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Credit and self-employment ☆

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ABSTRACT

The US personal bankruptcy system allows debtors to discharge uncollateralized debts if they give up assets in excess of a threshold known as an "exemption". However, since exemptions erode repayment incentives, they may increase borrowing costs. Our paper evaluates the tradeoff between credit costs and the insurance against failure created by bankruptcy exemptions. We find that exemptions change self-employment rates and the timing, size, and financing of projects. We also find that the positive relationship between wealth and self-employment rates may not arise from credit constraints: such a relationship is present even when credit is plentiful at low interest rates.

1. Introduction

Borrowing constraints are seen as a significant barrier to entrepreneurial activity in the US. The perception of such constraints has led to the creation of agencies such as the US Small Business Administration, which channels billions of dollars of credit to those choosing self-employment or entrepreneurship.[1] Moreover, current public policy is premised on the view that the fundamental source of borrowing constraints is default risk. Evidence for this view is seen in the pervasive use of loan guarantees, rather than outright grants. The former, after all, could be expected to improve access to credit *only* if borrowing constraints arose from default risk.

If indeed default risk limits credit access, where does it come from? A primary suspect for small business borrowers is US personal bankruptcy law. As practiced, the non-waivable legal right to bankruptcy protections leaves entrepreneurs, and especially sole proprietors, with no credible way of committing to repay unsecured debts.[2] The bankruptcy process not

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[1] Throughout the paper, we will use the terms entrepreneurship and self-employment interchangeably. Our focus is on the role played by credit markets in driving risky occupational choices. We therefore want our definition of self-employment to be broad enough to capture anybody whose primary income arises from a risky business in which they have a large and poorly diversified interest. In turn, we do not want to restrict the set of entrepreneurs to only the (much smaller) subset of individuals who may possess exceedingly productive or innovative project ideas.

[2] Incorporation does not solve this problem either. The corporate entity cannot promise credibly to repay uncollaterized debt, as the corporate bankruptcy option is a non-waivable legal right.

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only removes all unsecured debt, but also allows, in many cases, for some wealth to be retained by borrowers. More generally, any legal limit to liability for debts means that borrowers, especially those with low personal wealth, pose a risk to lenders that implies greater costs to start a venture. Despite the clear drawbacks created by such statutes, small business is seen as an inherently high-risk activity where actuarially fair insurance against failure is difficult, or impossible, to obtain. And in the absence of markets against such risks, bankruptcy and other limits to liability allow borrowers to partially tailor loan repayment to avoid severe reductions in their standards of living in the event of poor returns on investment.

In addition to credit conditions, those contemplating self-employment must evaluate its payoff relative to their prospects as paid workers in the "corporate" sector. The potentially important role played by opportunity costs arising from alternatives to self-employment is suggested by the empirical regularity that entrepreneurship is chosen relatively more often by those with poor current corporate-sector opportunities. Evans and Leighton (1989), Farber (1999), Rissman (2003, 2006), and Fairlie and Krashinsky (2006) each show that in the data, poor opportunities for paid work are important in generating the switch to self-employment. Specifically, prior job loss, displacement, and high local unemployment rates are each associated with a heightened likelihood of entrance to self-employment. This feature motivates a central aspect of the timing of resolution of uncertainty in our model: Households first learn their productivity in the corporate sector and then choose whether or not to become self-employed.

Since the bankruptcy system may actually create the credit constraints that other major policies aim to mitigate, it is important to clarify its effect on credit markets and, in turn, entrepreneurial activity in the US. The main contribution of this paper is to provide a quantitative evaluation of how US personal bankruptcy policy, as defined by asset exemptions, affects self-employment decisions and unsecured credit conditions and whether, in turn, the outcomes improve welfare. We model occupational choice over the life cycle, and our analysis emphasizes the role of household-level decisions in generating aggregate outcomes. In particular, we measure the role played by exemptions in influencing credit constraints, risk taking, and self-employment choices over the entire life cycle.

Our main results are as follows. First, we find that when exemptions are increased substantially beyond current US averages, the insurance provided by the default option is largely offset by the disincentives arising from higher credit costs, resulting in only minor changes in self-employment activity. However, when exemptions are lowered relative to current US levels, the associated drop in default risk decreases credit costs sufficiently to expand credit use, and despite the loss of insurance, self-employment rates rise. Second, we find that changes in exemptions have distributional implications. In particular, high exemptions appear regressive with respect to age. We show that very high exemptions sharply affect the young, but have only minor effects on the old, primarily because the latter have accumulated wealth for retirement. In contrast to its effects on age, exemption policy does affect high- and low-skilled households differently. In particular, the percentage reduction in self-employment rates arising from high exemptions are much larger for the low-skilled than for the high skilled. In addition, the use of credit also drops much more rapidly. We also find that very high exemptions significantly alter the ability of households to switch occupations in the event of low corporate sector productivity. Third, we demonstrate that the positive correlation between wealth and self-employment does not imply the existence of credit constraints, and instead arises primarily from the interaction of risk and life-cycle savings behavior.

Our study contributes along three dimensions. First, we provide a quantitative assessment of the role that US bankruptcy exemptions play in risk *taking*. By contrast, much recent work on bankruptcy has been on its role in risk sharing for an exogenous income stream. Second, by incorporating the "real" options of entry and exit, we are able to study the effects of exemption policy on not just the intensive margin (i.e., project size) of self-employment, but also the extensive margin (i.e., the rate of self-employment). As a result, we overcome the fact that data on self-employment is by definition censored, capturing only those for whom such a choice was preferred to an unobserved alternative. Relatedly, our model produces a full schedule of interest rates for debt, on and off the equilibrium path. This allows us to overcome the classical problem of the identification of credit demand and supply. As Berkowitz and White (2004, Footnote 27, p. 18) acknowledge: "Presumably, firms apply for the amount of credit they expect lenders to provide, and lenders may tell borrowers in advance how much they are willing to lend". Third, our model allows for wealth accumulation. This is an important dimension to allow for in a model aimed at measuring the role of policies that alter the cost of credit. In particular, as noted above, households in the model, and presumably in the data, can overcome tight constraints by saving enough to eventually self-finance a project. Importantly, the ability to save to overcome constraints will differ across households, especially across those with differing levels of human capital. Therefore, a central feature of our model is to explicitly model the decisions of those with high- and low-human capital.

Our work is part of a growing literature that studies bankruptcy and entrepreneurship.[3] Important empirical work here includes Fan and White (2003), who also provide a theoretical analysis of exemptions which we build on, and Berkowitz and White (2004). Most closely related to our equilibrium approach are the papers of Meh and Terajima (2008), Jia (2009), and Mankart and Rodano (2009). However, there are important differences. First, in contrast to our work, in both Meh and Terajima (2008) and Jia (2009), the within-period decision to work in the non-entrepreneurial sector is taken *before* the

[3] Of course, our model is related to the more general subject of self-employment. The literature is vast, but other important studies include Evans and Jovanovic (1989), Banerjee and Newman (1991), Quadrini (2000), Albuquerque and Hopenhayn (2004), Quintin (2008), Krasa et al. (2008), and Mondragon-Veléz (2007). In each of the preceding, however, limited commitment can only limit self-employment, and the questions are then: by whom and by how much?