Private transfers and college students' decision to work

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ABSTRACT

We estimate the impact of external financial support on the labor supply of students during their tertiary education. Using a dynamic labor supply model and accounting for the endogeneity of income from private transfers, we find a significantly lower likelihood of being employed for transfer recipients. Our results suggest that private transfers lead to a shift in students' time allocation, lowering their hours devoted to working and increasing their time devoted to studying. We find evidence for a psychological component of receiving transfers through an increase in the perceived risk of failure in academic studies.

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1. Introduction

When young adults enter tertiary education, they face a number of expenses, including tuition fees and costs for housing, transportation, and living in general.[2] Students therefore often rely on the continuing support of their parents. Alternatively, they may decide to work during their academic studies. These two sources of financial support are not mutually exclusive and, in fact, are highly related, as standard labor supply models predict that a higher non-working income is associated with a lower propensity to work (e.g., Blundell, MaCurdy, & Meghir, 2007).

How does income from private transfers affect the student labor supply? Building on Becker's work on intra-family transfers (e.g., Becker, 1993), theoretical models with an endogenous determination of income through part-time employment predict an inverse relationship between transfers and a child's labor supply (e.g., Juerges, 2000). The underlying mechanisms are highly interdependent, however, because non-working time for students may be not only devoted to leisure but also invested in human capital (through additional time devoted to studying). Parents can influence the time allocation of their children by providing transfers. For example, parents may encourage their child to cut back on work and study more if the child's academic performance diminishes (Kalenkoski & Pabilonia, 2010). Whether the student works more in some periods and receives more financial support in others is likely a simultaneous decision (e.g., Dustmann, Micklewright, & van Soest, 2009; Lee & Orazem, 2010).

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 [2] Actual expenses vary by location and life-style but can be as high as 5000 US dollars per month at top US universities (see, for example, http://www.topuniversities.com/student-info/student-finance/how-much-does-it-cost-study-us [accessed 08.08.13]). In Switzerland, tuition fees are relatively low compared to those in the US, but living expenses can easily add up to 2500 US dollars per month, or more (see http://www.crus.ch/information-programme/study-in-switzerland.html?L=2#8_Costs [accessed 08.08.13]).

This simultaneity poses a severe problem for the estimation of a causal effect of private transfers on the student labor supply. In an early descriptive study, Pabilonia (2001) examines the employment behavior of American youths under the age of 16 years and finds a significantly negative association between labor supply and parental allowances. In more recent studies, Wolff (2006), Dustmann et al. (2009), Gong (2009), and Kalenkoski and Pabilonia (2010) use parental income as an instrument for parental transfers, arguing theoretically that the effect of parental income on a child's labor supply can only go through a transfer. While the last three studies find a negative impact of transfers on youth employment, Wolff (2006) does not find a significant effect. In all these studies, the endogeneity of transfers plays a major role in the empirical argument, and failing to account for the endogeneity is shown to produce biased estimates.

We add to the literature by (i) analyzing a large panel of college students in Switzerland, (ii) employing a different identification strategy from previous studies, and (iii) explicitly addressing students' allocation of time. The use of longitudinal data serves two purposes. First, we can control for time-constant unobserved confounders. Gong (2009) argues that such confounders are particularly important in this context because they take into account idiosyncratic preferences for working and studying and personality traits that jointly determine the amount of transfers and the student's labor supply. Second, we can use dynamic labor supply models, which crucially distinguishes our work from Gong (2009).[3] As we condition on past employment and individual-specific effects, we can use lagged transfers as instruments for current transfers to identify a causal effect. Using over-identification and model specification tests, we find plausible evidence to support our instruments. This strategy also allows us to test the previously used exclusion restriction on parental income, which we confirm in our data.

Our results provide new evidence on the trade-off in students' allocation of time. Using the dynamic labor supply framework, we find that private transfers significantly reduce work hours and increase study hours. We conclude that transfers provide an incentive for students to shift work time toward study time. On the downside, we do not find an improvement in academic performance: the perceived risk of failure in academic studies is substantially higher for transfer recipients than for non-recipients, which might indicate an implicit increase in study-related stress levels and pressure to perform well associated with transfers.

The remainder of the paper is organized as follows. Section 2 describes the data and the variables that are used in the analysis. Section 3 outlines the model and the estimation methods. Section 4 presents the results. We first analyze the labor supply decision, then look at the time trade-off between working and studying, and finally examine the risk of failure in academic studies. Section 5 discusses the limitations of our study and concludes the paper.

2. Data

Our analysis of the impact of private transfers on the student labor supply is based on data from the Swiss Household Panel (SHP), a representative annual panel survey of the Swiss residential population; see Voorpostel et al. (2012).[4] The SHP started in 1999 with a total of about 5100 interviewed households. It is a comprehensive survey that covers a wide range of topics, including household and family background, education, work, income, health, and socio-psychological information. In 2004, a refreshment sample of about 2500 households was added to overcome the initially high panel attrition. We employ all waves of the SHP until the most recent, W13 (year 2011).

We confine our analysis to individuals enrolled at a higher education institution.[5] The students can be full-time or part-time students. The maximum sample consists of 857 students and 4419 person-year observations. The response rate among students per year is about 50%, which is slightly lower than the response rate for the total SHP (about 60%). We checked whether panel attrition could be a problem in the data we use, but we found little supporting evidence. First, attrition in the total SHP only affects a few variables, mainly political and leisure variables that are unrelated to our main variables (Voorpostel et al., 2012). Second, we estimated a simple logit model for the probability of missing information as a function of gender, age, and location of residence. None of these variables is statistically significant. Even if we include the mean transfers over the non-missing years as a predictor, this variable has no explanatory power (the detailed results are available upon request).

We use information on labor supply for our main outcome *employment*: a dummy equal to one if the student is actively occupied and zero otherwise. Actively occupied individuals in the SHP comprise all respondents who are employed or self-employed (even if the amount of work is only one hour per week). In addition, we use work hours and study hours per week as outcome variables to investigate students' allocation of time and the impact of private transfers on this allocation. As a final outcome, we take the perceived risk of failure in academic studies in the next 12 months, which also serves as an endogenous right-hand side variable in the labor supply models. This variable is recorded on an 11-point scale, where 0 means "no risk at all" and 10 means "sure a risk".

Our key explanatory variable is yearly social informal transfers (in Swiss Francs, CHF), consisting of all payments received from people living in the same household and outside the household, henceforth referred to as *amount of private transfers*. While these transfers are directly paid to

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[3] Gong (2009) does not estimate dynamic labor supply models but rather addresses the simultaneity problem by using a fixed-effects two-stage least squares procedure with variation in parental income as the instrument.

[4] Free access to the data can be acquired via http://www.swisspanel.ch.

[5] Most students study at an academic university (about 84 percent), but the sample also includes students of universities of teacher education (about 4 percent) and universities of applied sciences (about 12 percent).