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Risk-sharing and student loan policy: Consequences for students and institutions

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ABSTRACT

This paper examines the potential costs and benefits associated with a risk-sharing policy imposed on all higher education institutions. Under such a program, institutions would be required to pay for a portion of the student loans among which their students defaulted. I examine the predicted institutional responses under a variety of possible penalties and institutional characteristics using a straightforward model of institutional behavior based on monopolistic competition. I also examine the impact of a risk-sharing program on overall economic efficiency by estimating the returns to scale for undergraduate enrollment (as well as other outputs) among each of ten educational sectors. My estimates suggest that a risk-sharing program would induce only a modest tuition increase, with considerable heterogeneity across sectors. Two different penalty structures are analyzed in the context of the model, and alternative institutional responses such as tuition discounting and credit rating students are discussed.

1. Introduction

With total student loan debt at an all-time high (and rising rapidly), it is more important than ever to understand the impact that the high debt burden (and policies aimed at reducing this burden) will have on individuals and on the higher education landscape. From the individual's perspective, a high level of debt may delay or reduce financial self-sufficiency, which has implications for countless other markets such as housing (Brown, Caldwell, & Sutherland, 2014), occupation choice (Rothstein & Rouse, 2011), or marriage (Gicheva, 2016). Further, those with particularly high levels of debt may never realize a positive financial return on their investment in schooling (Webber, 2016). From a macroeconomic perspective, the approximately $1.3 trillion in outstanding debt from student loans will impact the federal budget for decades to come.

At the core of the problem is an increasing number of student loan defaults and delinquencies driven by rising tuition and poor initial job placements among recent graduates (the rate of defaults within 2 years of leaving school roughly doubled from 2004 to 2011). There is, of course, substantial heterogeneity in default rates across institutional characteristics, ranging from a low of 7.2% among private non-profits to a high of almost 20% among private for-profit institutions. Moreover, the amount of federal funding going to schools with moderate and high default rates increased considerably over the same period (Jaquette & Hillman, 2015). The prior figures have spurred a number of policy proposals aimed at incentivizing schools to reduce their student loan default rates. One such policy mandates that institutions to be ineligible for federal financial aid (such as Pell Grants) if their three-year cohort default rates are above 30% for three consecutive years, or above 40% for one year. While this is certainly a substantial penalty, the thresholds are set such that only a small number of schools are subject to penalties in a given year (Gross, Cekic, Hossler, & Hillman, 2009). An obvious drawback to the current policy is the discontinuous nature of the punishment; institutions which fall just over the required default rate may face a funding crisis, as federal aid is crucial to the operation of many institutions.[1] Similarly, students at these institutions will now be without a needed source of funding, even those for whom the education would have benefited. A second drawback is that this type of policy provides no incentives to improve student outcomes for those institutions which have default rates far from the cutoff.

Another recently proposed policy to reduce defaults and overall student loan debt is to force schools to pay for a portion of

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[1] Darolia (2013) provides evidence from a regression discontinuity design of enrollment declines, particularly among for profits and community colleges, following a loss of federal loan eligibility.

the debt accrued by students who default on (or alternatively fail to repay any of the principal) their student loans,[2] also known as risk-sharing. The most basic risk-sharing system would impose a penalty equal to some proportion (e.g. 20%) of the student loan debt accrued by an institution's students which is later defaulted upon. While a policy of risk-sharing has received much less attention than federal aid eligibility cutoffs, it may be a theoretically more appealing option since it does not suffer from the drawbacks listed above. First, students are not deprived of the opportunity to receive federal funds or forced to attend a less conveniently located school (if one even exists). Second, replacing the sharp discontinuity with a smooth punishment function incentivizes all schools to lower their default rates, not just the worst offenders. There are, however, potential downsides which are shared by both policies. Institutions could pass additional costs onto students in the form of higher tuition and/or reduce the number of students admitted. Furthermore, schools could effectively "credit-rate" potential students in an effort to avoid admitting students who are likely to have trouble repaying any accrued student loan debt.

This paper evaluates the response of postsecondary institutions to various risk-sharing policies both in terms of tuition and enrollment. This is accomplished by incorporating the parameters from cost function estimates into a simple model of university behavior based on monopolistic competition. I also present updated estimates of the returns to scale among university outputs in order to look at a possible loss of allocative efficiency under a risk-sharing program.

I find that even under pessimistic assumptions about the degree of reform schools are able to achieve, a risk-sharing program could bring about a sizable reduction in total student loan debt. However, such savings would likely come at a cost of modestly higher tuition rates among institutions with low rates of loan repayment and large student loan balances (predominantly the for-profit sector), a tradeoff which policymakers should consider when designing the program. Furthermore, I find no evidence that there would be a significant loss of economic efficiency if students are induced to enter a different educational sector as a result of a risk-sharing program.

The paper is constructed as follows: Section 2 discusses the previous literature. Section 3 describes the data and empirical methodology used to estimate institutional cost functions and responses. Section 4 provides a discussion of the findings and their implications, and Section 5 concludes.

2. Previous literature

This section presents a brief summary of the literatures which are touched on by this paper. For a broader overview of the higher education fiscal landscape, see Ehrenberg (2012) or Ehrenberg (2014).

A central focus of this paper is the estimation of cost functions among higher education institutions. The seminal paper in this literature is Cohn, Rhine, and Santos (1989), the first study to estimate cost function parameters for institutions of higher education and translate these parameters into the economically meaningful measures of economies of scale and scope. A number of studies have utilized the framework from Cohn et al. (1989) to provide similar measures for institutions in different countries or at different points in time (see Laband and Lentz, 2003 or Sav, 2011 to name just a few).

Since defaults on student loans are disproportionately concentrated among for-profit institutions, much of the political discussion surrounding defaults has focused on schools in that sector. While the literature which focuses specifically on for-profit institutions is still relatively small, primarily due to a lack of high-quality data, there are several recent excellent studies which examine multiple aspects of the for-profit sector.

Cellini (2010) and Cellini and Goldin (2014) both illustrate the large role that federal student aid plays in the strategic decisions of for-profit institutions. Cellini (2010) finds that entry of new for-profit programs is directly tied to the availability and generosity of federal aid such as Pell Grants. A number of recent studies (Archibald & Feldman, 2016; Cellini & Goldin, 2014; Heller, 2013; Lucca, Nadauld, & Shen, 2015; Turner, 2014) examine the link between these policies and institutional budgeting. I believe a fair summary of the literature relating student aid and tuition is that there is a nearly dollar for dollar link at for-profit institutions, but much weaker evidence of any significant pass-through at non-profits (although there is somewhat stronger evidence of reductions in institutional grant aid).

Although I am aware of no published academic work relating to risk-sharing in higher education, there is a literature on other types of accountability metrics. The most common way that states attempt to incentivize institutions is through Performance Based Funding (PBF), which often ties financial incentives to graduation rates of particular student groups (e.g. Pell Grant recipients). For an overview of PBF programs and evaluations of various programs, see recent work by Shin (2010), Sanford and Hunter (2011), Hillman, Tandberg, and Gross (2014), and Kelchen and Stedrak (2016).

The current paper also has substantial overlap with the growing body of research on student loans. For an excellent survey of both the practical and academic sides of student loans, see Avery and Turner (2012). The strand of this literature which deals with default rates is the most relevant to the current study. Dynarski (1994) and Hillman (2014) examine the characteristics which correlate with eventual default on their loans, finding unsurprisingly that borrowers from low-income households, college dropouts, and those with the lowest post-college earnings were the most likely to default on their student loans. See also Hillman (2015) for an excellent overview of the recent research on the characteristics of students who take on student loan debt, the magnitude of debt borrowed, and the future consequences of such debt.

3. Data and empirical methodology

The data for this study are drawn from two primary sources, the Integrated Postsecondary Education Data System (IPEDS) and the College Scorecard. IPEDS is an administrative dataset of postsecondary institutions which contains information on the demographic and academic characteristics of each institution's student body as well as detailed data on costs and revenues. The College Scorecard is a recent initiative from the Obama administration which publishes institution-level data on students' debt and labor market outcomes.

The goal of this study is to predict how postsecondary institutions would respond to various student loan risk-sharing policies. This is accomplished in two steps: 1) estimate cost function parameters to obtain a marginal cost curve for each institution, and 2) use the cost curve estimates in a simple model of monopolistic competition to predict what the institutional response would be to a risk-sharing policy (modeled as a change in costs). Each step is described in turn below.

3.1. Cost function stimation

I estimate a panel data variant of the model originally estimated in Cohn et al. (1989), the seminal paper in the higher

[2] See the white paper by Senator Lamar Alexander (http://www.help.senate.gov/imo/media/Risk_Sharing.pdf) for a detailed description of the many risk-sharing proposals being considered by Congress.