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Declining Survivor Benefits and Labor Force
Participation

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The death of a husband is clearly a traumatic experience for any wife, both emotionally and financially. And, widows with children are put under the additional stress of caring for children on an often drastically reduced income. Social Security Survivor Benefits aim to mitigate this problem by granting the widow monthly payments in her child's name. However, as each child reaches the age of 18, or 19 if he or she is attending elementary or high school full-time, his or her benefits are discontinued. This continues until each subsequent child becomes a legal adult and the widow is left with no further child survivor benefits. As is increasingly common in today's society, simply turning 18 is not indicative of financial independence. The legal adult will most likely enroll in some form of post-secondary education and will be confronted with the staggering costs of higher education. The widow, however, is given no additional financial support though the cost of providing assistance to her son or daughter may actually be higher than when the child was covered by survivor benefits. Furthermore, costs associated with raising a family, such as house or car payments, do not go away when the last child turns 18. This may make it difficult for the widow to maintain the same standard of living held prior to the discontinuation of survivor benefits.

My research will follow the behavior of widows before, during, and after the time at which their Social Security Survivor Benefits are discontinued. In particular, I will look at changes in labor participation over the period in which survivor benefits begin to decline.

The most relevant research on this topic was done by Michael J. Brien, Stacy Dickert-Conlin, and David A. Weaver on the marriage penalty induced by Social Security Survivor Benefits provisions. Their paper, "Young Widow(er)s, Social Security, and Marriage," suggests that since the marriage penalty for widows receiving survivor benefits is greater than the penalty in the tax code, which has been shown to discourage marriage, it will also discourage marriage. Though their paper suggests that survivor benefits are substantial enough to be considered in a decision to marry, it does not discuss whether a similar reduction in benefits due to children reaching the age of 18 affects labor force participation changes by the widow. Other related research on this topic deals only with the increased poverty rate associated with becoming widow, yet does not look specifically at characteristics of women at the completion of survivor benefit disbursement. Research done by Daniel A. Myers, Richard V. Burkhauser, and Karen C. Holden in their 1987 article "The Transition from Wife to Widow: The Importance of Survivor Benefits to Widows" suggests that "the transition into widowhood means higher poverty rates for

all subgroups of women, but the difference among the subgroups of widows is considerably smaller than when they were married.” This sample includes women who receive survivor benefits. If the poverty rate rises for widows compared to their married counterparts, even with federal assistance, I am led to wonder how these women behave when this assistance is dropped. It seems that such a drastic drop in monthly income would be imperative of a counter-reaction by the widow, such as obtaining another job, moving from part-time to full-time work, or simply decreasing her standard of living. The change in income and the necessary adjustments to it by this specific group of women appear to have received little notice. My research will attempt to discern whether the discontinuation of survivor benefits places further substantial hardship on widows, enough hardship that induces them to change labor force habits. I hypothesize that widows will take some action to make up for lost compensation, whether it takes the form of starting work altogether or increasing hours worked.

I will obtain my data from the 1996 panel of the Survey of Income and Program Participation (SIPP) conducted by the United States Census Bureau. Using the fourth reference month of waves 1-12 of this data, I will be able to track the behavior of each subject over a period of time. I will determine the wave in which the woman became widowed and the waves in which her children reach the age of 18, signaling a decline in or the end of survivor benefits. The main independent variables will be dummy variables that distinguish widows who have at least one child that has reached age 18 and those whose children have not. I will test for any changes in labor force participation, particularly whether the widow has begun working or changed from part-time work, less than 35 hours per week, to full-time work, greater than 35 hours per week. These variables, along with variables that account for movement out of the labor force or a shift from full-time to part-time, will serve as dependent variables for two additional models.

The original sample included 119,475 observations of women age 29-50. However, I have only 794 observations that are widowed or became widowed from one wave to the next. I have assigned women the status of became widowed, those who were not widowed in the previous wave but are in the current wave, always widowed, those who were widowed in the previous and the current waves, and never widowed, those who were not widowed in the previous nor the current wave, as a control group. From this point, I create interaction variables for each of these three subgroups. Each subgroup is classified as having some children under 18,

or as having one or more child that turns 18 from the previous wave to the current wave. Now I am able to identify the exact wave in which a woman became widowed and when some of her children became legal adults, indicating a decline in survivor benefits. After compiling observations from each of the 12 waves, I will be able to test for changes in labor force participation around the wave in which the change takes place.

Presented below are descriptive statistics for each category described above. I show information for variables that presumably do not change when children reach age 18. Specifically, I include age, race, and highest level of education attained by the widow.

Table 1: Descriptive Statistics

	Sample			Avg.	Std.		
	Size	Avg. Ed.	Std. Dev.	Age	Dev.	White	Black
bechave	43	40.37	3.45	40.47	6.2	0.74%	0.14%
beclose	5	41	4.06	47.6	1.95	0.80%	0.20%
alwhave	701	39.88	3.3	41.71	5.6	0.73%	0.22%
alwlose	45	39.96	2.92	44.6	4.52	0.76%	0.18%
nevhave	77962	40.44	2.94	36.18	6.81	0.84%	0.12%
nevlose	2878	39.98	2.99	40.74	6.56	0.82%	0.13%

On average, each category has relatively the same amount of education, ranging just from high school graduate to some college but no degree. Average age varies more, but those with children reaching the age of 18 are always older than their counterpart group that has children; women who have never been widowed are on average younger than those who became widowed or have always been widowed. The majority of each category is white, with black being the second highest concentrated race. As can be seen from the table, the sample size of each category varies widely. Out of the categories that I have defined, less than 1% of my observations became widowed or have always been widowed.

I begin my analysis by running four standard OLS regressions. The four dependent variables are dummy variables that indicate whether the woman has started working, switched from part-time to full-time, and to check the opposite scenario that my hypothesis predicts, the other two variables will indicate whether a woman has actually stopped working or switched from full-time to part-time. I will be using the linear probability model, where the coefficient on the independent variables indicates the probability by which being classified as in the set of the

dependent variable changes for a one unit change in the independent variable. My independent variables include all subgroups of women described above: became, always, and never widowed, and dummy variables for those that have children and those whose children are turning 18, as well as interaction variables between these groups. I also include change variables that indicate a difference in the amount of children under 18 and the amount of education attained from one wave to the next. Other variables include those listed above in the descriptive statistics table: education, age, and race. See Appendix for definition of variables. The results of the first regression are shown in the table below.

Table 2: Start Work

stwrk	Coef.	Std. Err.	t	p-value
became	.0215	0.0356	0.603	0.547
always	0.0202	0.0298	0.679	0.497
never	0.00779	0.0294	0.265	0.791
dkids	-0.0170	0.00196	-8.651	0.000
havekids	0.0268	0.0412	0.652	0.514
lose	0.193	0.0638	3.018	0.003
bechave	-0.0340	0.0493	-0.690	0.490
beclose	-0.211	0.0858	-2.461	0.014
alwhave	-0.0235	0.0417	-0.564	0.573
alwlose	-0.218	0.0663	-3.293	0.001
nevhave	-0.0192	0.0412	-0.465	0.642
nevlose	-0.186	0.0637	-2.925	0.003
deduc	0.0137	0.000913	15.202	0.000
tage	-0.00107	0.000474	-22.696	0.000
erace	0.00295	0.000555	5.321	0.000
eeducate	-0.00252	0.000122	-20.71	0.000

Many of the variables I was concerned with turned out to be statistically insignificant. However, the variables became and always are positive, indicating there may be some validity to my assumption that widows are more likely to begin working than non-widows. Variables that are significant include dkids, lose, beclose, alwlose, nevlose, deduc, tage, erace, and eeducate. It is not surprising that many of the demographic variables are significant; these variables have a quite substantial amount of observations compared to my interaction variables. Furthermore, it makes sense that increasing the amount of education one receives increases the likelihood of that

person beginning work, as they may have been in school and out of work in the previous wave. The probability that a person begins working decreases with age; this can be attributed to job stability and completion of education that is characteristic of older individuals. Also, those with a greater amount of education are less likely to go from not working to working; this agrees with the assumption that higher education is indicative of increased ability to hold down a job, as well as increased job stability. An increase in the number of children under the age of 18 decreases the probability that a woman will begin working and women that have some children turning 18 are more likely to start working. These scenarios are easily explained; women do not generally begin working when they have an additional child to care for, but may have more time to work once the child is grown. Although these variables are highly statistically significant, they are not my variables of interest. I am more concerned with *beclose*, *awlose*, and *nevlose*.

Unfortunately, though they are significant, they are significant in the wrong direction. My analysis suggests that any of the three categories of women are less likely to begin working when some of their children reach the age of 18. This may be accurate for women who have never been widowed, but for women who have become or always been widows, this completely contradicts my hypothesis.

For completeness, the next regression was run to check the opposite of my hypothesis. I regressed the dummy variable *stpwrk*, an indicator of women who were working in the previous period but are not working in the current period, on the same independent variables as above.

Table 3: Stop Work

stpwrk	Coef.	Std. Err.	t	p-value
became	-0.0251	0.0343	-0.0731	0.465
always	-0.00341	0.0287	-0.119	0.905
never	-0.00728	0.0283	-0.258	0.797
dkids	0.0370	0.00189	19.563	0.000
havekids	0.0338	0.0396	0.854	0.393
lose	0.00422	0.0614	0.0690	0.945
bechave	0.0573	0.0474	1.207	0.227
beclose	-0.0171	0.0826	-0.207	0.836
alwhave	-0.0365	0.0402	-0.909	0.363
alwlose	0.0124	0.0638	0.194	0.846
nevhave	-0.0306	0.0396	-0.772	0.440
nevlose	0.0487	0.0613	0.794	0.427
deduc	-0.00829	0.000879	-9.438	0.000
tage	-0.000924	0.0000456	-20.261	0.000
erace	0.000466	0.000534	0.872	0.383
eeducate	-0.00182	0.000117	-15.544	0.000

Once again, dkids, deduc, tage, and eeducate are significant. Both dkids and deduc have opposite signs as in the previous regression, indicating that my assumptions above also hold for the opposite situations. Because tage and eeducate have the same sign, one may conclude that women of all age and education levels may be prone to starting or stopping work at any point in time for any given reason. This also means that women are less likely to stop working than to remain working, not just start working. The reverse is also true. In this regression, none of my variables of interest were statistically significant, however, beclose and alwhave are negative as I expected.

The third part of my analysis regresses the dummy variable ptttoft, a dummy variable indicating a change from part-time work to full-time work on the same set of independent variables.

Table 4: Part-Time to Full-Time

pttoft	Coef.	Std. Err.	t	p-value
became	-0.0815	0.0570	-1.430	0.153
always	-0.0565	0.0478	-1.183	0.237
never	-0.0361	0.0470	-0.768	0.443
dkids	-0.00955	0.00315	-3.036	0.002
havekids	-0.115	0.0660	-1.744	0.081
lose	-0.119	0.102	-1.164	0.244
behave	0.128	0.0789	1.620	0.105
beclose	0.0525	0.137	0.382	0.702
alwhave	0.121	0.0668	1.811	0.070
alwlose	0.229	0.106	2.159	0.031
nevhave	0.0999	0.0659	1.515	0.130
nevlose	0.116	0.102	1.133	0.257
deduc	-0.00119	0.00146	-0.811	0.417
tage	-0.000535	0.0000758	-7.058	0.000
erace	-0.00318	0.000889	-3.577	0.000
eeducate	0.00353	0.000195	18.151	0.000

For likely the same reasons, dkids and tage are statistically significant in the same direction as they are in the first regression. However, this regression yields positive coefficients for my four interaction variables, behave, beclose, alwhave, and alwlose. Furthermore, alwhave and alwlose are slightly significant. This indicates that, on average, women who have always been widowed and have kids are 12% more likely to move from part-time to full-time work than their complement group. Also, women who have always been widowed and whose children are reaching the age of 18 are 23% more likely to move from part-time to full-time work than their complement group.

The final regression I ran regressed the dummy variable indicating whether a woman behaved in the opposite manner of my prediction and moved from full-time to part-time work on the independent variables used above.

Table 5: Full-Time to Part-Time

fttopt	Coef.	Std. Err.	t	p-value
became	0.0252	0.0548	0.460	0.646
always	-0.0561	0.0458	-1.224	0.221
never	-0.0397	0.0452	-0.880	0.379
dkids	0.0179	0.00302	5.926	0.000
havekids	-0.0460	0.0633	-0.727	0.467
lose	-0.0847	0.0982	-0.863	0.388
behave	-0.0269	0.0758	-0.354	0.723
beclose	0.224	0.132	1.699	0.089
alwhave	0.0417	0.0642	0.650	0.516
alwlose	0.113	0.102	1.107	0.268
nevhave	0.0270	0.0633	0.426	0.670
nevlose	0.112	0.0981	1.145	0.252
deduc	-0.00566	0.0014	-4.027	0.000
tage	-0.00417	0.0000729	-5.723	0.000
erace	-0.00514	0.000854	-6.022	0.000
eeducate	0.00383	0.000187	20.482	0.000

Again, dkids, deduc, tage, erace, and eeducate are statistically significant. Each of dkids, deduc, and tage have the same sign as the regression run using stpwrk as the dependent variable. This supports my assumption that stopping work and decreasing hours to part-time is a similar type of behavior. Because eeducate is positive for both pttoft and fitopt, and negative for stwrk and stpwrk, I am led to believe that women with increased amounts of education are more likely to move between part-time and full-time work than to completely enter or leave the labor force at any point in time. In this regression none of my variables of interest are significant.

For further analysis, I performed F-tests to check whether any of the interaction variables had the same coefficient, in hopes that categories of women with children would behave differently than those losing children, and that women who have never been widowed would not behave the same as those who had. Statistically significant results are listed on the following page.

Table 6: F-Test

Regression	Variables Tested	F-stat	p-value
stwrk	behave = beclose	3.41	0.0647
stwrk	alwhave = alwlose	7.1	0.0077
stpwrk	nevlose = alwlose	4.21	0.0401
pttoft	nevlose = alwlose	14.85	0.0001

In the stwrk regression, behave and beclose as well as alwhave and alwlose are shown to not have the same coefficient. This indicates that women who became widowed and have children have a different likelihood of entering the labor force as women who became widowed and have children reaching the age of 18. Also women who have always been widowed and have children have a different likelihood of entering the labor force than those who are losing children. This may indicate that widows behave differently when their children become adults but, unfortunately, the coefficients on each of these variables were negative, the opposite of what I had hypothesized. In the stpwrk regression, out of women who have children turning 18, those who have always been widowed and those who have never been widowed have a different likelihood of leaving the labor force. Once again, these coefficients had the wrong sign in the original regression. The only significantly different coefficients with the correct sign occurred in the pttoft model. Of women who have children turning 18, those who have never been widowed and those who have always been widowed behave differently when it comes to moving from part-time to full-time work. The coefficient on alwlose is twice as large as the coefficient on nevlose, though it is only significant to just above the 25% level, indicating that women who have always been widowed and have children reaching the age of 18 are more likely to move from part-time to full-time work than their non-widowed counterparts.

Overall, none of my regressions showed very convincing evidence that labor force habits of widows change relative to other women when their children turn 18. I attribute this mainly to the small sample size of widows that I worked with. Also, four months may not have been enough reaction time for the widow to start working or change to full-time once her children began turning 18. It could also be possible that many of the widows in this sample did not initially rely on the benefit, so taking it away was not detrimental enough to require changes in labor force participation. Another possible outcome that cannot be picked up by my analysis is a decrease in the standard of living. The widow may not make up for lost income through

additional work hours, but may instead be forced to take other action such as moving into a smaller house or selling a car, etc.

In future research on this topic, I would extend my period of observation to two or more waves. The effects of a decline in survivor benefits have more time to be realized, thus possibly increasing the likelihood of the widow to change labor habits. I would also control for total income in the period before survivor benefits were reduced and the total amount of the benefit received in order to compare responses to reduction in survivor benefits of low and high income widows. One final addition would be to include observations from other panels of SIPP data, controlling for changes in the economy. This would substantially increase my sample size, making it more possible to identify changes, if any, in labor force participation of widows due to a decrease in survivor benefits.

Appendix: Definition of Variables

Variable	Definition
stwrk	not working in the previous wave, working in the current wave
stpwrk	working in the previous wave, not working in the current wave
pttoft	part-time in the previous wave, full-time in the current wave
fttopt	full-time in the previous wave, part-time in the current wave
became	not widowed in the previous wave, widowed in the current wave
always	widowed in the previous wave, widowed in the current wave
never	not widowed in the previous wave, not widowed in the current wave
dkids	number of children in current wave minus number of children in previous wave
havekids	has children under 18
lose	number of children under 18 in current wave less than number of children under 18 in previous wave
behave	became widowed and has children under 18
beclose	became widowed and some children have turned 18
alwhave	always widowed and has children under 18
alwlose	always widowed and some children have turned 18
nevhave	never widowed and has children under 18
nevlose	never widowed and some children have turned 18
deduc	amount of education in current wave minus amount of education in previous wave
tage	age in years of woman
erace	race of woman
eeducate	education level

Works Cited

- Brien, Michael J., et al. "Young Widow(er)s, Social Security, and Marriage," Center for Retirement Research, Boston College. February 2003.
- Myers, Daniel A., et al. "The Transition from Wife to Widow: The Importance of Survivor Benefits to Widows." Journal of Risk and Insurance 54 (December 1987): 752-59.