

Economics

Essays on Family Economics and Human Capital Development

Krista Riukula

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Essays on Family Economics and Human Capital Development

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Abstract

This dissertation consists of three essays on family economics and human capital development.

In the first essay, I estimate the effect of screening for gestational diabetes on birth outcomes using a regression discontinuity design and exploiting exogenous variation in screening at the overweight threshold of the body mass index. I do not find an impact of screening for gestational diabetes on birth outcomes, i.e. birth weight and cesarean section related outcomes. An additional analysis using a differences-in-differences framework and the introduction of the policy provides suggesting evidence that expanding the screening to overweight mothers (otherwise not prone to developing gestational diabetes) did not have an effect on birth outcomes.

The second essay, which is joint-work with Kristiina Huttunen studies the impact of parental job loss on children's schooling choices. We use administrative data from Finland that allows us to follow all family members for over 20 years. Our results show that father's job loss decreases the likelihood that a child chooses the same study choice as the parent. Children of displaced fathers are also more likely to choose a "safer" field in terms of employment prospects. We find no impact on children's outcomes measured before schooling choices are made, such as crime and school grades. The results suggest that children's schooling decisions are an important mechanism through which childhood shocks can affect later life outcomes.

In the third essay, I study the effect of the Finnish child home care allowance, for which parents with children aged 1-to-3-years are eligible, on marital stability. I use variation across regions and over time in the allowance created by the municipal supplement to identify the causal effect. I find that child home care allowance has a modest positive effect on marital stability in the long-run. A 100 euros increase in the supplement increases the probability that the mother has the same spouse ten years later by 0.8 %. Further analysis shows that the mechanism varies depending on how the mother would have behaved in the absence of the municipal supplement. For those who are more likely to stay at home even in the absence of the municipal supplement, the supplement has no effect on the employment or take-up in the short-run, but has instead, a positive effect on income. For this group, I find a positive effect on marital stability both in the short-run (4.6 %) and in the long-run (4.3 %). For those who are possibly pushed into taking home care allowance by the municipal supplement, I find a long-lasting decrease in employment, and a modest positive effect on marital stability that shows up later (0.5 %).

Keywords human capital, family economics regression discontinuity, gestational diabetes screening, preventive care, birth outcomes, job loss, schooling choice, childhood income, marital dissolution, child care, intrahousehold allocation, household behavior

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Helsinki, October 3, 2018,

Krista Riukula

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List of Essays

This thesis consists of an introduction and the following essays.

1. The Effect of Screening for Gestational Diabetes on Birth Outcomes

Unpublished manuscript

2. Parental Job Loss and Children's Schooling Choices

Unpublished manuscript joint with Kristiina Huttunen

3. Stay Home and Stay Married? The Effect of Child Home Care Allowance on Marital Stability

Unpublished manuscript

Introduction

Human capital is defined in the Oxford Dictionary to be the skills, knowledge, and experience possessed by an individual or population, viewed in terms of their value or cost to an organization or country. One of the earliest works on human capital was Becker's book entitled *Human Capital*, published in 1964 (Becker et al., 1964). In this view, human capital is similar to "physical means of production", such as factories and machines. Moreover, one can invest in human capital, for example through education, training, and medical treatment, and one's outputs depend partly on the rate of return on the human capital she owns. Around the same time Schultz (1961) demonstrated the importance of the concept of human capital in explaining various economic anomalies, and how what is called consumption, e.g. expenditures on education, health, and internal migration to take advantage of better job opportunities, actually constitutes investment in human capital. He concludes the article:

"Truly, the most distinctive feature of our economic system is the growth in human capital. Without it there would be only hard, manual work and poverty except for those who have income from property. There is an early morning scene in Faulkner's *Intruder in the Dust*, of a poor, solitary cultivator at work in a field. Let me paraphrase that line, "The man without skills and knowledge leaning terrifically against nothing.""

In recent years an increasing amount of economists have focused on the effects of early childhood influences on later life outcomes and about ameliorating the effects of negative influences (see e.g. Currie and Almond, 2011, for an excellent review). These studies explore the effects of childhood conditions and shocks on human capital development measured by, e.g. college attendance, grades, years of schooling, crime, and income in adulthood. The effects and shocks range from prenatal effects (e.g. maternal health, and economic and environmental shocks) to early childhood shocks (in physical and mental health, home environment, and environment), income (during birth and early childhood), and housing and neighborhoods. Currie and Almond

(2011) show that child and family characteristics measured at school entry do as much to explain future outcomes as factors that labor economists have more traditionally focused on, such as years of education. However, while children can be permanently damaged at pre-school age, the damage can often be remediated with different types of policies, such as income enhancement for poor families and quality child care.

Increasingly, human capital accumulation is seen also as a dynamic process (Cunha and Heckman, 2007; Heckman and Carneiro, 2003). In this view, one should not think about childhood as a single period, but instead, the early childhood investments should be distinguished from the later life investments. Moreover, the investments at different stages should be thought as complements, rather than substitutes. Returns to investments made while a person is young are higher than investments made in later life (see Heckman and Carneiro, 2003). This is explained by two factors. Firstly, early investments are harvested over a longer time period. Secondly, early investments raise the productivity of later investments, suggesting that there is dynamic complementary in investments at different stages of childhood.

Individuals themselves have arguably little power to influence their socioeconomic backgrounds or investments made for them in their childhoods. Additionally, human capital development is affected by different policies and shocks at all stages of life. This dissertation focuses on three different policies and shocks and aims to better understand how decisions, e.g. concerning labor market participation and schooling, are being affected by them. Moreover, this dissertation looks how policies and shocks affect human capital development and family outcomes both in the short-run and in the long-run for individuals of different age.

The first essay starts from the time before the individual is born. Birth outcomes, especially low birth weight, have been showed to have long-run effects on other outcomes, such as IQ, earnings, education and schooling attainment (Black et al., 2007; Almond et al., 2010; Behrman and Rosenzweig, 2004). There has been many studies on how treating for gestational diabetes affects birth outcomes (e.g. Crowther et al., 2005), while, at least to the author's knowledge, there are no studies on the effects of screening for gestational diabetes. Moreover, there are only limited data on the cost-effectiveness of the screening and treatment of gestational diabetes (Round et al., 2011). It is a growing public health concern (Ferrara, 2007) and is associated with increased overall health care costs including costs from inpatient visits and birth (Chen et al., 2009; Kolu et al., 2012).

In this essay, I estimate the effect of screening for gestational diabetes on birth outcomes using a regression discontinuity design and exploiting exogenous variation in screening at the overweight threshold of the body mass index. The study contributes to the studies of the effects of preventive care by studying how screening for ges-

tational diabetes affects the birth outcomes for low risk women. The study extends the existing research by looking at the effects of screening using high quality Finnish administrative data and a regression discontinuity design.

Using data on the sample analysis in available years of 2009-2015, I find no evidence that screening for gestational diabetes would decrease the amount of adverse birth outcomes for the "low risk" women. However, I cannot rule out that there would be no effect or larger effects as the statistical power is low. Moreover, given that adverse health outcomes and gestational diabetes are an increasing function of mother's body mass index, the results cannot be generalized to mothers with a higher body mass index or of older age than those studied in this essay but they are likely to apply to mothers that are at low-risk in developing gestational diabetes. An additional analysis using a differences-in-differences set-up and a larger sample size provides some suggesting evidence that expanding the screening to mothers with a BMI over the overweight threshold, did not have an effect on birth outcomes. The analysis provides instrumental knowledge that is relevant for other countries with highly developed health care systems.

The second essay goes a bit further in the lifespan of an individual and focuses on children's schooling choices. Choice of study field is a key determinant of future labor market outcomes (Kirkeboen et al., 2016; Altonji et al., 2016). However, the information on the determinants of this decision is still scarce. Expected earnings, as well as ability sorting, play both some role, but schooling choices may largely be driven by unobserved differences in tastes and beliefs (Wiswall and Zafar, 2014; Arcidiacono, 2004). An interesting determinant that has been ignored in these studies is parental income and resources. This neglect is especially surprising, given that a large literature has documented that childhood resources are highly correlated with children's later life outcomes. This literature suggests that the parent's investments in children's human capital is the main channel through which income affects children. It may well be that income changes have an independent effect on children's choice of study field that can consequently affect their later life outcomes.

In this essay, together with Kristiina Huttunen, we study the impact of parental job loss on children's schooling choices using administrative data from Finland that allows us to follow all family members for over 20 years. We analyze whether parent's employment shock reduces the likelihood of children to choose their parent's field, i.e. whether parental job loss diminishes the intergenerational correlation in occupational choices.

Our results show that father's job loss decreases the likelihood that child chooses the same educational field as parent. We also find that children move to "safer" fields in terms of employment prospects. Despite resulting to a large and long-lasting in-

come loss, we find no effects of parental job loss on medium-term outcomes that are measured before children choose their study field, such as school grades or juvenile criminal behavior. This can partly be explained by the fact that parental resources may not matter to same extent to child's human capital accumulation in Finland than in other countries. The results suggest that children's schooling choices are an important mechanism through which childhood shocks can affect children's later outcomes.

Our findings adds to the literature that has examined the importance of childhood resources on later outcomes. Several papers have documented that parental shocks and other type of income shocks are associated with lower earnings in adulthood. Our study adds to the literature by showing that income shocks and employment shocks parents experience may have a direct impact on children's schooling choices. The child may still choose the same level of education, but choose a different study field that is more likely to provide a more stable employment, and smaller risk of inactivity. This choice may even come with the expense of lower earnings.

Finally, the third essay looks at a policy that affects both child and parental outcomes. Namely, I study the effect of the Finnish child home care allowance, for which parents with children aged 1-to-3-years-old are eligible, on marital stability. Most papers on parental leaves and family policies have focused on labor market outcomes, such as earnings and employment, of women (e.g. Lalive and Zweimüller, 2009; Schönberg and Ludsteck, 2014; Kosonen, 2014). Increasingly, the future outcomes of the children, e.g. educational outcomes, have also been at glance (e.g. Dustmann and Schönberg, 2012; Carneiro et al., 2015; Rasmussen, 2010). One missing piece in these studies has been marital stability. Marital stability itself is an interesting question. Moreover, marital stability and divorce may affect the long-run labor market outcomes of women (see e.g. Parkman, 1992) and child outcomes (Gruber, 2004) and thus, needs to be taken into consideration when studying the effects of family policies.

In the essay, I use variation from changes in the municipal supplement to the Finnish child home care allowance to identify the causal effect of the supplement on marital stability. The analysis provides three main empirical findings: first, consistent with Kosonen (2014)'s earlier work on the Finnish child home care allowance, I find that the policy decreases female labor market participation both in the short-run and in the long-run. Second, the estimates reveal that there is an increase in the probability of cohabiting with the same spouse 10 years later suggesting that the increased specialization within the household might decrease the probability of marital dissolution. Third, the probability of cohabiting with the same spouse increases rather monotonically throughout the years for mothers who were eligible for the municipal specific supplement.

However, the municipal supplement might affect marital stability through different channels depending on how the mother would have behaved in the absence of the additional supplement. First, there is a group of mothers who would have stayed at home in any case, with or without the additional supplement. These are commonly referred to as the always-takers in the literature. For them the municipal supplement merely increases their income through which the effect on marital stability most possibly might be driven through. Second, there is a group of mothers that would not have taken child home care allowance in the absence of the supplement (or would have taken it for a relatively short period of a month or two). For them the municipal supplement increases the take-up of home care allowance pushing them to stay at home for a longer period resulting in a decrease in both earnings and employment. They are the so called compliers.

A more profound analysis on the predicted always-takers and compliers reveals the fact that the two groups of women are very different in terms of marital stability and, also the mechanism through which home care allowance affects marital stability is different. For the predicted always-takers, whose marital stability is more unstable to begin with in terms of the longevity of the relationship, increases in income seems to act as a stabilizer both in the short-run and in the long-run. The predicted always-takers are from relatively low income backgrounds suggesting that increased income might reduce disagreements and financial concerns. However, for the predicted compliers, who are pushed into taking home care allowance due to the supplement and whose marital stability is more stable, the effect on marital stability shows up later and is more modest in size. It might be that the increased household specialization when the child is young acts as a stabilizer also later on supporting Becker et al. (1977)'s theory. I find some evidence that the effect on marital stability is larger for couples where gender identity norms are being "violated", i.e. couples where the wife earns more, before having their first child. This, in turn, suggests that gender identity norms might also play a role. However, it might also be that these mothers have less bargaining power as their earnings decrease, or they might simply meet fewer potential new spouses.

The aim of this dissertation is to better understand how policies and shocks might affect human capital development and family outcomes both in the short-run and in the long-run. First, it shows how some policies, such as universal screening for gestational diabetes might be for vain and have no impact on the desired outcomes. Second, it shows how shocks during childhood, e.g. parental job loss, affect child's schooling choices not through a decrease in family income but rather through the new information gained by the individual. Finally, it shows, how a supplement to the child home care allowance increases marital stability through increases in disposable income for

one group of the mothers and through decreases in employment for another group.

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