Families, Credit, and Banks

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Foreword

This volume is the result of a research project carried out at the Department of Economics at the Stockholm School of Economics (SSE).

This volume is submitted as a doctor's thesis at SSE. In keeping with the policies of SSE, the author has been entirely free to conduct and present her research in the manner of her choosing as an expression of her own ideas.

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Göran Lindqvist
Director of Research
Stockholm School of Economics

Magnus Johannesson
Professor and Head of the
Department of Economics
Stockholm School of Economics

to my family

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> Remember that you are one of the most privileged people on earth. Society has given you a wonderful opportunity. You are supposed to do whatever you want, to think about new ideas, to express your views freely, to do things in the way that you choose and on top you will be rewarded nicely. These privileges should not be taken for granted. We are extremely lucky – we owe something in return.
>
> *Ariel Rubinstein*

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Stockholm, July 24, 2013

Elena Mattana

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Chapter 1

Introduction

This doctoral thesis is a study on credit markets that focuses on two main topics: the first two chapters look at the effects of credit availability on the outcomes of young adults. The last chapter looks at the evolution of the architecture of the financial system as a whole.

The first part of this thesis focuses on understanding the outcomes of young adults entering economic life. How much these outcomes depend on parental characteristics is a much debated question. Empirical studies[1] have focused on understanding how much of the parental position in the earnings distribution is transmitted to the children and an interesting stylised fact emerges: this number is much higher in Southern Europe than in Northern Europe. In Southern Europe around 40 percent of the father's position in the earnings distribution is transmitted to the son, while about 20 percent of the father's position is transmitted in Scandinavian countries. The causes for this difference can range from the fiscal system to education policies.[2] Chapter 2 looks at the role of the interactions within the family to explain the rise of different rates of persistence of earnings. Many studies[3] argue that the family model varies across countries. In particular, family ties are stronger in Southern Europe than in Northern Europe, and they are reflected in the co-residence rates of young adults with their parents, high in

[1] See Black and Devereux (2011) for a review of the literature.

[2] Holter (2012) shows the possible effects of different taxation systems while Restuccia and Urrutia (2004) focus on the role of early and college education.

[3] See e.g. (Alesina and Giuliano, 2010), Giuliano (2007), Manacorda and Moretti (2006).

the South of Europe and low in the North. These cultural traits affect the decisions taken by young adults when they enter economic life.

More specifically, chapter 2 analyses a theoretical model of a family composed by a parent and a young adult child who decide where the young adult will live and how much she will study. Parents and children are distinct decision-makers with separate utility functions and budget constraints. Two types of families are modelled: one in which parents have a preference for their children to live with them and another in which parents prefer their children to be independent. When parents have a preference for co-residence, they transfer resources to their children to keep them home. High income parents are able to keep their children home, and their children have more resources to invest in education, from not having to pay living expenses and receiving a transfer on top of it. This decision mechanism increases earnings persistence. When parents have a preference for independence instead, they transfer resources to their children only when they are not able to move out, and this decreases earnings persistence. A quantitative version of the model, calibrated using Italian data, shows that this mechanism explains up to 20 percent of the difference in earnings persistence between Italy and Scandinavian countries.

The model in chapter 2 relies on the assumption that young agents are borrowing constrained. If they could borrow freely, their education choice would only depend on their abilities and not on parental income. Hence, when introducing generous transfers to the students, the model predicts that co-residence rates lower and eventually earnings persistence disappears. The most important channel of credit access for young adults is study aid, which is widespread in Scandinavian countries but less common in Southern Europe. Hence the model predicts that improving the study aid system in Southern Europe would decrease co-residence rates and increase social mobility. This is a strong result that opens up another set of questions: what are the incentives behind study aid systems? How do different combinations of grants and loans affect student outcomes? What is the impact of income contingent loans and interest rate based loans? Chapter 3 studies these important questions.

The aim of chapter 3 is to better understand the implicit incentives in study aid schemes. To do so it specifies and estimates a dynamic discrete choice model

of joint education, employment and loan take-up decisions of college students that face a detailed study aid system modelled on the Swedish student aid system. A reform of the Swedish financial aid to students in 2001 provides a quasi-experiment to identify the structural model, while the detailed Swedish register data allows the model to capture the effects of various aspects of the study aid system. Contrarily to previous work on this topic[4], the model estimated here is able to analyse in great detail the student loans system. We simulate a number of study aid policies and find that in particular the timing of eligibility to the aid has an impact on timing to graduation and dropout. Surprisingly, decreasing the eligibility time increases time to graduation, because students work more to compensate the loss of financial aid. We also find that annuity based loan repayment systems decrease the amount of debt accumulated by students, increase dropouts and decrease the graduation timing as well with respect to income contingent loans, students try to minimise the increased cost of taking up the loan.

An interesting result of our estimation is that there is a positive correlation between parental education and income and student loan take up. Moreover, students who take up a bigger proportion of the loan they are eligible for, derive a positive utility from their stock of debt, while students who take up less loan derive negative utility from it. This indicates that loan aversion depends on parental income, and even if credit constraints are lifted, students who don't have parental back-up prefer not to borrow.

Chapter 4 takes a step back to look at the financial system as a whole. It contributes to the literature on the evolution of the "financial architecture" of the economy - i.e., the mix of financial intermediaries (or more commonly, "banks") and markets. This chapter is a first look at a class of models that reconcile the standard theory of financial intermediation[5] with economic growth.

Market factors and innovations are analysed as the core mechanism behind the loss of the banks monopsony power and subsequent decrease of liquidity of the financial system. The model developed in chapter 4 shows how at low levels of economic development, the presence of fixed entry costs prevents the individuals from accessing the market, and pushes them to contact the banks whose

[4] See e.g. Eckstein and Wolpin (1999), Joensen (2010), and Joensen (2013), Johnson (2012).
[5] The seminal paper of this literature is Diamond and Dybvig (1983).

portfolio is relatively skewed towards liquid assets. After a certain threshold, the individuals are rich enough to access the markets, where the relative liquidity is lower, so the relative liquidity of the whole financial system (banks *and* markets) drops because of this increasing market participation. Chapter 4 also presents evidence of such a mechanism being in place in the real world. Using data from the World Bank and the IMF on bank liquid reserves and securities market regulation, it shows that a one-unit increase in the index of securities market liberalization (that we take as a proxy for the market entry costs) leads to a drop in relative liquidity of between 13 and 22 percentage points.

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