Marriage Advantages, Child Costs: Family Structure and Income Inequality among Women across Birth Cohorts

Christine Percheski

(cpercheski@rwj.harvard.edu)

Introduction

Since 1975, income inequality has increased by 22 percent among all households (Jones and Weinberg 2000) and an even sharper 57 percent among families with children (Western, Bloome and Percheski forthcoming) as measured by the 90/10 ratio. During this same period, women's employment and single motherhood increased. The concurrent timing of these changes has led to considerable research on the association between family structure change and income inequality. Previous research has primarily focused on the population of families with children because of the sharp increases in inequality among this group and concerns about the negative effects of income inequality on children's wellbeing and intergenerational mobility. However, families with children are a decreasing share of the population and women of childbearing age—both mothers and childless women—are also an important population subgroup. The economic wellbeing and choices regarding employment and family formation of women in the main reproductive years have consequences for the whole population. Little previous research has considered this population subgroup (except see McCall forthcoming) even though changes in families, labor markets, and government transfers may have affected women differently than men or families with children. Inequality among women may differ from that among men because women's earnings are more strongly affected by family characteristics than men's, and women's family incomes are less correlated with their own earnings than men's family incomes (McCall forthcoming). Moreover, during this period of increasing inequality, the selection into motherhood changed and the percentage of women remaining childless increased. Thus, an analysis of how family structure is related to income distribution among all women of childbearing age would better inform our understanding of how family structure changes are related to the growth in income inequality. In this paper, I consider how income levels and inequality have changed across cohorts, how income is related to family characteristics, and whether the relationship between family structure and income has changed across cohorts. For this analysis, I consider two aspects of family structure: whether a woman is married and whether she has children.

To investigate how family structure is related to income levels and inequality among women, I consider change across cohorts, a more appropriate perspective than change

across time. The relationship between family structure, employment and family income is likely to respond to systemic or structural changes, such as differences in women's expectations about family life, that impact on women during their young adulthood years. A cohort analysis tracks the effects of these changing expectations and conditions, whereas a period analysis is more suited to identifying changes in macro-level economic conditions. Some of the social and policy changes differentiating cohorts include changes in women's educational attainment, employment opportunities, attitudes toward maternal employment, fertility, patterns of union formation and dissolution, enforcement of child support payments, and women's access to income from government transfer programs (e.g., AFDC/TANF).

Women's income sources are much more varied than those of men, who derive most of their income from their own earnings. In addition to their own earnings, substantial shares of women's incomes come from other family members (particularly husbands or cohabiting partners) and government transfers. However, the share of women's income derived from their own earnings versus other sources has changed considerably across cohorts. McCall finds that the correlation between women's own earnings and their family income increased from .28 in 1980 to .51 in 2000 while the correlation for men's income remained stable (.84 in 1980 to .82 in 2000). Family structure, as defined by women's marital and maternal status, potentially affects both earnings and other income components, but in different ways. To better identify the association between family characteristics and income and how this has changed across cohorts, I consider total family income but also decompose family incomes into four constituent components. These are women's own earnings, government income transfers (primarily AFDC/TANF but also unemployment and disability payments), extra-household non-governmental income transfers (primarily alimony and child support payments), and other incomes including earnings of other family members and investment and real estate incomes.

In this extended abstract, I describe my methods and data and present tables with family structure exposure for the three birth cohorts examined (1946–55; 1956–65; 1966–75) and summary statistics on average family incomes and income variations for groups defined by cohort, family structure, race and class. I conclude by briefly discussing my preliminary findings.

Data

I use data from CPS 1979 to 2006, corresponding to years 1980 and 2005, and include women born from 1946 to 1975 for ages 25-39. Most women finish their education by 25 and limiting the analysis to women under 40 will ensure the identification of mothers as most women will not have had grown children leave home yet by age 39.

Income

My strategy for coding and cleaning the income data is similar to that used in Western, Bloome, and Percheski's analysis of income inequality among families with children (forthcoming). I correct for the top-coding of the CPS income items by imputing the top two percent of values for each income item using a Pareto distribution (West 1987) and I exclude cases with missing income data (approximately 10 percent of the sample). All negative incomes are recoded to zero; thus, all families have positive incomes. Incomes are adjusted for inflation using the PCE index; all values reported are in 2000 dollars. In defining family income and family size, I use the Census Bureau definition of family-individuals related by birth, adoption or marriage who share a household-but modify it to include cohabitors. Most previous analyses of family incomes adjust income by family size to take into account the extra expenses associated with additional family members but also the economies of scale associated with sharing the costs of maintaining a household among more family members. In this analysis, family income is adjusted by the square root of family size. For some analyses, I also consider the sources of family income. I define four sources: women's employment earnings (including wages and salaries as well as self-employment and farm earnings), government transfers (including AFDC/TANF, state or federal unemployment compensation, SSI, any retirement incomes,), payments from extra-household members (child support, alimony, or contributions from family and friends), and other incomes (primarily earnings of other family members but also including rents and investment returns). In calculating the percentage contribution of each of these sources, I do not adjust for family size. Also, when I report women's earnings, I do not adjust for family size. I calculate multiple measures of income inequality including the 90/10 ratio and 80/20 ratio, but I use income variance as my primary measure of inequality in the analyses.

Family Structure.

For this analysis, I define family structure by marital status and presence of children in the household. For most descriptions and analyses, I define four categories: married women without children; married women with children; unmarried women without children; and unmarried women with children. In more detailed analyses, I include information about the age of the youngest child yielding six categories: married, spouse present and no children; married with young children (youngest child age under age 6); married with older children (youngest child age 6-18); unmarried with no children; unmarried with young children; and unmarried with older children. The table below shows changes in family structure exposure by cohort.

Table 1: Proportion of cohort person-years between ages 25-39 in each family structure by cohort, education and race (N=447,169).

Race/Ethnicity	Educational Attainment	Birth Cohort	Family Structure			
			Single, No Kids	Single, Kids	Married, No Kids	Married, Kids
White	Less than HS	46-55	.115	.189	.082	.614
		56-65	.151	.233	.091	.525
		66-75	.196	.295	.076	.433
	High School	46-55	.132	.119	.123	.626
		56-65	.167	.136	.126	.571
		66-75	.191	.165	.115	.529
	College+	46-55	.273	.049	.211	.467
		56-65	.290	.045	.212	.453
		66-75	.291	.045	.215	.449
Black	Less than HS	46-55	.160	.522	.053	.266
		56-65	.165	.622	.043	.170
		66-75	.224	.577	.028	.171
	High School	46-55	.157	.418	.060	.366
		56-65	.195	.435	.058	.312
		66-75	.226	.455	.053	.266
	College+	46-55	.293	.189	.125	.394
		56-65	.353	.193	.120	.334
		66-75	.392	.196	.108	.304
Hispanic	Less than HS	46-55	.094	.279	.059	.568
		56-65	.099	.280	.058	.563
		66-75	.114	.231	.056	.599
	High School	46-55	.140	.216	.098	.545
		56-65	.157	.231	.094	.519
		66-75	.158	.239	.091	.512
	College+	46-55	.220	.112	.187	.481
		56-65	.251	.101	.187	.461
		66-75	.291	.107	.178	.424

Source: Current Population Survey March Supplement, 1979-2006.

Subgroup Definition.

I define subgroups by educational attainment and race/ethnicity. Educational attainment is categorized as less than high school, high school degree but no college degree, and college degree or higher. I group women with high school degrees and some college together since employment rates, earnings, and single motherhood rates are fairly similar for these groups. For race/ethnicity, I categorize women into four groups based on their responses to the race and Hispanic ethnicity questions. The categories are the following: White, non-Hispanic; Black, non-Hispanic; Hispanic; Other. For most of the analysis, I exclude women in the "Other" category, approximately 8-9 percent of each cohort.

Analysis Plan

The analysis proceeds as follows. I first describe changes in demographic characteristics and family structure exposure across cohorts. I then present and discuss descriptive statistics of means and variances in total family income for groups defined by cohort, race/ethnicity and education. I identify which groups experienced the most change across cohorts in mean income levels and within-group income inequality. I then describe the variation by cohort and group in the contribution of each income component to women's total family income. Next, I compare differences in total family income and in women's earnings by marital status. At the heart of this analysis are regression analyses of mean group income and within-group income variance. My models identify which demographic groups have higher mean logged incomes and higher within-group variances of logged income. I define the groups by cohort, race/ethnicity, education, family structure (6 categories), and age categories (25-29, 30-34, and 35-39). This yields 486 possible groups. In preliminary analyses, I find that the distribution of group income means and variances (both measured in the log scale) is approximately normal. For all descriptive statistics and regression analyses, I use sample weights. Using the regression analyses, I consider the contribution of family characteristics to explaining variations in mean incomes and within-group income inequality and I explore how the associations with family characteristics have changed across cohorts.

Overview of Preliminary Findings

Contours of Income Levels and Inequality

The means and variances of total family income (adjusted by family size and measured in the log scale) by cohort, race/ethnicity, and education are shown in Table 2. The top panel shows that mean incomes have remained constant or increased across cohorts for all groups. Increases in mean family income across cohorts were largest for white women without a high school degree and for college graduates of all races/ethnicities. Across groups within each cohort, white college-educated women have the highest mean family income.

The bottom panel of 2 shows variance in total family income for these same groups. Black and white women with less than a high school degree show the biggest increase in income variance across cohorts (31 percent and 29 percent respectively) as well as two of the three highest levels of variance. Black women with high school degrees also have a high level of variance (.814 for 1946-55 cohort; .947 for 1956-65; .927 for 1966-75). The group with the lowest level of income variance is white college-educated women, with variances ranging from .441 to .501. Hispanic women had smaller increases in income inequality than white or black women. Based on these descriptive statistics, it appears that within-group variances are higher for blacks and Hispanics than for whites and for high school dropouts and high school graduates than for college graduates.

Summary of Regression Results and Preliminary Conclusion

Income inequality among women increased by about 25 percent between the 1946-55 and 1966-75 birth cohorts. Somewhat surprisingly, inequality among women of similar family structures has not changed across cohorts despite changes in the demographic composition of these groups and the sources of their family incomes. For example, I find no change across cohorts in the level of income inequality among single mothers of a given age, education and racial/ethnic identity. Despite the stability of the association between family characteristics and inequality in total family income across cohorts, there have been changes in the share of income from particular income components—including women's own earnings, transfer incomes, alimony and child support, and earnings from other family members—and in the relationships between inequality in these components and family characteristics. For example, the share of family income from women's own earnings has increased across cohorts for almost all groups of women while the share of unmarried women's family income from transfer incomes has decreased. Notable changes in the association of family characteristics and income components include a

Table 2: Means and variances of family-size adjusted family income (in log scale) by race/ethnicity, education and cohort

Race/Ethnicity	Cohort	Less than H.S.	H.S.	College or more
		Means		
White				
	1946-55	8.04	9.42	9.95
	1956-65	8.76	9.46	10.11
	1966-75	8.79	9.51	10.21
Black				
	1946-55	8.14	8.88	9.72
	1956-65	8.03	8.87	9.79
	1966-75	8.24	8.98	9.96
Hispanic				
	1946-55	8.41	9.10	9.63
	1956-65	8.39	9.08	9.74
	1966-75	8.52	9.12	9.92
		Variances		
White				
	1946-55	.664	.523	.441
	1956-65	.770	.599	.462
	1966-75	.856	.645	.501
Black				
	1946-55	.796	.814	.541
	1956-65	.868	.947	.651
	1966-75	1.04	.927	.594
Hispanic				
	1946-55	.588	.709	.655
	1956-65	.649	.770	.726
	1966-75	.601	.758	.726

Note: Means and variances are computed for each age and averaged across ages 25-39 (N=374,960). Sampling weights are used to calculate the age-specific means and variance.

Source: Current Population Survey March Supplement, 1979-2006.

decrease in earnings inequality among mothers and an increase in earnings inequality among married women for the 1966-75 cohort. Although inequality in married women's earnings is higher for women in the youngest cohort, the variance in their husbands' earnings is lower. Among single mothers, women in younger cohorts experience higher inequality in child support and alimony incomes but less inequality in transfer incomes.

Additional findings include that the association between family characteristics and income levels and inequality varies considerably by race/ethnicity and education. For example, marital status differences in family income inequality are larger among women without a high school degree than among women with more education. Marriage is associated with greater income levels for women of all racial/ethnic and educational groups, but the size of this "marriage advantage" in family income varies considerably across groups and has decreased across cohorts. Women without a college degree and mothers experience a greater marriage advantage in family income. Children are associated with lower family incomes, but this "child cost" is smaller for college-educated women.

Taken together, these results suggest that increases in women's income inequality are not the result of increasing differences in income levels or inequality by family structure. Indeed, I find that the difference in total family incomes between women by marital status has decreased across cohorts and that there has been no change in the amount of inequality among single mothers, married women, or childless unmarried women. Thus, increases in inequality among women have resulted from cohort shifts in the population distribution and from cohort changes in the association of education and race/ethnicity with income inequality, but not from cohort changes in the associations between family structure and income.