Available online at www.sciencedirect.com
ScienceDirect
Journal of Econometrics 142 (2008) 807–828
JOURNAL OF Econometrics
www.elsevier.com/locate/jeconom

Incentive effects of social assistance: A regression discontinuity approach

Thomas Lemieux*, Kevin Milligan

Department of Economics, University of British Columbia, 997-1873 East Mall, Vancouver, BC, Canada V6T 1Z1

Available online 29 May 2007

Abstract

Before 1989, childless social assistance recipients in Quebec under age 30 received much lower benefits than recipients over age 30. We use this sharp discontinuity in policy to estimate the effects of social assistance on various labour market outcomes using a regression discontinuity approach. We find strong evidence that more generous social assistance benefits reduce employment. The estimates exhibit little sensitivity to the degree of flexibility in the specification, and perform very well when we control for unobserved heterogeneity using a first difference specification. Finally, we show that commonly used difference-in-differences estimators may perform poorly with inappropriately chosen control groups.

JEL classification: H52; J21

Keywords: Regression discontinuity; Welfare; Social assistance; Labour supply

1. Introduction

Links are often drawn between labour market behaviour and the generosity and structure of the transfers paid to those not working. For example, the impetus for many of the changes to welfare programmes in the United States since 1967 was a concern about disincentives to work embedded in the programmes (Moffitt, 2003). In Europe, the ‘‘eurosklerosis’’ problem of persistent high unemployment compares unfavourably to the experience in the United States. Blanchard (2004) contends that the ongoing reform of European unemployment insurance systems and the introduction of in-work tax credits have improved, but not yet resolved the problems affecting European labour markets. Thus, the strength of the incentive effects of transfer policies continues to be vital to the design of policy and to the understanding of labour market behaviour.

In this paper, we study the effects of an interesting policy in the province of Quebec that paid much lower social assistance benefits to individuals without children who had not yet attained the age of 30. Fortin et al. (2004) used this policy experiment to estimate the effect of social assistance on the duration of social assistance

*Corresponding author. Tel.: +1 604 822 2092; fax: +1 604 822 5915.
E-mail addresses: tlemieux@interchange.ubc.ca (T. Lemieux), kevin.milligan@ubc.ca (K. Milligan).

0304-4076/$ - see front matter
doi:10.1016/j.jeconom.2007.05.014

spells using a difference-in-differences approach. The break in the policy at age 30 also provides, however, a natural setting for analysing the impact of welfare payments using a regression discontinuity approach. The key advantage of this approach is that it provides estimates that are "as credible as those from a randomized experiments" (Lee, 2007) under relatively weak conditions.[1] The regression discontinuity approach has been used to look at the effect of students aid offers on college enrolments (van der Klaauw, 2002), parents' valuation of elementary schools (Black, 1999), and electoral advantage to incumbency (Lee, 2007), to name a few examples. In this paper, we use this research design to estimate the effect of welfare payments on labour market outcomes. A unique feature of our analysis, described in detail later in the paper, is our formation of a first difference estimator in the regression discontinuity design.

The research strategies chosen over the years to study the effects of welfare have been closely intertwined with the changing policy environment.[2] In the 1970s and 1980s, most research consisted of the econometric modelling of social experiments, such as negative income tax schemes, along with non-experimental econometric evaluations of the incentive effects of welfare. Through the 1980s and early 1990s, the '1115 Waiver' programmes generated a second wave of studies, as reviewed in Harvey et al. (2000). With a waiver, states could opt out of certain provisions of the Social Security Act in order to implement demonstration programmes or experiments that altered the parameters and structure of welfare programmes. The study of these reforms commonly took the form of experimental evaluations, often with treatment and control groups. Finally, the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) of 1996 generated a further wave of research attempting to evaluate the effect of reforms in the new decentralized policy environment. Much of the more recent work therefore follows a non-experimental methodology, comparing policy outcomes across states that made different policy choices in the PRWORA era.

Blank (2002) discusses three challenges confronting researchers studying the reforms of the 1990s. First, the economic environment improved dramatically contemporaneous with the reforms. Evaluating a welfare reform in the context of an improving macroeconomy makes it difficult to isolate the effect of the reform from the shifts in labour demand. Second, the dimensionality of the changes makes it difficult to understand the effect of changing one policy, *ceteris paribus*. Reforms were bundled together into some mix of time limits, benefit rates reduction, training, and sanctions, among other policies. Finally, the expansions of the earned income tax credit also improved the labour market conditions for welfare-at-risk families.

The age-based policy we exploit is able to overcome some of the challenges in the existing literature. The source of the advantage is that we do not study a reform *per se*, but a discontinuity present in a static policy. This means there is no bundle of other reforms that may contaminate the evaluation of the low benefit policy. Moreover, we do not need to make assumptions about the comparability of the treated group to a control group located in a labour market that is temporally or geographically distinct. This helps us to avoid worries about a changing broad economic environment. Finally, the variation provided by the policy is large. In 1989, those under age 30 received \$185 per month compared to \$507, or 175% more, for those ages 30 and over. Variation of this magnitude helps to estimate behavioural effects with better precision.

A further advantage was provided by a reform that ended the low benefit policy in August of 1989. By comparing behaviour before and after the change, and in Quebec versus other provinces of Canada, we can also evaluate the policy using a difference-in-differences empirical framework commonly used in the welfare reform literature. This allows us to assess the strengths and weaknesses of the commonly used empirical framework.

One distinctive feature of our analysis is that we focus on the effects of social assistance benefits on the labour market behaviour of men without children. We think that for this group, the decision to work or to collect social assistance can be reasonably modelled using a standard labour supply approach. By contrast, employment decisions of single mothers, who are the traditional focus of the U.S. welfare, are complicated by several factors like endogenous fertility decisions and the fixed costs of working in the presence of young children.

[1]See also Hahn et al. (2001).

[2]The literature is reviewed by Moffitt (2002).