Who Are We Screening Out? Application Costs and the Targeting of Disability Programs

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1. Introduction

The primary system for screening disability applicants is the disability determination system, in which adjudicators determine whether an individual meets the medical eligibility criteria for these programs. However, even before potential applicants encounter the disability determination system, the cost of applying for disability programs may affect whether they decide to apply and, as a result, whether they receive disability benefits. To apply for disability, individuals must determine whether they are eligible, complete extensive paperwork, and provide access to medical records. The effect of application costs on the targeting of disability programs is ambiguous: application costs could screen out either those most in need or least in need. In this paper, we use the closings of Social Security Administration (SSA) field offices, which provide assistance with filing disability applications, to estimate the effect of application costs on the number and characteristics of disability applicants and recipients.

2. Literature and Contribution

We address a key question in the public economics literature: do ordeals—hassles associated with using benefits or services—improve or worsen targeting? The answer likely depends on the type of ordeal and the characteristics of the marginal population. Several papers build the theoretical foundation for the effect of ordeals on selection (Nichols et al. 1971; Nichols and Zeckhauser 1982; Parsons 1991; Besley and Coate 1992; Bertrand et al. 2004). Previous empirical research has estimated the effect of ordeals (or their reduction) on the take-up of government programs in the United States, but with less focus on the question of targeting that we address in this paper (Parsons 1991; Kopczuk and Pop-Eleches 2007; Ebenstein and Stange 2010; Rossin-Slater 2013).

This is the first paper of which we are aware to empirically estimate the effect of application costs on who applies for and receives benefits in the context of disability programs. In addition, we use detailed data from the Social Security Administration (SSA) on applicant characteristics and field office features, which allows us to study how field office closings affect targeting and through what channels.

3. Institutional Context and Data

Potential applicants can apply for SSDI and SSI by filing a claim in person at a Social Security field office, filing a claim over the phone with a claimants' representative

at a field office, or—for SSDI applicants only—by filing the claim online. Regardless of how the application is filed, the application is processed by the field office that serves the ZIP code in which the applicant resides, which is a key detail for our analysis. The applications in our data are identified by the claimant's ZIP code of residence. In processing the claim, the field office verifies that the applicant meets the non-medical requirements and collects information that the disability examiner needs to make a medical decision. The field office then transfers the application to the state disability determination services (DDS) office, where a disability examiner decides whether the applicant meets medical requirements. Applicants can appeal examiner decisions.

There are approximately 1,230 Social Security field offices in the United States. Field offices serve many functions, but disability claims take up a disproportionate amount of staff time, with two-thirds of SSA's administrative budget going to disability claims.[1] We use recent Social Security field office closings to study the effect of application costs on selection into disability programs. Although there were very few closings prior to 2000, there have been 125 closings since that year, with approximately half of those closings occurring since 2009.

We use administrative data from SSA (831 files, Structured Data Repository, and Master Earnings File), collapsed to the applicant ZIP code level and linked to Census ZIP characteristics data. Among other applicant characteristics, we observe age, disability type, severity, language spoken, and, for adults, education and pre-application earnings. We also use SSA data on field office closing dates, wait times, and staff counts.

4. Empirical Strategy

We classify ZIPs into three categories: ZIPs whose closest office was closed ("closing" ZIPs), ZIPs whose closest office is the second or the third closest field office to a closing ZIP prior to the closing event ("neighboring" ZIPs), and all remaining ZIPs ("unaffected" ZIPs). Given potential differences in observable and unobservable characteristics between closing and unaffected ZIPs, we restrict our sample only to closing ZIPs. For a given closing, we use ZIPs that experience the current closing as treated ZIPs, and ZIPs that experience a closing at least two years in the future as control ZIPs. We estimate the following equation:

[1] Testimony of Jo Anne B. Barnhart, U.S. House of Representatives, March 4, 2003.

$$(1) \qquad Y_{isct} = \alpha_i + (\gamma_t \times \sigma_s) + \sum_\tau \delta_\tau (Treated_{ic} \times D_{ct}^\tau) + \epsilon_{isct}$$

where Y_{isct} is an "outcome " (i.e., number or characteristics of disability applicants or recipients) for ZIP i in state s for closing c in quarter t. The α_i are ZIP fixed effects, and $\gamma_t \times \sigma_s$ are calendar quarter by state fixed effects. The variable $Treated_{ic}$ is an indicator equal to 1 if ZIP i is a treated ZIP for closing c, and D_{ct}^τ are indicators equal to 1 if quarter t is τ quarters after (or before, if negative) the closing and 0 otherwise. We weight ZIPs by the number of pre-closing applications, and we cluster standard errors at the closing level. The coefficients of interest are the δ_τ: they represent the difference between treated and control ZIPs in outcome Y, τ quarters after the closing. The graphs presented in the following section plots the δ_τ estimates in event time. For table estimates, we estimate a pre-post version of equation (1) and report estimates of β:

$$(2) \qquad Y_{isct} = \alpha_i + (\gamma_t \times \sigma_s) + \beta (Treated_{ic} \times Post_{ct}) + \epsilon_{isct}$$

where $Post_{ct}$ is an indicator equals 1 if quarter t is after the closing.

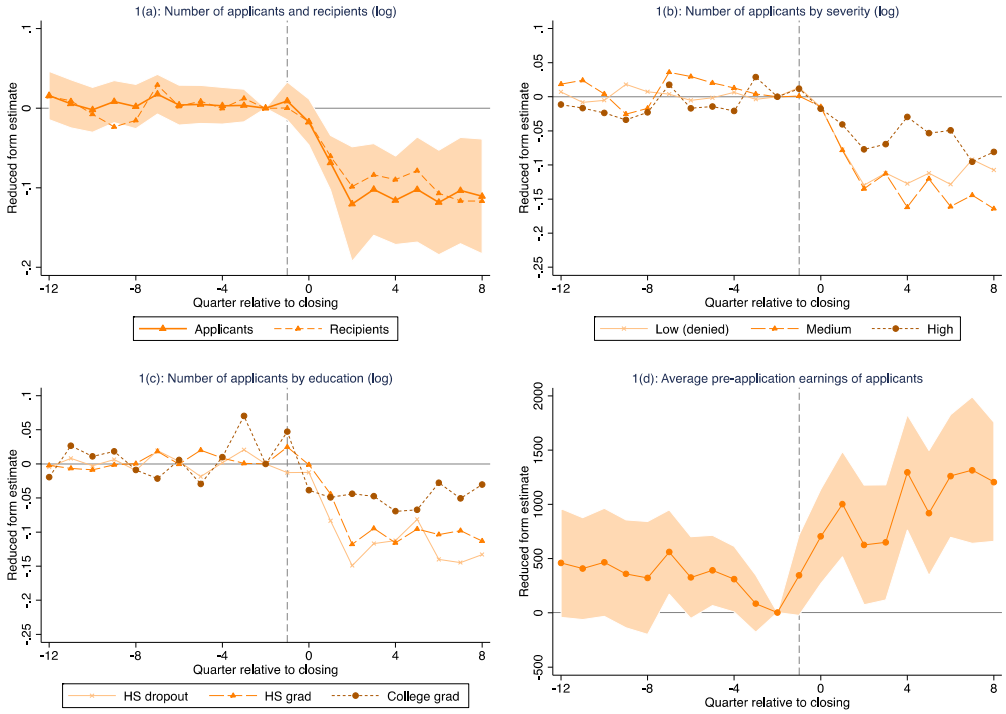
5. Main Findings

Figure 1(a) shows the effect of field office closings on the log number of disability applications, where applications are assigned to a quarter based on the date of application. Notice that the treated and control ZIPs exhibit parallel trends in disability applications prior to event quarter 0. Disability applications fall by 11 percent as a result of a field office closing in ZIP codes surrounding that office (see Table 1 for estimates). The effect is persistent even two years after the closing. The fall in applications occurs for all programs, though the effects are larger for the lower-income SSI population (14 percent) than for the DI population (7 percent).

We examine how field office closings affect the composition of applicants, including on severity and socioeconomic status. We categorize applicants into three severity categories: those denied by a disability examiner (low severity); those allowed at a medium severity level (medium severity), and those allowed at a higher severity level (high severity).[2] Figure 1(b) shows that the declines are largest for medium severity applicants (16 percent) and smallest for high severity applicants (5 percent).

[2] Medium severity corresponds to "medical improvement expected" or "medical improvement possible." High severity corresponds to "medical improvement not expected."

Figure 1: Effect of Closings on Number and Characteristics of Disability Applicants



Notes: Figure plots estimates of δ_τ coefficients from equation (1). Shaded region is 95 percent confidence interval; in Figure 1a, it is the confidence interval for applications.

Turning to socioeconomic status, we estimate the effects of the closings by education and pre-application earnings. As shown in Figure 1(c), the effects of the closing are monotonically decreasing in education: applications decline by 13 percent for high school dropouts, by 8 percent for high school graduates, and by 4 percent for college graduates. Overall, average applicant schooling increases by a significant 0.06 years, a 0.5 percent increase. The effects of the closings are also monotonically decreasing in pre-application earnings, which we measure as annual earnings in the five years prior to the year of application. Applications decline by 14 percent in the lowest earnings category ($0-$5,000), but do not change in the highest earnings category (above $25,000). The result of these differential effects is that average annual pre-application earnings increase by a statistically significant $570, or 3.7 percent, as shown in Figure 1(d). In addition to these characteristics, we find that closings have larger effects on mental and non-musculoskeletal physical conditions than on musculoskeletal conditions. We find little variation by applicant age for adults, but larger effects for older children than younger.

Given that the closings reduce applications disproportionately among the less severely disabled, the normative implications of the reduction in disability applications depend in part on whether they affect the number and composition of disability *allowances*. We find that closings decrease the number of allowance at the initial stage in surrounding areas by 10 percent, meaning that many individuals who were discouraged from applying as a result of the closing would have been allowed onto the program (dashed line in Figure 1a). In percent terms, the differential effect by subgroups is amplified at the allowance level compared to the application level. In summary, field office closings have large effects on disability applications and receipt, especially among those with low- and medium-severity conditions and lower socioeconomic status.

Table 1: Estimated Effects of Closings on Disability Applications and Allowances

	Applications (log)		Allowances (log)	
	Pt. Est.	Std. Err.	Pt. Est.	Std. Err.
All	-0.108***	(0.0297)	-0.0967***	(0.0303)
Severity				
Low	-0.104***	(0.0305)	-0.0306	(0.0276)
Medium	-0.158***	(0.0392)	-0.148***	(0.0376)
High	-0.0461	(0.0301)	-0.0382	(0.0286)
Disability type				
Mental	-0.113***	(0.0348)	-0.134***	(0.0355)
Musculoskeletal	-0.0626**	(0.0316)	-0.0282	(0.0367)
Other physical	-0.113***	(0.0306)	-0.0747**	(0.0298)
Education (years)				
HS dropout	-0.127***	(0.0313)	-0.0667**	(0.0328)
HS graduate	-0.0837***	(0.0261)	-0.0702**	(0.0278)
College graduate	-0.0391	(0.0310)	0.000375	(0.0282)
Pre-application earnings				
$0-$5,000	-0.136***	(0.0472)	-0.105**	(0.0466)
$5,000-$15,000	-0.118**	(0.0568)	-0.0453	(0.0550)
$15,000-$25,000	-0.0442	(0.0755)	-0.00887	(0.0492)
$25,000+	0.0112	(0.0741)	0.0217	(0.0553)
Age (years)				
18-34	-0.115***	(0.0348)	-0.0866**	(0.0366)
35-49	-0.113***	(0.0315)	-0.117***	(0.0366)
50+	-0.0865***	(0.0264)	-0.0584**	(0.0281)

Notes: *** p<0.01, ** p<0.05, * p<0.1. Table presents estimates of the effect of field office closings on log applicants (Column 1) and log allowances (Column 2) by subgroup, specifically estimates of β from equation (2). Standard errors in parentheses.

6. References

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