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The effect of the Child Care Tax Credit on Children's Long-term Educational Achievement

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Abstract

The Child Care Tax Credit (CCTC) is a child care subsidy program that encourages parents, especially mothers, to join the labor force. Previous research shows that the CCTC significantly increases the labor force participation of mothers, especially for married ones. How are children's well-being affected when mothers join the labor force and substitute maternal child care with purchased child care services? Potentially there are two main channels that the CCTC affects the educational achievement of children. The working mother brings in more income and the tax credit gives the family some extra financial resources, which help the development of the children. On the other hand, the tax credit also affects the mother's time allocation, and the change of time exposed to child care intensity also affects the development of the child. I document a comprehensive legislative history of the CCTC enactments, amendments, and repeals at both federal and state levels. Using the detailed CCTC variation generated by exogenous law changes and applying the variation on samples from the Panel Study of Income Dynamics, I examine the effects of the CCTC policy exposure at an early age on the educational achievement of the child. The results show that CCTC policy exposure at an early age has negative effects on the educational achievement of the child, which shows evidence that the mother's time allocation effect at an early age dominates the income effect of the tax credit for the marginal population. This research is the first to evaluate the impact of the CCTC on children's educational achievement.

Keywords: The Child Care Tax Credit; Educational Achievement; Maternal Labor Force Participation.
JEL codes: D13; H24; I38; J13; J22.

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1 Introduction

In the United States, the labor force participation rate for mothers with young children reached its highest level at the beginning of the 21st century. According to the Bureau of Labor Statistics, in 2018, the labor force participation rate of mothers with children under age six was 65.1 percent for married mothers and 76.4 percent for single mothers. For many working parents, child care expenses can be a great burden. Parents, especially mothers, try to find a balance between taking care of their children and continuing their careers.

The Child Care Tax Credit (CCTC) is a child care subsidy program that was first enacted by the federal government in 1976. The CCTC allows parents to claim a tax credit for their child care expenses if parents are employed. As of 2019, the age limit for eligible children is 12 years old. Parents can claim a federal tax credit for their child care expenses allowing them to work up to $3,000 for one eligible child or $6,000 for two or more eligible children. In addition to the federal CCTC, 24 states and Washington D.C. also provide their own version of CCTC, though some of them are under different names. Most of the states link their state-level CCTC with the federal CCTC by specifying a match-up rate. Some states provide relatively more CCTC benefits in certain years, other states only provide a moderate extra subsidy.

The design of the CCTC makes it different from many other subsidy programs involving children. To be eligible for the CCTC, both parents have to be employed if they are married. Likewise, single parents need to be employed to be eligible for the tax credit as well, and for divorced couples, the main provider of the children must be employed. In addition, working parents have to pay for their child care expenses in the market. Typical eligible expenses are those for day care, after-school care, summer camp, etc. The objective of the CCTC is to encourage the parents, especially the mothers, to join or stay in the labor force.

There is evidence that the CCTC has a significant effect on the labor supply of mothers.

Michalopoulos et al. (1992), Leibowitz et al. (1992), and Averett et al. (1997) find that the CCTC has a positive effect on mothers' employment. Jiang (2020) finds that the CCTC significantly increases the labor force participation of mothers: a $1,000 increase in the CCTC increases the labor force participation by two to seven percentage points, according to different empirical strategies.

If the CCTC successfully pulls mothers in the labor market, there must be a substitution of child care provided at home with market-provided child care services. If it is the case, the natural question that follows is: What are the effects of the CCTC on children's well-being?

Potentially, the CCTC has two channels through which it impacts the well-being of children. First, with the subsidy and the additional income of the working mother, there could be an income effect.[1] Higher family income provides more resources for the development of children. Second, because the subsidy policy substitutes maternal child care with purchased child care services, there could be a time-reallocation effect. With this substitution of child care, children can receive child care with different quality or are exposed to different amounts of attention, which can affect the development of children.

There could also be other channels in which the CCTC can have some impact on children's well-beings. Furthermore, there are many aspects of the children's well-being that are worth exploring. This paper focuses on the effects of the CCTC policy exposure from early ages on the long-term educational achievement of children. The educational achievement is an important indicator for the cognitive development and a effective predictor for future employment and life-time earnings.

There is a rich pool of literature on the income effect of welfare and child care subsidy programs on children's well-being. For example, the Earned Income Tax Credit is a subsidy program mainly assisting low-income families. It does not require a secondary earner in

[1]This is based on the assumption that the net family income after the mother joins the labor market nets of the subsidized child care service is greater than the income of mother providing child care by herself, which is plausible for many married couples because they are less likely to be eligible for the Earned Income Tax Credit or other welfare programs.

families with married couples. As a result, the effect of the EITC can be interpreted as an income effect. Dahl and Lochner (2012) use the exogenous policy shocks of the EITC as an instrumental variable and find a positive effect of the family income on math and reading test scores. This effect is more pronounced in children from disadvantaged families. Maxfield (2014) and Manoli and Turner (2018) find that the EITC increases the probability of children going to college. Bastian and Michelmore (2018) find that exposure to more financial benefits from the EITC during teenage years increases the probability of children graduating from high school and college. This exposure also has a positive impact on the employment and earning ability of these children in adulthood. Using Norwegian data and exogenous policy shocks of child care subsidy program, Black et al. (2014) find that being exposed to child care subsidy at the age of five positively impacts the high school academic performances. The institutional setting of the Norwegian child care subsidy program allows researchers to isolate the mechanism as an income effect. Clark-Kauffman et al. (2003) also find that welfare policies that work as an earning supplement have positive effects on academic achievement.

Relatively little literature focuses on subsidy programs with employment requirements. In terms of the short-term effect of the child care subsidy on children's well-being, Baker et al. (2008) find that the universally accessible child care program in Quebec, Canada led to higher rates of anxiety and behavioral problems. It also led to worse academic performance and health condition. Herbst (2017) examine the long-term effect of the universal child care program introduced by U.S. Lanham Act during World War II. He finds that kindergarten-aged children affected by the Lanham Act are more likely to go to college and be employed in adulthood. However, it is difficult to compare the results of a war-time policy during to the many policies implemented during peace periods. Fort et al. (2020) find one additional day care month at age 0–2 reduces intelligence quotient by 0.5% (4.7% of a standard deviation) at age 8–14 in a relatively affluent population.

This paper contributes to the literature in that it is the first paper to examine the long-term effect of the CCTC on children's educational achievement. I document the CCTC legislative history and construct a comprehensive data set for the CCTC policy variation (see Chapter One for details). Using the legislative history, I assign a number for each child with the CCTC policy exposure in their childhood according to the birth year and state of residency. Focusing on samples from the Penal Study of Income Dynamics (PSID), I estimate the effects of CCTC exposure in childhood on educational achievement in adulthood. I construct the policy exposure at three CCTC age groups: ages 1-4, 5-8, and 9-12. By dividing the CCTC exposure into different age goups, I can test the effects of CCTC policy exposure from different ages. The policy exposure is measured at the state level, it is derived from the maximum CCTC allowed in a certain state and in a certain year. I take the sum of the CCTC benefits through the age groups to get the treatment variables. I find that: CCTC exposure at early ages is negatively associated with the educational achievement of the children at their adulthood. In terms of the magnitude, a $1,000 increase of CCTC exposure at ages 1-4, decreases the years of education by 0.06 year. Except for explaining how the CCTC affect the educational achievement of children, this paper also contribute to the literature by providing new evidence for the relationship between maternal employment and children's long-term educational achievement.

2 Data

The samples used in this analysis are from the Panel Study of Income Dynamics (PSID). The PSID consists of 4802 households and 18,233 individuals in the first wave of the survey in 1968. The sample households and the extended households were followed up annually from 1968 to 1997, and biennially from 1997 to the present.[2]

[2]Among the 4,802 original households, 2,930 households are from a nationally representative sample (Survey Research Center at University of Michigan or SRC sample), and the other 1,872 are from a low-

The PSID data set provides information about the educational achievement of sample individuals in terms of years of education attained over time. I use the highest value of the years of education after they turned 24 years old to represent the final educational achievement. The years of education is a good indicator for educational achievement, however, one additional year of education in high school is quite different from an additional year of education in postgraduate level. In order to capture the effect on the level of education achievement, I code a dummy variable indicating college completion using years of education. If someone has more than 16 years of education I assign one to the variable; if someone has less than 16 years of education I assign zero to the variable. I code a dummy variable for high school completion using 12 years of education as the threshold in the same way.

The CCTC policy variation at the federal level and state level are adopted from Jiang (2020). The PSID provides linkage information between parents and children. Using this linkage information, I can match individual information to parents information during the children's childhood. The information about the CCTC policy exposure is the main information of interest, other useful information related to the child's educational achievement include the state and year children were born, mother's marital status at birth, mother's educational achievement, number of children at birth, and mother's employment status at birth. Some information about the husbands are also available. I include children born between 1967-1990 from all 50 U.S. states and Washington D.C., as they are potentially exposed to the CCTC for some of the years in their childhood.

Through the PSID children-mother linkage, I can link 8,507 children with their mothers. Among these children observations, 3,321 have all the information used as control variables. The 3,321 observations are the full sample used in the analysis. Table 1 summarizes the variables. The average years of education of the children is 14.19 with a standard deviation of 2.05. Among the sample, 94.97% of the children have completed high school, and 36.31%

income household sample (Survey of Economic Opportunity or SEO sample).

have completed college education.[3] Females make up 53.21% of the sample. The racial composition is 57.96% white, 36.77% African American, 4.25% Hispanic, and 1% other races. The average years of education received by mothers is 10.36. Three quarters of the children were born into families with two parents; the other one quarter were born into single-mother families. Sums of the incomes of the spouse of the mothers in each corresponding age groups are also reported. The sum of the spouse income in the three age groups ranges between $192,000 and $237,000, which means an annual income of around $50,000 (these values are inflation-adjusted using 2015 dollar).

The CCTC policy exposure is organized in three age groups. Each CCTC treatment variable represents the sum of the policy benefits exposed by the individuals during certain age range and are conditional on positive values. The mean value of the sum of the CCTC exposure at ages 1-4, 5-8, and 9-12 are $2,424, $2,803, and $3,072, respectively. The sum of the CCTC policy exposure from ages 1-12 is $6,082. These values can be translated to an average benefits exposure of around $600 to $750 every year (these values are inflation-adjusted using 2015 dollar). The CCTC treatment variables are measured at the state maximum level. I do not include the federal CCTC because the federal CCTC has fewer variation and it affects all children in the sample in the same way as long as they are in the same birth cohorts. As I describe in the next section, the federal CCTC variation can be easily controlled by including the birth cohort fixed effects.

3 Empirical Strategy

There is a rich literature on how parental interaction and family environment during early ages play a critical role in human capital formation of children (J. J. Heckman, 2000; J. J.

[3] As describe above, the years of education used to code the dummy variables of high school completion and college completion are the highest years of education at age 25 or older. As a result, the high school completion rate is not comparable to the completion rate within a birth cohort, because some people might obtain their certificates years after the regular completion ages and report the corresponding years of education.

Heckman, 2006). Cunha and J. Heckman (2007) develop a theoretical model showing that the human capital formation is an accumulative process, therefore, the human capital investment at different ages are complementary rather than substitutes. They also show that human capital investment and parental interaction received at early ages yields much higher returns than those receive at older ages. The formation of certain ability is very sensitive to ages, once it passes certain age window, it is hard to catch up in later ages. Based on these profound insight, it is reasonable to assume that the effect of exposure to the CCTC policy and the induced maternal employment on children's educational achievement can differ at different ages. Plausibly, the substitution from maternal care to market-provided care might impact younger children than older ones.

Considering the human capital formation process described above, I propose dividing the policy exposure into three age groups: CCTC exposure at ages 1-4, 5-8, and 9-12. During the first age span of 1-4 years old, children needs more intense child care, market-provided child care services are more expensive and they are not a good substitute for maternal child care. My previous research shows that mothers with younger children have relatively elastic labor supply. During ages 5-8, alternative child care services are more available and cheaper. Most states provide free formal schooling. This is also the time that mothers are more likely to go back to the labor market anyway. During ages 9-12, school takes a longer share of their time, children need less intensive child care from parents, and the human capital formation tends to stable. Although it might be attempting to use more narrowly-defined age spans, I still propose to use three age spans given the limitation of the sample size.

In order to estimate the effect of the exposure to the CCTC in childhood at different age on the educational achievement in adulthood, I propose the empirical strategy denoted by

$$Edu_i = \beta_0 + \beta_1 CCTC_i + \beta_2 X_i + \beta_3 BirthState_i + \beta_4 BirthYear_i + \mu_i. \quad (1)$$

The dependent variable Edu_i represents educational attainment in adulthood for a child i born in state s and year t. In some specifications it is a dummy variable indicating whether this individual graduated from high school or college. In some specification the dependent variable is a continuous variable indicating years of education attained. The treatment variables $CCTC_i$ indicates a vector of the state CCTC exposure when the child was between ages 1-4, 5-8, or 9-12, or the sum of all the three groups in some specifications. Each of these treatment variables represents the sum of the policy exposure during these age groups. I also use the total state CCTC policy exposure from ages 1-12 as the treatment variable in some specifications. The notation, X_i, represents control variables including children's gender, race, mother's marital status and education at birth, sum of the income of the spouse of the mother over the four year group if the mother was married. $BirthState_i$ and $BirthYear_i$ are birth state and birth year fixed effects. The disturbance term is μ_i.

The coefficients of interest are β_1. The CCTC treatment variables are measured at the state maximum level, they represent the policy treatment intensity received by individuals living in certain states and years when they are in the three age spans. Since the CCTC treatment intensities are measured at state-level, they provide exogenous shocks for the educational achievement of individual children. Conditional on the year of birth and state of birth, the coefficient can be interpreted as the CCTC treatment effect at different age groups on educational achievement in adulthood. Using ordinary least square estimation, I compare children exposed to the CCTC with children not exposed to the policy at certain ages, or I can compare children exposed to more CCTC benefits with children exposed to less CCTC benefits at certain age group.

4 Results

Table 2 reports the estimation results for the effects of the CCTC on years of education in adulthood. The dependent variable is years of education completed when they reached at least 25 years old. The treatment variables are the sum of CCTC policy exposure at ages 1-4, 5-8, and 9-12 measured at the state level. All specifications control for gender, race, mother's marital status at birth of the child, mother's education, sum of the income of the spouse of the mother in the according age groups, and birth year and birth state fixed effects. Column 1 shows results using the sum of CCTC policy exposure measured at ages 1-4. Column 2 shows results using the sum of CCTC policy exposure measured at ages 5-8. Column 3 shows results using the sum of CCTC policy exposure measured at ages 9-12. Column 4 shows results using all the three treatment variables. Finally, Column 5 shows results using the total state CCTC policy exposure from ages 1-12.

The coefficient in column 1 of Table 2 means: a $1,000 increase in the CCTC exposure during ages 1-4 decreases the years of education in adulthood by 0.06 years. Taking the mean value of the sum of the policy exposure at ages 1-4, which is around $2,400, the result can be interpreted as: exposed to the average value of CCTC at ages 1-4 reduces the years of education by 0.144 years. The coefficient in column 2 of Table 2 also shows negative value, but the result is smaller and not statistically significant. The coefficient in column 3 of Table 2 is still negative, but the effect is even smaller. In column 4, after putting all the treatment variables in the same regression, the magnitude of the coefficients are smaller for CCTC exposure at ages 1-4 and 5-8, and the standard errors are much bigger. As a result, none of the coefficients in column 4 are significantly different from zero, though the negative association seems to hold. Column 5 also shows the total exposure of state CCTC does not significantly affect the years of education in adulthood.

In Table 3, I divide my sample according to the marital status of the mother when the

children were born. I run the same analysis with the same control variables. The columns with odd numbers include sample children whose mothers were married when the children were born, and the columns with even numbers include samples whose mothers were single when the children were born. I use the CCTC treatment variable measured at different age groups in the first three pairs of the analysis, and I add all three treatment variables in column 7 and 8. In the last pair of analysis, I use the total state CCTC policy exposure as the treatment variable.

Column 1 of Table 3 shows that: exposure to more CCTC benefits at ages 1-4 decreases the years of education in adulthood for children born into two-parent families. Column 2 of Table 3 shows that: exposed to more CCTC policy at ages 1-4 increases the years of education in adulthood for children born into single-mother families. Column 3 and column 4 shows a similar pattern, but the effect is smaller and not as significant as using policy exposure measured at ages 1-4. Results in column 5 and column 6 are even more noisy, it is hard to see any pattern from them. Finally, in column 7 and column 8, when adding all the three treatment variables in one regression, only the CCTC policy exposure at ages 1-4 group is significantly smaller than zero at the 5% level for children born into two-parent families. None of the coefficients are significant for children of single mothers. Finally, the sum of the state CCTC from ages 1-12 has a significant effect on years of education for children of married mothers. In terms of the magnitude, a $1,000 increase in the total CCTC exposure from ages 1-12 reduces the years of education by 0.03 years.

Table 4 reports the estimation results using college completion as the dependent variable. All the treatment variables and control variables are the same as in Table 2 and Table 3. Results reported in Table 4 are similar to those in Table 2. For example, column 1 shows that exposure to the CCTC at ages 1-4 reduces the chance of completing four-year college. The effect is significant at the 10% level. The negative effect using CCTC policy exposure at ages 5-8 on college completion is smaller but still significantly different from zero at the

10% level. The effect of CCTC exposure at ages 9-12 is not significant, and when putting all three treatment variables in one regression, none of the three coefficients is significant any more. In column 5, I use the total CCTC exposure from ages 1-12 as the treatment variable. The coefficient shows some plausible negative effects of the CCTC exposure on college completion, but the effect is no statistically significant.

In Table 5, I divide my sample according to mother's marital status and run the same regression using college completion as the dependent variable. Similarly, the negative effect of early age exposure to CCTC is driven by children born into two-parent families. The effects on children from single mother families are not significant. The effects are more muddled when adding all the three treatment variables in one regression. But if I use the total CCTC exposure from ages 1-12 as the treatment variable, the negative effect is significant for children born into two-parent families, as shown in column 9.

It seems the early age exposure to CCTC is negatively associated with educational achievement in adulthood, especially for children born into two-parent families. The high school completion rate is about 95% in the sample. As a result, there is not much variation in the high school completion rate. Therefore, there does not seems to be space for the CCTC to influence the completion rate further. For this reason, I do not include the results using high school completion as dependent variable.

The mother's parenting skill is an important factor in children's educational achievement. I divide my sample according to mother's education using 12 years of education as the threshold. If a mother has less than 12 years of education, I treat her as not finishing high school. If a mother has 12 or more years of education, I treat her as high school graduate. Table 6 shows the results of the effects of the CCTC on children's years of education by mother's high school completion. Column 1 in Table 6 shows results using the CCTC exposure measured at ages 1-4. The results in column 1 show that: the CCTC only negatively affects the educational achievement of the children whose mothers are high school graduates.

Through columns 3-6, when using CCTC policy exposure measured at older ages, the effects are not significant. Finally, when using all three treatment variables, only the coefficient for policy exposure at ages 1-4 is marginally significant less than zero.

5 Discussion

The objective of the CCTC is to provide an incentive for mothers to join the labor market by reducing the burden of child care expenses. There are many factors that affect the legislative process, therefore, the state-level CCTC policy variation provides exogenous shocks to the human capital formation of the children. The results summarized in the previous section suggest CCTC policy exposure affects the human capital formation of children. This section discusses the potential channels.

First, married mothers are less likely to be in the labor market than single mothers in general. Therefore, married mothers have more elastic labor supply compared with single mothers. Chapter One shows that the labor force participation of married mothers are more responsive to the CCTC compared with that of single mothers. Based on this result, when exposed to CCTC policy at the early ages, children whose mothers are married are more likely to move from more intensive maternal care to purchased child care. Compared with children not exposed to the policy at the same ages, the change in the intensity of child care can make a difference in their human capital formation. Though mothers are able to bring in more income for the family, it is likely that the time allocation effect dominates the income effect. Therefore, children whose mothers were married when they were born are more likely to be affected by the CCTC exposure at early ages than children with single mother. In Table 3 and Table 5, the estimation for CCTC exposure from age groups of 1-4 and 5-8 for children of married mothers are negative and significantly different from zero. These results confirm the hypothesis.

Although single mothers are less responsive to the CCTC, they can also potentially be affected by the policy, given they have some income tax liabilities. In this case, the CCTC has some effect on the human capital formation of the children of the single mothers. But in reality most single mothers have lower income and lower income tax liability. As a result, they are not all eligible for the CCTC. In Table 3 and Table 5, the coefficients of the early age CCTC exposure for children of single mothers are not statistically significant; and the standard errors are bigger because the sample size is small. It is hard to conclude if the policy has any effect on educational achievement for children of single mothers.

Second, although the time input is an important factor for human capital formation, especially in the early ages, the quality of the child care can also make a significant impact on children. Mothers with a higher skill or a better education have a higher earning ability, and they can provide child care of higher quality as well. If more educated mothers are attracted to the labor market, it is plausible that their children receive a bigger reduction in the child care quality compared with children whose mother are less educated. To the contrary, when less educated mothers join the labor market after giving birth, the quality downgrade of the child care received by thier children may not be as significant. This could explain the disparity of the effects of CCTC policy exposure across mothers' educational achievement. As shown in Table 6, For children whose mothers did not finish high school, early age CCTC exposure has no significant effects on their educational achievement. On the contrary, for children whose mother finished at least high school, early age CCTC exposure does have significant effects on their educational achievements.

Additionally, for the CCTC treatment at age group of 8-12, though the effects are not significant for most specifications, there seems to be a trend that the coefficient turns to positive sign. It is possible that at older ages, the maternal care is not as significant as that in early ages. As a result, the time reallocation effect does not dominates the income effect.

6 Conclusion

In Chaper One, I find the CCTC has a significant impact on the labor force participation rate of mothers. A $1,000 increase in the CCTC measured at the individual eligible level increases the labor force participation rate by six percentage points. When the CCTC pulls mothers back to the labor market, it is natural to ask: what is the impact on the well-being of the children of these mothers? This paper attempts to answer this question by focusing on the long-term educational achievement of children. I use the information about the CCTC legislative history and divide the CCTC policy exposure in the childhood into different age groups. Using data from the PSID, I find that CCTC policy exposure at early ages is negatively associated with the educational achievement in adulthood.

The purpose of the CCTC is to promote the labor force participation of mothers especially. The negative consequence of the CCTC on children's well-being is definitely not the intended purpose of the policy. There seems to be some trend that the negative effect of CCTC exposure is offset by the positive effect at older ages. When the child care needs of the children is not as intense as in the early ages and when children are less sensitive to the maternal care, the income effect of the CCTC is likely to offset the time allocation effect of the mothers. Nevertheless, policy makers need to be fully informed about the policy effects on the target and take all the side effects into account.

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Tables

Table 1: Summary Statistics

	N	Mean	Std Dev	Min	Max
Dependent variables:					
Years of schooling	3,321	14.19	(2.05)	0	17
College Graduate	3,321	36.31%			
High School Graduate	3,321	94.97%			
Controll variables:					
Female	3,321	53.21%			
White	3,321	57.96%			
Black	3,321	36.77%			
Hispanic	3,321	4.25%			
Other Race	3,321	1.02%			
Birth Year	3,321			1967	1990
Mother's married at birth	3,321	74.62%			
Mother's years of education	3,321	10.36	(5.03)	0	20
Sum Mother's spouse's income ages 1-4 ($\$ > 0$)	2,464	192,327.30	(135,137.70)	78.38	2,242,593.00
Sum Mother's spouse's income ages 5-8 ($\$ > 0$)	2,243	219,141.00	(187,500.50)	521.50	2,976,719.00
Sum Mother's spouse's income ages 9-12 ($\$ > 0$)	2,080	236,423.80	(224,652.50)	191.89	4,029,732.00
Treatment variables:					
Sum State CCTC ages 1-4 ($\$ > 0$)	647	2,423.91	(1,985.57)	115.05	13,422.13
Sum State CCTC ages 5-8 ($\$ > 0$)	814	2,802.95	(2,337.71)	115.05	12,999.18
Sum State CCTC ages 9-12 ($\$ > 0$)	921	3,071.62	(2,514.60)	156.43	12,999.18
Sum State CCTC ages 1-12 ($\$ > 0$)	1,098	6,082.73	5730.52	156.43	33858.35

Table 2: The effect of the CCTC on Years of Education in Adulthood

	(1)	(2)	(3)	(4)	(5)
Sum State CCTC 1-4 ($1000)	-0.0597*			-0.0448	
	(0.0272)			(0.0398)	
Sum State CCTC 5-8 ($1000)		-0.0329		-0.0278	
		(0.0258)		(0.0411)	
Sum State CCTC 9-12 ($1000)			-0.000104	0.0189	
			(0.0297)	(0.0364)	
Sum State CCTC 1-12 ($1000)					-0.0126
					(0.0115)
Sum Husband Income 1-4 ($1000)	0.00189**	0.00188**	0.00190**	0.00189**	0.00188**
	(0.000640)	(0.000640)	(0.000641)	(0.000639)	(0.000639)
Sum Husband Income 5-8 ($1000)	0.000583	0.000587	0.000573	0.000591	0.000581
	(0.000589)	(0.000586)	(0.000589)	(0.000588)	(0.000586)
Sum Husband income 9-12 ($1000)	0.00108**	0.00109**	0.00110**	0.00107**	0.00110**
	(0.000370)	(0.000369)	(0.000372)	(0.000372)	(0.000370)
Female	0.542***	0.541***	0.541***	0.542***	0.541***
	(0.0592)	(0.0586)	(0.0590)	(0.0595)	(0.0587)
Black	-0.0885	-0.0876	-0.0821	-0.0893	-0.0870
	(0.0926)	(0.0933)	(0.0931)	(0.0930)	(0.0935)
Hispanic	-0.0381	-0.0442	-0.0438	-0.0390	-0.0433
	(0.149)	(0.148)	(0.147)	(0.149)	(0.147)
Other Races	-0.102	-0.109	-0.106	-0.103	-0.108
	(0.364)	(0.364)	(0.365)	(0.366)	(0.364)
Mother Married at Birth	0.480**	0.481**	0.479**	0.480**	0.481**
	(0.140)	(0.140)	(0.140)	(0.140)	(0.140)
Birth State Fixed Effect	Yes	Yes	Yes	Yes	Yes
Birth Year Fixed Effect	Yes	Yes	Yes	Yes	Yes
Observations	3,321	3,321	3,321	3,321	3,321
R^2	0.189	0.188	0.188	0.189	0.188

Clustered Standard errors in parentheses, clustered at the birth state level.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3: The effect of the CCTC on Years of Education by Mother's Marital Status at Birth

	(1) Married	(2) Single	(3) Married	(4) Single	(5) Married	(6) Single	(7) Married	(8) Single	(9) Married	(10) Single
Sum State CCTC 1-4 ($1000)	-0.119**	0.118*					-0.0955*	0.0810		
	(0.0368)	(0.0565)					(0.0471)	(0.0742)		
Sum State CCTC 5-8 ($1000)			-0.0692*	0.0501			-0.0380	0.0604		
			(0.0259)	(0.0797)			(0.0514)	(0.0832)		
Sum State CCTC 9-12 ($1000)					-0.0191	-0.0536	0.0130	-0.0725		
					(0.0295)	(0.0716)	(0.0441)	(0.0689)		
Sum State CCTC 1-12 ($1000)									-0.0295**	0.0152
									(0.0105)	(0.0390)
Sum Husband Income 1-4 ($1000)	0.00228***	-0.00595**	0.00227***	-0.00585**	0.00230***	-0.00614**	0.00227***	-0.00610**	0.00227***	-0.00586**
	(0.000648)	(0.00201)	(0.000650)	(0.00200)	(0.000654)	(0.00191)	(0.000647)	(0.00189)	(0.000650)	(0.00197)
Sum Husband Income 5-8 ($1000)	0.000101	0.00579***	0.000102	0.00578***	0.0000780	0.00597***	0.000110	0.00589***	0.0000894	0.00579***
	(0.000551)	(0.00141)	(0.000546)	(0.00140)	(0.000554)	(0.00136)	(0.000549)	(0.00135)	(0.000547)	(0.00139)
Sum Husband income 9-12 ($1000)	0.00103**	0.00148	0.00106**	0.00143	0.00107**	0.00141	0.00103**	0.00152	0.00107**	0.00141
	(0.000369)	(0.00113)	(0.000369)	(0.00111)	(0.000371)	(0.00113)	(0.0000370)	(0.00112)	(0.0000369)	(0.00112)
Female	0.572***	0.478***	0.570***	0.483***	0.568***	0.476***	0.572***	0.484***	0.571***	0.479***
	(0.0774)	(0.123)	(0.0772)	(0.127)	(0.0785)	(0.124)	(0.0774)	(0.126)	(0.0775)	(0.125)
Black	-0.146	0.307	-0.148	0.295	-0.134	0.312	-0.150	0.311	-0.147	0.297
	(0.0952)	(0.199)	(0.0962)	(0.199)	(0.0971)	(0.196)	(0.0958)	(0.200)	(0.0967)	(0.198)
Hispanic	-0.0994	0.516	-0.111	0.532	-0.110	0.559	-0.101	0.554	-0.111	0.524
	(0.157)	(0.532)	(0.158)	(0.526)	(0.158)	(0.529)	(0.160)	(0.518)	(0.157)	(0.540)
Other Races	-0.0519	-0.111	-0.0724	-0.130	-0.0622	-0.0966	-0.0585	-0.121	-0.0680	-0.118
	(0.493)	(0.825)	(0.491)	(0.842)	(0.491)	(0.825)	(0.493)	(0.831)	(0.490)	(0.837)
Observations	2478	843	2478	843	2478	843	2478	843	2478	843
2478	843									
R^2	0.178	0.216	0.177	0.215	0.175	0.215	0.178	0.217	0.177	0.215

Clustered Standard errors in parentheses, clustered at the birth state level.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4: The effect of the CCTC on College Completion in Adulthood

	(1) college	(2) college	(3) college	(4) college	(5) college
Sum State CCTC 1-4 ($1000)	-0.0164			-0.0105	
	(0.00930)			(0.0114)	
Sum State CCTC 5-8 ($1000)		-0.0116		-0.00985	
		(0.00616)		(0.0100)	
Sum State CCTC 9-12 ($1000)			-0.00250	0.00369	
			(0.00861)	(0.0112)	
Sum State CCTC 1-12 ($1000)					-0.00454
					(0.00299)
Sum Husband Income 1-4 ($1000)	0.000462**	0.000459**	0.000463**	0.000460**	0.000459**
	(0.000155)	(0.000155)	(0.000155)	(0.000155)	(0.000155)
Sum Husband Income 5-8 ($1000)	0.0000962	0.0000981	0.0000934	0.0000990	0.0000962
	(0.000150)	(0.000149)	(0.000150)	(0.000149)	(0.000149)
Sum Husband income 9-12 ($1000)	0.000259**	0.000262**	0.000265**	0.000258**	0.000264**
	(0.0000901)	(0.0000901)	(0.0000909)	(0.0000905)	(0.0000901)
Female	0.102***	0.101***	0.101***	0.101***	0.101***
	(0.0151)	(0.0150)	(0.0150)	(0.0151)	(0.0150)
Black	-0.0605*	-0.0607*	-0.0590*	-0.0610*	-0.0605*
	(0.0241)	(0.0241)	(0.0242)	(0.0241)	(0.0242)
Hispanic	0.000987	-0.000747	-0.000708	0.000455	-0.000427
	(0.0377)	(0.0376)	(0.0373)	(0.0378)	(0.0375)
Other Races	-0.0246	-0.0266	-0.0260	-0.0253	-0.0263
	(0.0899)	(0.0897)	(0.0901)	(0.0900)	(0.0897)
Mother Married at Birth	0.0656*	0.0661*	0.0655*	0.0659*	0.0661*
	(0.0323)	(0.0322)	(0.0322)	(0.0323)	(0.0322)
Observations	3,321	3,321	3,321	3,321	3,321
R^2	0.165	0.165	0.164	0.166	0.165

Clustered Standard errors in parentheses, clustered at the birth state level.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5: The effect of the CCTC on College Completion in Adulthood by Mother's Marital Status at Birth

	(1) Married	(2) Single	(3) Married	(4) Single	(5) Married	(6) Single	(7) Married	(8) Single	(9) Married	(10) Single
Sum State CCTC 1-4 ($1000)	-0.0285*	0.0149					-0.0202	0.00696		
	(0.0119)	(0.0197)					(0.0135)	(0.0233)		
Sum State CCTC 5-8 ($1000)			-0.0182**	-0.00530			-0.0135	0.00875		
			(0.00629)	(0.0157)			(0.0116)	(0.0160)		
Sum State CCTC 9-12 ($1000)					-0.00435	-0.0000284	0.00536	-0.0315		
					(0.00916)	(0.0157)	(0.0132)	(0.0171)		
Sum State CCTC 9-12									-0.00730*	-0.00669
									(0.00285)	(0.00927)
Sum Husband Income 1-4 ($1000)	0.000524**	-0.00137**	0.000521**	-0.00138**	0.000529**	-0.00147**	0.000521**	-0.00147**	0.000522**	-0.00140**
	(0.000155)	(0.000499)	(0.000155)	(0.000493)	(0.000157)	(0.000464)	(0.000155)	(0.000461)	(0.000155)	(0.000486)
Sum Husband Income 5-8 ($1000)	0.0000168	0.00103**	0000176	0.00104**	0.0000114	0.00110***	0.0000205	0.00109**	0.0000142	0.00106**
	(0.000151)	(0.000324)	(0.000150)	(0.000320)	(0.000152)	(0.000309)	(0.000151)	(0.000307)	(0.000150)	(0.000314)
Sum Husband income 9-12 ($1000)	0.000261*	-0.0000338	0.000267**	-0.0000492	0.000270**	-0.0000383	0.000260*	-0.0000261	0.000269**	-0.0000537
	(0.0000990)	(0.000226)	(0.0000991)	(0.000227)	(0.0000999)	(0.000232)	(0.0000996)	(0.000227)	(0.0000990)	(0.000227)
Female	0.107***	0.0912***	0.106***	0.0904**	0.106***	0.0906**	0.107***	0.0917**	0.106***	0.0901**
	(0.0179)	(0.0256)	(0.0179)	(0.0264)	(0.0181)	(0.0257)	(0.0179)	(0.0266)	(0.0179)	(0.0259)
Black	-0.0559*	-0.0544	-0.0568*	-0.0543	-0.0531	-0.0496	-0.0572*	-0.0498	-0.0563*	-0.0531
	(0.0276)	(0.0426)	(0.0277)	(0.0423)	(0.0284)	(0.0422)	(0.0276)	(0.0427)	(0.0280)	(0.0419)
Hispanic	-0.00126	0.0153	-0.00405	0.0178	-0.00382	0.0310	-0.00166	0.0311	-0.00412	0.0220
	(0.0298)	(0.131)	(0.0299)	(0.131)	(0.0300)	(0.130)	(0.0300)	(0.128)	(0.0298)	(0.131)
Other Races	-0.0114	-0.0915	-0.0166	-0.0888	-0.0139	-0.0851	-0.0136	-0.0885	-0.0154	-0.0866
	(0.115)	(0.112)	(0.115)	(0.114)	(0.115)	(0.111)	(0.115)	(0.112)	(0.115)	(0.113)
Observations	2478	843	2478	843	2478	843	2478	843	2478	843
R^2	0.162	0.161	0.162	0.160	0.160	0.164	0.163	0.165	0.161	0.161

Clustered Standard errors in parentheses, clustered at the birth state level.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 6: The effect of the CCTC on Years of Education by Mother's Education

	(1) Below HS	(2) Above HS	(3) Below HS	(4) Above HS	(5) Below HS	(6) Above HS	(7) Below HS	(8) Above HS	(9) Below HS	(10) Above HS
Sum State CCTC 1-4 ($1000)	0.117	-0.0920**					0.114	-0.0845		
	(0.0815)	(0.0312)					(0.0928)	(0.0469)		
Sum State CCTC 5-8 ($1000)			-0.0177	-0.0331			0.00138	-0.0247		
			(0.0657)	(0.0318)			(0.0657)	(0.0566)		
Sum State CCTC 9-12 ($1000)					-0.0676	0.00789	-0.0669	0.0345		
					(0.0394)	(0.0389)	(0.0409)	(0.0549)		
Sum State CCTC 1-12 ($1000)									-0.0177	-0.0138
									(0.0273)	(0.0147)
Sum Husband Income 1-4 ($1000)	0.00171	0.00140*	0.00163	0.00139*	0.00152	0.00140*	0.00158	0.00140*	0.00159	0.00139*
	(0.00120)	(0.000680)	(0.00119)	(0.000681)	(0.00117)	(0.000682)	(0.00116)	(0.000678)	(0.00118)	(0.000681)
Sum Husband Income 5-8 ($1000)	0.00244*	0.000230	0.00254*	0.000230	0.00261*	0.000226	0.00253*	0.000243	0.00258*	0.000224
	(0.00101)	(0.000633)	(0.00100)	(0.000630)	(0.00101)	(0.000637)	(0.00100)	(0.000640)	(0.00100)	(0.000631)
Sum Husband income 9-12 ($1000)	0.00109	0.00110**	0.00103	0.00112**	0.00106	0.00112**	0.00111	0.00108*	0.00103	0.00112**
	(0.00118)	(0.000404)	(0.00116)	(0.000404)	(0.00117)	(0.000406)	(0.00117)	(0.000405)	(0.00116)	(0.000404)
Female	0.441***	0.654***	0.444***	0.653***	0.446***	0.652***	0.443***	0.654***	0.445***	0.653***
	(0.116)	(0.0801)	(0.116)	(0.0804)	(0.116)	(0.0800)	(0.114)	(0.0805)	(0.117)	(0.0801)
Black	-0.0779	-0.0182	-0.0925	-0.0141	-0.0901	-0.00390	-0.0769	-0.0163	-0.0941	-0.0138
	(0.170)	(0.131)	(0.169)	(0.132)	(0.168)	(0.131)	(0.168)	(0.132)	(0.169)	(0.132)
Hispanic	0.119	0.0451	0.141	0.0365	0.134	0.0397	0.113	0.0452	0.143	0.0378
	(0.241)	(0.204)	(0.238)	(0.201)	(0.234)	(0.200)	(0.238)	(0.203)	(0.237)	(0.202)
Other Races	-0.452	0.353	-0.452	0.338	-0.462	0.350	-0.459	0.348	-0.452	0.343
	(0.303)	(0.500)	(0.308)	(0.497)	(0.304)	(0.497)	(0.306)	(0.504)	(0.305)	(0.496)
Mother Married at Birth	-0.236	0.632***	-0.236	0.631***	-0.227	0.633***	-0.225	0.633***	-0.233	0.631***
	(0.139)	(0.172)	(0.139)	(0.172)	(0.139)	(0.171)	(0.139)	(0.172)	(0.139)	(0.172)
Observations	1169	2152	1169	2152	1169	2152	1169	2152	1169	2152
R^2	0.200	0.182	0.199	0.181	0.201	0.181	0.202	0.183	0.199	0.181

Clustered Standard errors in parentheses, clustered at the birth state level.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$