

Child Support Enforcement and Wealth Accumulation Among Divorced Households

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It has been frequently reported that marital history is a stronger predictor of wealth for women than it is for men. While the end of a marriage can financially hurt both genders, divorce has been found to cause greater financial damage to women than men. Controlling for individual and family characteristics, researchers have found that female-headed households accumulate considerably less wealth than married households or households headed by single males (Schmidt & Sevak, 2006). Also, women on average tend to experience a decline in their standard of living after divorce while men seem to experience either no change or a significant increase (Burkhauser, Duncan, Hauser, & Berntsen, 1991; Hao, 1996; Smock, 1993, 1994; Wilmoth & Koso, 2002; Yamokoski & Keister, 2006). The disparate financial consequences of divorce between men and women extend into the retirement years (Bardasi & Jenkins, 2004).

Noncompliance with child support obligations may be a key reason for the disparate financial consequences of divorce, given that approximately 83% of all custodial parents in the U.S. are female (Grall, 2006). Child support is the legally-mandated financial transfer from the noncustodial parent, usually the father, to the custodial parent. Motivated by the idea that parents should minimize the impact of their divorce upon the child's economic environment, enforcement of child support is expected to achieve some degree of post-divorce income and wealth parity between the former spouses (Rothe & Meyer, 2000). Tougher child support enforcement (CSE) may facilitate a divorced woman's wealth accumulation simply by establishing an additional source of unearned income and allowing her to save more, while it may hurt a divorced man's wealth accumulation by reducing his disposable income. Furthermore, unlike other non-labor income,

the income from child support is known to increase women's labor supply (Beller & Graham, 1993; Hu, 1999), which could result in a further improvement in divorced women's financial well-being.

Despite its apparent economic and financial relevance, child support has largely been an under-emphasized subject in the consumer finance literature. This study attempts to empirically assess how state CSE programs influence wealth accumulation among divorced men and women in the U.S. It is hypothesized that, holding all else equal, stronger CSE will lead to greater levels of wealth accumulation for divorced women and lower levels of wealth accumulation for divorced men. This study combines household-level wealth data from the *Panel Study of Income Dynamics* (PSID) with state-level policy data drawn from the administrative records of the *Office of Child Support Enforcement* (OCSE) and the April supplements of the *Current Population Study* (CPS).

The increasing number of single mothers and their growing welfare dependency during the 1980s and 1990s, coupled with low child support recipient rates (e.g., according to the Census Bureau, 63% did not receive any payment in 1994) brought an end to the existing welfare paradigm and shifted the focus to CSE programs (Huang, Garfinkel, & Waldfogel, 2004). Today, child support has become an important source of financial security for divorced mothers, while at the same time a potential threat to the financial security of divorced fathers. This study provides consumer and financial educators with a timely update on the new welfare policy environment and how it may be affecting divorced families' finances.

The remainder of the paper describes the methodology and data. The findings are then presented along with a discussion of the implications for consumer and financial educators.

Methodology and Data

Following the work of Schmidt and Sevak (2006), a two-period wealth accumulation model is constructed. Specifically, wealth in the future period, A_{t+1} , is expressed as:

$$A_{t+1} = (1 + r) (A_t + Y_t - C_t),$$

where r is the return to investments, Y_t denotes current income, C_t denotes current consumption, and A_t denotes current wealth. For divorced parents, $Y_t = M_t + CS_t$, where M_t is current earnings and CS_t denotes current child support. CS_t can be positive or negative depending on the custodial arrangement. It is hypothesized that $|CS_t|$ increases if the state has a stronger enforcement program. Therefore, the effect of CSE on Y_t , and then on A_{t+1} , would be negative for noncustodial parents and positive for custodial parents. Assuming that custodial parents are mothers, the future wealth of the i^{th} individual can be assessed using the following regression:

$$A_{i,t+1} = b_0 + b_1 \text{female}_i + b_2 \text{CSE}_{t,s} + b_3 \text{female}_i * \text{CSE}_{t,s}, \quad (1)$$

where *female* is the gender dummy, CSE is a vector of variables that quantify the strength of the state CSE programs, and the subscripts i and s index individuals and states, respectively. To control for demographic and socio-economic factors that can affect wealth, individual characteristics, X_i , such as age, education, race, earnings, whether the individual had been divorced more than once, and whether the individual had recently received inheritance or alimony are included in the model such that:

$$A_{i,t+1} = b_0 + b_1 \text{female}_i + b_2 \text{CSE}_{t,s} + b_3 \text{female}_i * \text{CSE}_{t,s} + b_4 X_i. \quad (2)$$

This study constructs one of the CSE variables using the statewide amount of collection, which may potentially be

endogenous if the child support order is higher for wealthier fathers. In an effort to account for this potential endogeneity, some regional variables, Z_s , which may be correlated with the CSE policy but not directly correlated with individual wealth holdings, are included as instrumental variables in the model. Thus, the final model can be expressed as follows:

$$A_{i,t+1} = b_0 + b_1 \text{female}_i + b_2 \text{CSE}_{t,s} + b_3 \text{female}_i * \text{CSE}_{t,s} + b_4 X_i + b_5 Z_s. \quad (3)$$

In this study, Z_s includes welfare generosity measured by the state's maximum welfare benefit for female-headed, three-person households for the year of 2004. Because CSE is measured at the state level, inclusion of state dummies to control for other aspects of state-specific policy environment would cause perfect collinearity. Instead, regional dummies are included in Z_s to control for broader political and economic conditions beyond welfare programs, as there may be some degree of homogeneity among states within the same region.

With regard to the coefficients, b_0 represents the baseline net worth of divorced men, while b_1 depicts the difference between divorced women's and divorced men's baseline net worth. The coefficient b_2 captures the effect of CSE on the wealth accumulation of divorced men, and b_3 measures the effect for divorced women. Because stronger CSE is expected to result in divorced men *paying* more child support and divorced women *receiving* more child support, b_2 is hypothesized to be negative and b_3 positive.

In this study, total non-housing net worth was used as the measure of wealth. Since net worth data typically follow a skewed distribution with outliers at the upper end, regression equations (1), (2), and (3) were estimated using median regression analysis to describe the central tendency. More specifically, a series of quantile regressions were estimated and the standard errors were estimated using the bootstrap method. The coefficients for the 50th quantile are reported in the paper.

Policy Variables

Since the mid-1970s, U.S. child support policy under Title IV-D of the Social Security Act has allowed each state a considerable amount of discretion in designing its own CSE programs. The degree of rigor and effectiveness of the programs varies across states as well as over time. This study draws on such variations to quantify the strength of CSE.

For the purposes of this study, three specific variables were constructed to capture the strength of CSE: (1) an average per-case administrative expenditure amount, (2) a collection expenditure ratio, and (3) the residual sum. First, using administrative data from the *Office of Child Support Enforcement* (OCSE) from 1990 to 2002, the per-case administrative expenditure was measured as the state's total annual CSE administrative expenditure divided by the state's child support caseload for the given year. The dollar amounts were deflated using the Consumer Price Index annual averages. Second, the collection expenditure ratio was obtained by dividing the total annual statewide collection by the state's total CSE administrative expenditure of the given year. These two measures were used in previous studies such as Peters, Argys, Howard, and Butler (2004).

Third, following the approaches used by Garfinkel, Miller, McLanahan, and Hanson (1998) and Rich, Garfinkel, and Gao (2007), the strength of CSE was measured by the state sum of regression residuals. Specifically, 1990-2002 April supplements of the CPS were used to fit the linear probability that a single mother received child support in a given year, accounting for attributes that may have affected enforcement. In most years, the probability of receiving any child support was low for mothers who were under 25 or over 45, were African-American or foreign-born, had less than a high school education, or lived in a central city. The regression estimates were in general consistent with other studies, and can be made available upon request. Using these estimates, the predicted probability of receipt was calculated and then subtracted from the dummy indicating the actual receipt. These individual-level regression residuals were aggregated

for each state and year to quantify the effectiveness of CSE that was independent of demographic composition of the state's child support caseload. Because the child support supplement of the CPS is administered every other year, three-year moving averages were calculated to fill the missing values for odd-numbered years.

While all three variables represent the rigor of CSE, the *Per-Case CSE Expenditure* measures policy inputs, while the *Collection Expenditure Ratio* and the *Residual Sum* measure outcomes. The *Residual Sum* is probably the most refined of the three because it quantifies pure program effectiveness, independent of the state's population characteristics. Paired correlation tests show that the *Collection Expenditure Ratio* was negatively correlated with the *Per-Case CSE Expenditure*, and positively with the *Residual Sum*. A cross-sectional OLS of the *Residual Sum* run on the two other policy variables show that both the *Per-Case CSE Expenditure* and the *Collection Expenditure Ratio* were, when taken together, positively correlated with the *Residual Sum*, which demonstrates that the three variables were consistent and complementary with one another.

The Sample

The sample for this analysis was taken from the 2005 *Panel Study of Income Dynamics* (PSID) family files and the supplemental wealth files. The sample consisted of 576 unmarried male and female household heads that had divorced sometime during the 1990-2002 period and were not older than 45 at the time of divorce. The individuals in the sample were then matched to the policy variables based on the year of divorce and the state of residence at the time of divorce.

Table 1 summarizes the descriptive characteristics of the sample. The sample included 356 women (61%) and 220 men (39%). The average individual in the sample was 44 years old as of 2005 and had 13 years of education. Average earnings in 2005 were \$31,450, with men earning significantly more than women,

Table 1
Description of the Sample

	Total (N=576)		Women (N=350)		Men (N=226)	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Female ^a	0.61	0.49	1.00	0.00	0.00	0.00
Age	43.53	8.09	43.43	7.75	43.69	8.62
Years of Education	12.94	1.99	12.92	1.99	12.98	2.01
Earning (\$1,000)	31.45	34.31	28.02	27.09	36.77	42.70
Inherit>0 ^a	0.02	0.12	0.02	0.14	0.01	0.09
Alimony>0 ^a	0.02	0.15	0.04	0.19	0.00	0.07
Number of Divorce>1 ^a	0.29	0.45	0.28	0.45	0.31	0.47
Race: White ^a	0.59	0.49	0.54	0.50	0.66	0.47
Race: Black ^a	0.38	0.48	0.42	0.49	0.30	0.46
Welfare Generosity (\$)	377.34	160.74	367.16	158.11	393.10	163.83
Region: Northeast ^a	0.12	0.32	0.12	0.32	0.12	0.32
Region: Midwest ^a	0.28	0.45	0.26	0.44	0.31	0.46
Region: South ^a	0.43	0.50	0.47	0.50	0.38	0.49
Region: West ^a	0.17	0.38	0.16	0.36	0.19	0.40
Non-Housing Net Worth (\$1,000) ^b	7.65		6.45		8.75	

Note: Data come from the 2005 PSID family files and supplemental wealth files. The sample is comprised of male and female household heads that had divorced sometime during the 1990-2002 period, were currently unmarried, and were not over 45 at the time of divorce.

^a The variable is a dummy.

^b Median values are reported. Non-housing net worth is the sum of all non-housing assets (including equity in businesses, vehicles, stocks, transaction accounts, individual retirement accounts and other assets, net all non-housing liabilities).

\$36,770 compared to \$28,020. Two percent of the sample reported having recently received a significant amount of inheritance, while another 2%, who were mostly women, reported that they had received alimony. Twenty nine percent of the sample had been divorced more than once. Also, 59% of the sample was white and 38% was black. Women in this sample were less likely than men to be white and more likely to be black.

Geographically, 43% of the sample lived in the South, 28% lived in the Midwest, 17% in the West, and 12% in the Northeast. More women lived in the South (47%) than men (38%) in the sample.

Finally, Table 1 also reports non-housing net worth, which is defined as the sum of all non-housing assets (including equity in businesses, vehicles, stocks, transaction accounts, individual retirement accounts and other assets, net all non-housing liabilities). The median value for non-housing net worth was \$6,450 for divorced women and \$8,750 for divorced men, yielding the crude measure of the gender wealth gap to be \$2,300 at the median.

Regression Findings

Table 2 reports the median regression estimates for the three models specified in equations (1), (2), and (3). The coefficient for the female dummy in Model (1) suggests that, controlling for CSE variables, divorced women's non-housing wealth is \$8,800 less at the median than divorced men's. Although this gender difference is statistically insignificant, it is worthwhile to note that the magnitude of the gap in Model (1) is much greater than the crude measure from Table 1 in which CSE variables are not taken into account. This may or may not be an indication of the role of CSE in reducing the gender wealth gap because CSE variables may be correlated with other factors that determine one's wealth.

Once demographic variables as well as the CSE variables were controlled for in Model (2), women seemed to hold greater wealth at the median than men.¹ This suggests that a large part of the gap measured in Model (1) was due to women's demographic characteristics that were negatively associated with wealth. Women in the sample were more likely than men to be black and

¹ Following Schmidt and Sevak (2006), Model (2) was estimated without the earnings variable, since labor supply is a function of wealth and inclusion of earnings in the wealth regression can be 'problematic.'

to receive alimony, both of which were negatively correlated with wealth.²

When welfare generosity and regional dummies were added in Model (3), the coefficient for the female dummy became negative again. Model (3) suggests that, controlling for demographic characteristics, state CSE programs, and other environmental factors, women who are divorced and currently unmarried hold \$3,200 less non-housing wealth than their male counterpart at the median. This gender difference is again statistically insignificant, but is greater than the crude estimate. This suggests that state CSE programs may help to reduce the gender wealth gap for at least some subset of divorced individuals.

Table 2
Median Regression of Non-Housing Net Worth for Divorced Men and Women (N=576)

Variables	Model (1)		Model (2)		Model (3)	
	Coef	SE	Coef	SE	Coef	SE
Female ^a	-8.8	8.5	3.2	8.2	-3.2	10.7
Per-Case CSE Expenditure (\$)	0.0	0.0	0.0	0.0	-0.0	0.0
Collection Expenditure Ratio	-0.1	1.1	0.7	1.3	1.1	1.3
Residual Sum	-1.1 *	0.6	-1.3	1.3	-1.2	0.9
Female*(Per-Case CSE Expenditure)	0.0	0.0	-0.0	0.0	0.0	0.0
Female*(Collection Expenditure Ratio)	0.3	1.2	-1.5	1.2	-0.8	1.3
Female*(Residual Sum)	1.6 **	0.7	1.6	1.3	1.8 *	1.0
Age	...	...	-1.5	1.3	-1.0	1.2
Age Squared	...	...	0.0	0.0	0.0	0.0
Years of Education	...	...	1.6 **	0.6	-0.4	0.6
Earning (\$1,000)	...	...	...	...	0.4 ***	0.1
Inherit>0 ^a	...	...	107.2 **	45.2	94.8	80.0
Alimony>0 ^a	...	...	0.2	30.9	8.3	12.6
Number of Divorce>1 ^a	...	...	-1.6	2.6	2.3 **	1.1

² In general, receiving alimony is an indication of low wealth. A simple two-way correlation test suggests alimony and the net worth are negatively associated.

Table 2 (continued)
Median Regression of Non-Housing Net Worth for Divorced Men and Women (N=576)

Variables	Model (1)		Model (2)		Model (3)	
	Coef	SE	Coef	SE	Coef	SE
Race: White ^a	4.1	3.0	1.5	1.5
Race: Black ^a (omitted)
Welfare Generosity	0.0	0.0
Region: Northeast ^a	-0.8	5.3
Region: Midwest ^a	-0.0	4.9
Region: South ^a	5.4	6.5
Region: West ^a (omitted)
Constant	11.7	7.8	10.6	28.0	-3.9	30.6

Note: Data come from the 2005 PSID family files and supplemental wealth files. The sample is comprised of male and female household heads that had divorced sometime during the 1990-2002 period, were currently unmarried, and were not over 45 at the time of divorce. Non-housing net worth and earnings are measured in \$1,000. The coefficients and standard errors were obtained through bootstrapping quantile regressions. Table 2 reports the coefficients and standard errors for the 50th quantile. The child support policy variables were measured for each state and year using the OCSE reports and the April CPS for the 1990-2002 period, and were matched to the sample by the year of divorce.

^a The variable is a dummy.

^b Non-housing net worth is the sum of all non-housing assets (including equity in businesses, vehicles, stocks, transaction accounts, individual retirement accounts and other assets) net all non-housing liabilities.

* p < 0.10, ** p < 0.05, *** p < 0.01

Coefficients for the three CSE variables and the interaction terms provide more direct insights into how CSE affects the wealth accumulation of divorced and currently unmarried men and women. The estimates from Model (1) suggest that stronger CSE may be negatively associated with divorced men's non-housing net worth and positively associated with divorced women's. The *Per-Case CSE Expenditure* and the *Collection Expenditure Ratio* did not have a significant bearing on the wealth accumulation of divorced and unmarried individuals of either gender. In other words, neither the state agency's effort level measured by the state's spending made on behalf of custodial parents nor the efficiency of such spending measured by the

amount collected per each dollar the state agency spent significantly affected wealth holdings of divorced men and women. On the other hand, the coefficient for the *Residual Sum* was negative and significant in Model (1), while the coefficient for the interaction term, *Female*(Residual Sum)*, was positive and significant, suggesting that the effectiveness of enforcement of child support may increase wealth among divorced women. According to Model (1), as the state's likelihood of obtaining support payments for a typical single mother increases by one percentage point, the non-housing net worth of divorced men declines by \$11, and the non-housing net worth of divorced women increases by \$16 at the median.

Model (2) shows that, when demographic characteristics were taken into account, the rigor of CSE was no longer a statistically significant predictor of wealth for divorced and currently unmarried men and women. Specifically, the effects of *Residual Sum* on divorced men and women's wealth still had the same sign as in Model (1) and were economically as important, but the effects were statistically insignificant. This result suggests that the correlation between CSE and a divorced individual's wealth might have been mere coincidence arising from the individual characteristics that simultaneously affect wealth and the CSE effectiveness. For example, the positive correlation between *Residual Sum* and women's wealth might have been caused by the added difficulty of collecting child support for less educated mothers, whose former spouses were also likely to be less educated and to be poor. In Model (2), education and inheritance were the only significant and positive predictors of non-housing net worth for divorced and currently unmarried men and women.

In Model (3), the positive relationship between the strength of CSE and divorced women's net worth continued to be significant even after controlling for the individual's demographic and economic characteristics. Besides earnings and being divorced more than once, the effect of CSE for women was the only factor that significantly explained an increase in net worth for divorced individuals. A one-percent increase in the likelihood of success in

CSE, measured by *Residual Sum*, resulted in an \$18 increase in the non-housing net worth for a divorced and currently unmarried woman at the median. The effect may seem small in magnitude. However, it is quite striking that having lived in a state that had a stronger CSE program than another state at the time of divorce significantly improved a woman's financial well-being later in life, controlling for her age, education, earnings, inheritance, alimony, being divorced more than once, race, the state's welfare generosity, and regional characteristics. In Model (3), as in Model (2), strong CSE seemed to be negatively associated with divorced men's wealth at the median but the effect was statistically insignificant. The effect of education in Model (2) disappeared in Model (3) as it was strongly correlated with earnings.

Discussion

It has been noted in the literature that divorce negatively impacts women's financial well-being more than men's. Despite the speculation that ineffective enforcement of child support in the U.S. may be to blame, evidence of the relationship between CSE and wealth accumulation among divorced households is sparse. Using the variations in the strength of CSE across states and over time, this study provides some insight into how CSE may be redistributing wealth among divorced men and women. Using a sample of 576 divorced individuals from the 2005 PSID, this study found that the effect of CSE in reducing the gender wealth gap among divorced men and women depended on how the strength of CSE was defined. On one hand, neither the amount of administrative spending by the state CSE agency to enforce child support obligations, nor the effectiveness of such spending, significantly explained the wealth accumulation of divorced men and women. On the other hand, the intangible rigor or effectiveness of CSE programs, measured by the state-level sum of regression residuals, was an important predictor of divorced women's improved wealth accumulation. The negative

effect of CSE on divorced men's wealth was statistically insignificant once individual characteristics were controlled for.

Findings from this study add to the understanding of wealth disparity by gender and marital status by identifying a new policy dimension. It is important for consumer educators and financial counselors to understand that the divorced women's wealth disadvantage can be reduced by pursuing help from the state CSE system. Such pursuit can be more fruitful if one lives in a state or in a time period where there is a stronger CSE system in place. This study suggests that it is not gender itself but ineffective enforcement of child support and differences in individuals' earning potentials that create the wealth gap between divorced men and women. A more effective CSE program at the state level could improve a divorced woman's financial well-being later in life.

Child support has gained greater policy focus as welfare cash assistance for single mothers has become increasingly limited since the welfare reform during the late-1990s. Financial counselors working with divorced mothers may want to emphasize that the financial consequences of divorce and single parenthood can be more daunting for those not receiving child support payments. Consumer education programs may want to stress that strong state CSE programs can have a small but significant effect on divorced mothers' ability to accumulate wealth, and that cooperating with the state agency in obtaining child support early on could contribute to greater long-term financial security.

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