study we found that the level of maximum unemployment benefits, defined as the product of USD entitlement with the maximum duration of eligibility, is associated with reduced risk of CVD. But this association does not hold once we control for state-fixed effects and effectively control for differences across states. As the state of residence predetermines the maximum benefit level, the latter analysis only exploits within-state changes in benefits and changes in residence within the US territory. Our main results are suggestive of a limited short-term effect of unemployment benefits on cardiovascular disease.

Limitations of our study

Despite implementing an innovative approach, conclusions from our study should be interpreted with caution due to several potential caveats. Assignment of benefits for each individual is based on benefit levels in the state of residence for a given year. This implies that we do not estimate the effect of actually receiving benefits, but instead assign individuals to a certain level of benefits based on eligibility in the event of an unemployment spell. Our results can at best be interpreted as the effect of having a safety net available in terms of monetary compensation in times of unemployment. Inevitably, this will lead to very conservative estimates of the effect of unemployment benefits, because only a small fraction of the sample eligible to a certain benefit actually became unemployed and received that level of benefits. Thus, although our approach has the advantage of controlling for ‘confounding by indication’ by using state-level benefits, it most likely yield underestimates of the effect of actually receiving benefits, which partly explain the weak associations observed.

A main advantage of our approach is the introduction of state-fixed effects, which controls for observed and unobserved differences across states. The drawback of this approach is that we are only able to exploit variation over time within states in unemployment benefit levels. Because differences across states are much larger than differences over time within states, our identification strategy relies on relatively small changes in benefits during the study period. This may partly have contributed to the lack of association observed between state unemployment benefit levels and CVD risk.

Explanation of results

State levels of unemployment benefits vary over time, and we exploit this time variation to identify their effect on incident CVD events. Variation in state unemployment benefits are not correlated with baseline health or other individual characteristics, because they are defined at the state level. In contrast, actual benefits received during an unemployment spell are dependent on own individual characteristics such as previous health or the ability or willingness to claim benefits. Using state unemployment benefit entitlements enables us to control for this 'endogeneity' or 'confounding by indication' of actual unemployment benefits received. This is equivalent to an intention-to-treat analysis, i.e., we assigned as treatment the maximum benefits an individual is entitled to receive during an unemployment spell by living in a given state in a given year, regardless of whether the individual actually received the treatment. This intention-to-treat analysis approach yields conservative (but under a set of assumptions unbiased) estimates of the impact of unemployment benefits on incidence of cardiovascular disease.

Even though studies from Europe show that among the measures that effectively prevent the negative health consequences from unemployment include financial compensation next to measures that prevent unemployment in the first place and facilitating re-employment our findings are inconsistent (Stuckler 2009). Other studies investigating the effects of unemployment benefits on health supported the notion that unemployment benefits

Several possible explanations may account for the lack of a consistent association between state-level unemployment benefits and cardiovascular risk. One possibility is that maximum unemployment benefits come as a response to a sudden increase in unemployment or worsening in social conditions. This would generally lead to a downward bias in our estimates of the effect of benefits on cardiovascular risk.

Furthermore it is possible that the health effects differ by the age of the participants. The participants of the HRS were initially recruited among person born between 1931 and 1941 and their spouses. All of the participants were all at least 50 years of age when entering the study. While late life unemployment definitely increases the risk of suffering from adverse health events[12], the effects of unemployment, whose financial consequences are ameliorated by unemployment benefits, on health were previously more negatively associated in the younger population.[13-14]

Another possible explanation is that benefits of improved financial security are offset by reductions in re-employment rates. As the health effects of unemployment do not operate exclusively through the lack of financial resources but also through social participation and

other stressors. There is evidence that unemployed individuals may be slower to find new positions in states with generous unemployment compensation schemes.[12-13] Thus, prolonging the period of unemployment, even in the context of relative financial stability, might counteract the benefits associated with higher levels of unemployment aid. Nonetheless, there is recent evidence that during the current economic crisis, where the amount of maximum available benefits has increased to record levels, the increase only modestly influenced job seeking behavior as compared to other determinants such as deteriorating labor markets. (Valletta, 2009).

Finally, an increase in unemployment benefits may also work as an incentive to claim unemployment benefits[14-15], changing the proportion and composition of the unemployed. The negative health effects of a larger share of the population unemployed may offset the benefits of larger benefits for the unemployed, so that the net benefit of benefits may be less than expected Other explanations can be found in the study design. Our analyses only looks at short-term effect of state-level unemployment benefit schemes on cardiovascular disease. It is feasible though the exposure to a defined benefit scheme in the past during active working live influences long-term CVD risk. Furthermore it is possible that the health effects differ by the age of the participants. The participants of the HRS were initially recruited among person born between 1931 and 1941 and their spouses. All of the participants were all at least 50 years of age when entering the study. While late life unemployment definitely increases the risk of suffering from adverse health events[16], the effects of unemployment, whose financial consequences are ameliorated by unemployment benefits, on health were previously more negatively associated in the younger population.[17-18]

Conclusion

Our results show that states with higher unemployment benefits have significantly lower CVD incidence rates, but changes in unemployment benefits within states did not consistently translate into significant reductions in cardiovascular disease risk in the short-term. Our estimates are most likely an underestimate of the effect of actually receiving benefits during a period of unemployment, so future studies should examine whether the unemployed actually experienced a reduction of risk when receiving more generous benefits. Further studies that link state-level unemployment benefits to life course trajectories of unemployment, wealth and illness are needed to disentangle the pathways that link unemployment policies to cardiovascular risk.

References

1. Herd P, Schoeni RF, House JS. Upstream solutions: does the supplemental security income program reduce disability in the elderly? Milbank Q 2008;86:5-45.
2. Lindhal M. Estimating the effect of income on health using lottery prizes as exogenous sources of variation in income. J Hum Resour 2005;40:144-68.
3. Smith JP. The impact of socioeconomic status on health over the life-course. J Hum Resour 2007;42:739-64.
4. Meer J, Miller DL, Rosen HS. Exploring the health-wealth nexus. J Health Econ 2003;22:713-30.
5. Michaud PC, van Soest A. Health and wealth of elderly couples: causality tests using dynamic panel data models. J Health Econ 2008;27:1312-25.
6. Haas SA. Health selection and the process of social stratification: the effect of childhood health on socioeconomic attainment. Journal of Health and Social Behavior 2006;47:339.
7. Smith JP. Healthy bodies and thick wallets: the dual relation between health and economic status. Journal of Economic Perspectives 1999;13:145-66.
8. Smith JP. Unraveling the SES-Health Connection. In: Waite L, ed. Aging, Health, and Public Policy: Demographic and Economic Perspectives. New York: The population council: population and development review supplements; 2005:108-32.
9. Haas SA, Glymour MM, Berkman LF. Childhood Health and Labor Market Inequality over the Life Course. Journal of Health and Social Behavior 2011;forthcoming.
10. Section 4 -Unemployment Compensation. In: Green book.
11. Juster FT, Suzman R. An Overview of the Health and Retirement Study. The Journal of Human Resources 1995;30:S7-S56.
12. Katz LF, Meyer BD. Unemployment insurance, recall expectations, and unemployment outcomes. In: National Bureau of Economic Research Cambridge, Mass., USA; 1991.
13. Cockx BLW, Ries J, sociales UcdLIdrée. The exhaustion of unemployment benefits in Belgium: does it enhance the probability of employment?: IZA; 2004.
14. Atkinson AB, Micklewright J. Unemployment compensation and labor market transitions: A critical review. Journal of economic literature 1991;29:1679-727.
15. Lemieux T, MacLeod WB. Supply side hysteresis: the case of the Canadian unemployment insurance system. Journal of Public Economics 2000;78:139-70.
16. Gallo WT, Teng HM, Falba TA, Kasl SV, Krumholz HM, Bradley EH. The impact of late career job loss on myocardial infarction and stroke: a 10 year follow up using the health and retirement survey. Occupational and Environmental Medicine 2006;63:683-7.
17. Lundin A, Lundberg I, Hallsten L, Ottosson J, Hemmingsson T. Unemployment and mortality--a longitudinal prospective study on selection and causation in 49321 Swedish middle-aged men. J Epidemiol Community Health 2010;64:22-8.
18. Stuckler D, Basu S, Suhrcke M, Coutts A, McKee M. The public health effect of economic crises and alternative policy responses in Europe: an empirical analysis. The Lancet 2009;374:315-23.

Tables and Figures

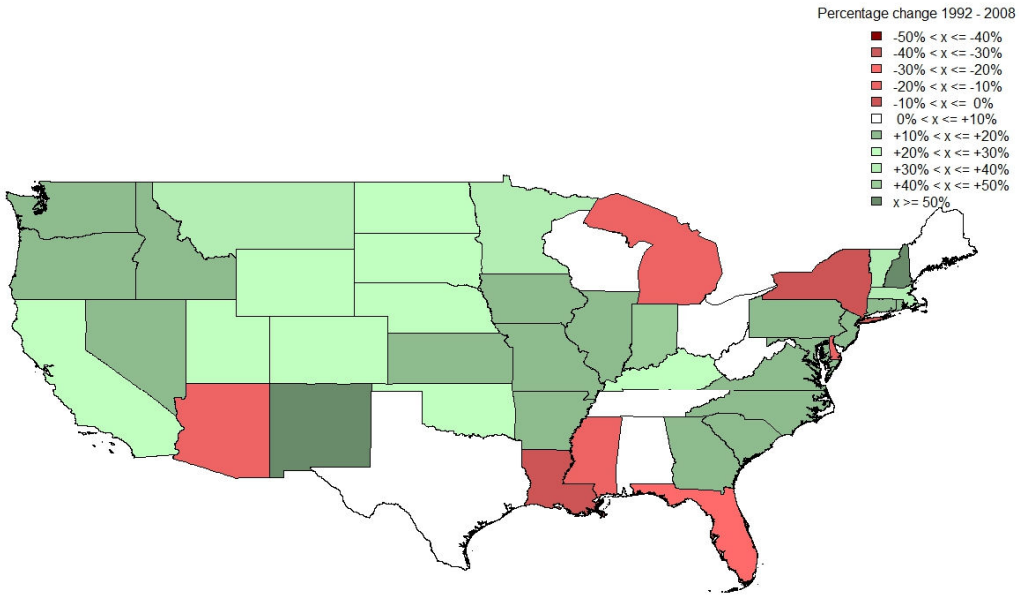

Figure 1 Total percentage change in maximum unemployment benefits between 1992 – 2008. Percentage change calculated based on CPI adjusted USD.

Table 1.Descriptive statistics of all participants in first year of study participation age 50-65 at baseline

	Mean (SD) / n (%)
Age in Years	56.4
Gender (female)	8961 (54.7%)
Years of Education	12.4 (0.02)
Race	(9 missing, 0%)
White	12794 (78.1%)
Other	2682 (16.4%)
African American	905 (5.5%)
Ethnicity	(16 missing, 0%)
Non-Hispancic	14710 (89.8%)
Hispanic	1664 (10.2)
Mother´s Education	
Missing	1619 (9.9%)
>8years	5865 (35.8%)
<=8years	8906 (54.3%)
Father´s Education	
Missing	2452 (15.0%)
>8years	6412 (39.1%)
<=8years	7526 (45.9%)
Marital Status	Missing: 2930, 17.8%
Married	9958 (74.0%)
Never Married	2067 (15.4%
Widowed	950 (7.06%)
Separated / Divorced	485 (3.6%)
Maximum Unemployment Benefit x1000(2006 USD)	Missing = 260 9.39

Table 2. Association between maximum benefit levels and CVD adjusted for age, gender, educational attainment, race, ethnicity, parental educational attainment, and marital status (model 1), + area level indicators (Midwest, Northeast, South, West) (model 2), + state (model 3)

	Model 1		Model 2		Model 3	
	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
Age in Years	1,06	(1,05, 1,06)	1.1	(1.05, 1.06)	1,06	(1,05, 1,06)
Gender (female vs male)	0,75	(0,69, 0,8)	0.8	(0.69, 0.81)	0,74	(0,69, 0,8)
Years of Education	0,93	(0,92, 0,94)	0.9	(0.92, 0.94)	0,93	(0,92, 0,94)
Race						
White	1	Ref.	1	Ref.	1	Ref.
Other	1,17	(0,97, 1,4)	1.2	(0.98, 1.43)	1,18	(0,98, 1,42)
African American	1,07	(0,97, 1,19)	1.1	(0.96, 1.17)	1,08	(0,97, 1,2)
Ethnicity						
Non-Hispancic	1	Ref.	1	Ref.	1	Ref.
Hispanic	0,61	(0,52, 0,71)	0.6	(0.53, 0.73)	0,67	(0,57, 0,79)
Mother´s Education						
Missing	1	Ref.	1	Ref.	1	Ref.
>8years	1	(0,86, 1,16)	1	(0.84, 1.15)	0,99	(0,84, 1,15)
<=8years	1,09	(0,94, 1,27)	1.1	(0.93, 1.26)	1,08	(0,93, 1,26)
Father´s Education						
Missing	1	Ref.	1	Ref.	1	Ref.
>8years	0,78	(0,68, 0,9)	0.8	(0.7, 0.92)	0,81	(0,7, 0,92)
<=8years	0,87	(0,77, 0,99)	0.9	(0.77, 1)	0,88	(0,78, 1,01)
Marital Status						
Married	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Never Married	1,18	(0,99, 1,4)	1.2	(1, 1.41)	1,18	(0,99, 1,41)
Widowed	1,21	(1,1, 1,33)	1.2	(1.1, 1.34)	1,22	(1,1, 1,34)
Separated / Divoreced	1,3	(1,19, 1,42)	1.3	(1.18, 1.42)	1,3	(1,19, 1,42)
Maximum Unemployment Benefit						
Log(1000-2006USD)	0,86	(0,75, 0,98)	0.9	(0.79, 1.08)	0,91	(0,72, 1,16)

Table 3. Association between maximum benefit levels and CVD adjusted for age, gender, educational attainment, race, ethnicity, parental educational attainment, and marital status (model 1), + area level indicators (Midwest, Northeast, South, West) (model 2), + state (model 3), including interactions with employment status and years of education

	Model 1		Model 2		Model 3	
	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
Maximum Unemployment Benefit						
Log(1000-2006USD)	0.33	(0.12, 0.91)	0.34	(0.12, 0.97)	0.34	(0.12, 0.97)
1.employed	0.07	(0.01, 0.75)	0.07	(0.01, 0.74)	0.08	(0.01, 0.77)
3.retired	0.18	(0.02, 1.72)	0.17	(0.02, 1.67)	0.18	(0.02, 1.76)
4.disabled	0.16	(0.01, 1.75)	0.15	(0.01, 1.67)	0.16	(0.01, 1.82)
5.not in LBF	0.1	(0.01, 1.1)	0.09	(0.01, 1.05)	0.1	(0.01, 1.16)
Benefit * 1.employed	2.8	(0.98, 7.97)	2.84	(0.98, 8.21)	2.75	(0.97, 7.82)
Benefit * 3.retired	2.53	(0.9, 7.13)	2.6	(0.91, 7.43)	2.49	(0.89, 7.01)
Benefit * 4.disabled	3.37	(1.13, 10.06)	3.5	(1.15, 10.58)	3.29	(1.1, 9.83)
Benefit * 5.not in LBF	3	(1, 9.02)	3.12	(1.02, 9.51)	2.91	(0.97, 8.76)
Maximum Unemployment Benefit						
Log(1000-2006USD)	1.01	(0.61, 1.67)	1.09	(0.65, 1.84)	1.03	(0.6, 1.76)
Years of Education	0.96	(0.88, 1.04)	0.96	(0.88, 1.05)	0.96	(0.88, 1.05)
Benefit * Years of Education	0.99	(0.95, 1.03)	0.99	(0.95, 1.03)	0.99	(0.95, 1.03)

Table 4. Type 3 effects for models on the interaction between unemployment benefits, employment status and years of education in HRS.

Type 3 Effects	Model 1		Model 2		Model 3	
	Chi-2	P	Chi-2	P	Chi-2	p
Maximum Unemployment Benefit Log(1000-2006USD)	4.45	0.0349	4.01	0.0453	4.01	0.0453
Employment Status	13	0.0113	12.59	0.0134	12.58	0.0135
Benevit * Employment Status	6.46	0.167	6.65	0.1554	6.13	0.1899
Maximum Unemployment Benefit Log(1000-2006USD)	0	0.9787	0.11	0.7422	0.01	0.9092
Years of Education	0.97	0.3248	0.85	0.3579	0.92	0.3364
Benefit * Years of Education	0.34	0.5588	0.42	0.5151	0.34	0.5588